# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2010-11

## INTRODUCTION TO FINANCIAL AND MANAGEMENT ACCOUNTING

## NBS-1A2Y

Time allowed: 3 hours

Answer THREE questions: TWO questions chosen from Section A and ONE question chosen from Section B.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## Section A

## 1.

The Finance Director of Herman Limited was part-way through preparing the financial statements for the year ended 30 April 2011 when she became ill. As the most senior financial accountant at Herman Limited, you have been asked to complete the preparation of the financial statements. The partially completed financial statements are included below:
Herman Limited - Draft Balance Sheet as at 30 April 2011£'000 £'000
Land and buildings ..... 750
Plant and machinery ..... 225
Motor vehicles ..... 20
Current assets:
Inventory ..... 160
Accounts receivable ..... 85
Prepayments ..... 30
Bank and cash ..... 40
Current liabilities:
Accounts payable(130)
Accrued expenses(45)315995
Net current assets ..... (175) ..... 140Bank loan (8\% p.a. interest)
Long-term liabilities:(400)
Net assets735
Equity:
Ordinary share capital (£1 ordinary shares) ..... 300
Retained earnings ..... 435 ..... 735Herman Limited - Draft Income Statement for the year ended 30 April 2011
£'000
Revenue ..... 800
Cost of sales ..... (350)
Gross Profit ..... 450
Operating expenses: Wages and salaries ..... (110)
Stationary and postage ..... (10)
Rent and rates ..... (90)
Heating and lighting ..... (20)
Operating profit ..... 220

The following transactions need to be accounted for:
i Additional revenue has been identified amounting to $£ 40,000$. $£ 10,000$ of this related to cash sales, and the remainder have been made on credit and are due for payment on 1 June.
ii A final check of the inventory held as at the end of 30 April has shown that the closing inventory value is actually $£ 150,000$ as a result of the sales shown in part i).
iii The interest payable on the bank loans has not yet been accounted for. This bank loan was taken out on 1 November 2010 and the full interest for the year is due to be paid on 1 May.
iv Depreciation for the year is calculated using the straight line method. There have been no additions or disposals from fixed assets in the year.

| Asset Type | Cost <br> £'000 | Estimated <br> useful <br> economic life <br> 20 years | Estimated <br> residual value <br> £'000 |
| :--- | :---: | :---: | :---: |
| Land and <br> Buildings | 1,500 | 4 years | 0 |
| Plant and <br> Machinery <br> Motor Vehicles | 300 | 30 | 3 years |

v On 30 April, accounts payable amounts totalling $£ 50,000$ were paid to suppliers.
vi A detailed review of the Accounts Receivable listing has identified that $£ 15,000$ of the total balance has now been outstanding for over 12 months. As such, it has been decided that this should be written off as a bad debt.
vii On 30 April, senior management agreed to pay a dividend for the year of 10 pence per ordinary share for the year ended 30 April 2011. This is due for payment on 1 June.
viii A gas bill was received on 1 May amounting to $£ 6,000$, relating to the period 1 April to 30 June.
ix The prepayments in the balance sheet relate to insurance of the motor cars. This all relates to the month of April, and no further insurance premiums are payable.
$x$ Wages for the month of April have not been included in the wages expense above. Assume that all staff are paid the same amount each month and that the wages for April will be paid on 30 April.

## REQUIRED:

Taking into account the impact (if any) of items i) to $x$ ) listed above:
a) Determine the revised closing cash balance
b) Prepare a revised Balance Sheet
c) Prepare a revised Income Statement
2.

Extracts from the 2011 financial statements of Cardle plc are included below.
Cardle plc Balance Sheet as at 31 March:

|  | 2011 |  | 2010 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | £'000 | £'000 | £'000 | £'000 |
| Non-current assets |  | 2,300 |  | 1,900 |
| Current assets: |  |  |  |  |
| Inventory | 120 |  | 80 |  |
| Receivables | 190 |  | 150 |  |
| Prepayments | 20 |  | 20 |  |
| Bank and cash | - |  | 110 |  |
|  |  | 330 |  | 360 |
| Current liabilities: |  |  |  |  |
| Payables | (150) |  | (80) |  |
| Accrued expenses | (35) |  | (30) |  |
| Overdraft | (105) |  | - |  |
|  |  | (290) |  | (110) |
| Net current assets |  | 40 |  | 250 |
| Long term liabilities (12\% bank loan) |  | (250) |  | (50) |
| Net assets |  | 2,090 |  | 2,100 |
| Share capital (£1 ordinary shares) |  | 1,500 |  | 1,200 |
| Share premium |  | 300 |  | 300 |
| Retained earnings |  | $\underline{290}$ |  | 600 |
|  |  | 2,090 |  | 2,100 |


| Cardle plc Summary Income Statement for the year ended $\mathbf{3 1}$ March: |  |  |
| :--- | :---: | :---: |
|  | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 0}$ |
|  | $\mathbf{£}^{\prime} \mathbf{0 0 0}$ | $\mathbf{£}^{\prime} \mathbf{0 0 0}$ |
| Revenue | 1,750 | 1,600 |
| Cost of sales | 900 | 800 |
| Operating expenses | 830 | 650 |
| Interest | 30 | 6 |

Dividends proposed in 2011 amounted to 20p per share (2010: 20p).
Following the preliminary announcement in April, shares of Cardle plc were trading at $£ 2.40$ (2010: $£ 3.80$ ).

## REQUIRED:

(a) From the information provided, calculate financial ratios for Cardle plc for 2011 and 2010 in the following areas:
i) Management performance / profitability
ii) Liquidity and gearing
iii) Working capital
iv) Investors
(16 marks)
(b) Using the ratios you have calculated in part (a), and any other information that you believe is relevant, comment on the financial performance of Cardle plc (20 marks)
(c) Outline the problems of using ratios to analyse financial performance
(4 marks)
3.
a)
(i) Tata Ltd is a thriving business which manufactures men's shoes. The business plan for the forthcoming period, delivered to the accountant shows the following details on estimated costs:

| Direct labour cost | $£ 40,000$ |
| :--- | :--- |
| Direct material cost | $£ 10,000$ |
| Rent | $£ 5,000$ |
| Electricity cost | $£ 2,000$ |
| Indirect labour cost | $£ 8,000$ |
| Indirect expenses | $£ 12,000$ |

The expected direct labour hours for the forthcoming period amount to 8,000 hours.
In the plan, the accountant notices that the proposal states that the cost of material (leather) is $£ 10$ per bundle and each shoe would require 2 bundles of leather.
All direct labour staff are paid the same standard rate per hour.
A customer makes a request for a pair of customised shoes. It is predicted that this will involve 20 direct labour hours.

## REQUIRED:

Calculate the full absorption cost of making the shoe ordered by the customer if the company allocates overhead based on direct labour hours for each order.
(8 marks)
(ii) One of the directors is confused about the relevance of full costing. As the management accountant, explain why knowledge of full costing is important to decision markers.
(7 marks)
b)

Pil Ltd produces a special type of bottled juice for retailers in Norwich. The company sells each bottle for $£ 50$ per bottle. Its target is to sell 2,000 bottles every six months. As the new accountant you have been given the cost projections for the next 12 months.

|  | $\mathbf{£}$ |
| :--- | :--- |
| Material cost per unit | 8 |
| Labour cost per unit | 4 |
| Variable cost per unit | 10 |
| Fixed costs (annual) | $£ 20,000$ |
| Annual rent | $£ 30,000$ |

## REQUIRED:

(i) Calculate the breakeven point in terms of quantity and sales revenue. (5 marks)
(ii) Calculate the margin of safety in terms of quantity and sales. (5 marks)
(iii) If the company drops its selling price to £40, how many bottles would they need to sell to breakeven. Explain your results.
(7 marks)
(iv) Discuss the weaknesses associated with using break even analysis.
(8 marks)
4.

Shazim Ltd produces welding parts and sells to the public. The budget drawn up by the chief accountant for the month of January 2011 showed the following information:

Sales (£140 per unit)
1,000 units
Costs:
Direct material $(5,000 \mathrm{~kg}) \quad £ 50,000$
Direct labour (5,000 hours) £10,000
Fixed production overhead $£ 40,000$
Net profit
£40,000
Each kg of material was budgeted to cost $£ 10$.

Actual results for January 2011 were however as follows:

|  | $\underline{800 \text { units }}$ |
| :--- | :--- |
| Sales | $£ 120,000$ |
| Costs: | $£ 41,600$ |
| Direct material $(5,200 \mathrm{~kg})$ | $£ 10,000$ |
| Direct labour $(7,500$ hours $)$ | $£ 45,000$ |
| Fixed production overhead | $£ 23,400$ |
| Net profit |  |

## REQUIRED:

a) Prepare the flexed budget for January 2011 (you are not expected to determine any variances).
(10 marks)
b) Explain the importance of preparing a flexed budget for performance management and control. This should include a discussion of the importance of determining which costs are fixed, and which are variable.
(10 marks)
c) Determine the sales volume variance and explain its meaning.
(6 marks)
d) Determine the direct materials price variance and explain its meaning.
(6 marks)
e) Determine the direct materials usage variance and explain its meaning.
(6 marks)
f) Determine the fixed production overhead variance and explain its meaning.
(2 marks)

## Section B

5. 

(a) Explain the two contradictory meanings of methodology.
(b) In the case of accounting methodology distinguish carefully between the roles of book-keepers and accountants.
6.

What key events happened between the Dark Ages ( $7^{\text {th }}-8^{\text {th }}$ century) and the Enlightenment (late 17 ${ }^{\text {th }}$ century) which ensured that when the Industrial Revolution ( $18^{\text {th }}$ century) began in Britain, suitable systems had evolved to record its success?
7.

By critically assessing the demographic paradigm which underpins Economics as a discipline, demonstrate why accounting as a discipline cannot base itself on economics.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2011-12

## INTRODUCTION TO FINANCIAL AND MANAGEMENT ACCOUNTING

## NBS-1A2Y

Time allowed: 3 hours

Answer THREE questions: TWO questions from Section $A$ and ONE question from Section B.

Notes are not permitted in this examination.
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## Section A - Answer TWO Questions from this section

1. 

Below are the draft financial statements for Novisca plc for the years 2011 and 2012.

| Novisca plc Income statement for the year ending 31 March |  |  |
| :--- | :---: | :---: |
|  | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 2}$ |
|  | $\mathbf{£} \mathbf{\prime} 000$ | $\mathbf{£}^{\prime} \mathbf{0 0 0}$ |
| Sales revenue | 6,200 | 7,500 |
| Cost of sales | $\frac{(2,500)}{3,700}$ | $\frac{(4,000)}{3,500}$ |
| Gross profit | $\frac{(3,490)}{210}$ | $\frac{(3,375)}{125}$ |
| Operating expenses | $\frac{(60)}{150}$ | $\frac{(100)}{25}$ |
| Operating profit |  |  |
| Interest |  | 20 |
| Net profit |  | 20 |


| Novisca plc Statement of financial position for the year ended 31 March |  |  |
| :--- | :--- | :--- |
|  | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 2}$ |
|  | $£^{\prime} 000$ | $£^{\prime} 000$ |
| Fixed assets (net) | 1,210 | 1,795 |

Current assets:
Inventory 350480

Accounts receivable 460620
Cash at bank $\underline{\underline{900}}$
Current liabilities:
Accounts payable
(540) (750)

Net current assets 450
Long-term loans $\underline{(600)}$
Net assets $\quad 1,060 \quad 1,165$
Equity and reserves
Ordinary share capital 400500
Retained earnings 66066
Ordinary share capital is comprised of $£ 2$ ordinary shares.
On the date that the financial results were announced in April 2012, shares were trading at £3.70 (2011: £4.90).

The Manager Director (MD) of Novisca is concerned about the fall in the share price in light of the increase in sales revenue. She has asked you to critically analyse the financial results for the years 2011 and 2012.
a) For both 2011 and 2012, calculate at least two ratios in each of the following categories:
i) Profitability / management performance (4 marks)
ii) Liquidity and gearing (4 marks)
iii) Working capital / efficiency (4 marks)
iv) Investor (4 marks)
b) Comment on the performance of the company using the ratios you have calculated within part a) as well as any other information that you believe is relevant.
c) Briefly outline the main limitations of using ratio analysis to assess company performance (in particular to explain a fall in share price). (4 marks)
2.

Raymond Briggs has recently decided to set up business as a sole trader, selling antique books in Great Yarmouth. Raymond was recently made redundant from his previous job as a librarian and received a redundancy payment of $£ 25,000$ on 1 March 2012.

During the month of March 2012, Raymond entered into the following transactions:

- Paid the full amount of his redundancy payment into the business bank account.
- Purchased a selection of books from an antique dealer, amounting to a total of $£ 13,000$.
- Entered into a rental contract, hiring a small high street shop with effect from 1 March. Rental payments are due on the $1^{\text {st }}$ of each month and the annual rent amounts to $£ 4,800$.
- Purchased bookcases and a cash register second hand from a company recently declared bankrupt. The total agreed purchase price was £8,000. Half of this was required on the date the purchase was agreed, the remainder is due for payment on 1 April.
- Agreed a loan totalling $£ 5,000$ from his brother Boris. Boris has agreed to pay the cash on 10 March and this is due for repayment in full in August 2015. Raymond and Boris have agreed an interest rate of $6 \%$ per annum on this loan, which is to be paid on the final day of each month.

PLEASE TURN OVER

- Raymond decides to employ his niece Penelope to work in the shop when required. He agrees to pay her a wage of £8 per hour worked, which is to be paid a month in arrears. During the month of March Penelope worked a total of 45 hours.
- Made the following sales to customers during the month:

| Date | Total sales value £ | To be paid as follows |
| :---: | :---: | :---: |
| 12 March | 4,500 | $50 \%$ on 12 March |
|  |  | 50\% on 28 March |
| 20 March | 1,300 | $£ 1,000$ on 20 March |
|  |  | Remainder due on 1 April |
| 25 March | 2,800 | £800 on 25 March |
|  |  | $£ 1,000$ due on 10 April |
|  |  | £1,000 due on 20 April |

- Signed an insurance contract to cover the books held in stock. This contract commenced on 1 March, at a cost of $£ 150$ per month. A total of 4 months had to be paid for on the date the insurance commenced.
- Raymond decides that the useful economic life of the cash register and bookcases equates to approximately 8 years. At the end of this period, the residual value is expected to be in the region of $£ 800$. Depreciation is to be charged on a straight line basis each month.
- Raymond withdraws $£ 1,000$ from the bank account for his own personal use during the month.
- At the end of the month, Raymond took note of the following:
- The value of the closing inventory amounted to $£ 8,500$.
- No invoices had been received for electricity, gas and water for the month. However Raymond estimates the value of these to be approximately $£ 1,200$.
a) What is the balance of Raymond's bank account at the end of March 2012? Your answer should include a discussion of items noted above which will not impact on the cash balance. (10 marks)
b) Identify whether Raymond has made a profit or a loss for the month of March 2012 by preparing an income statement.
(13 marks)
c) Prepare a statement of financial position for Raymond's business as at the end of March 2012.
(17 marks)


## 3.

Weddell Limited, is a manufacturer of high-end suitcases. You are employed as the Senior Management Accountant.

This week Weddell has received an order for nine suitcases from a celebrity customer, if the suitcases can be delivered within the month. The following forecast on costs for the current year is available, based on past experience:

|  | $\mathbf{£}$ |
| :--- | :---: |
| Direct Labour cost | 75,000 |
| Direct material cost | 90,000 |
| Factory Rent | 22,000 |
| Building insurance | 3,000 |
| Heating \& Lighting | 2,000 |
| Water rates | 750 |
| Indirect Labour cost | 9,000 |
| Indirect Expenses | 18,000 |
| Additional information: |  |
| Machine hours | 10,000 hours |
| Labour time | 5,000 hours |

Typically, each suitcase requires 15 machine hours, 6 kgs of material at a cost of $£ 8$ per kg and 4 direct labour hours to produce it. Sales prices are based on a mark-up on the full absorption cost of $20 \%$.
a) Determine the minimum sales price that Weddell would accept to produce the nine suitcases, assuming overhead costs are allocated according to machine hours.
(10 marks)
b) Determine the minimum sales price that Weddell would accept to produce the nine suitcases, assuming overhead costs are allocated according to direct labour hours.
(10 marks)
c) Comment on the results of parts a) and b). Your discussion should include any other factors that you think are relevant to whether should accept this order.
(10 marks)
d) The Managing Director (MD) of Weddell has sent you the following email:
"I am concerned that we are pricing our product too high. We seem to be including irrelevant costs in this decision. Only the cost of the material and the cost of our workforce based in the factory are actually involved in producing our product. Therefore please prepare a revised sales price for our product to enable us to be more competitive."

Draft a response to the MD of Weddell.

## 4.

Wilkes Limited is a retailer of central heating systems. All systems are identical i.e. Wilkes is a single product business. A summary of the budgeted results for the next two quarters is as follows:

|  | Q3 | Q4 |
| :--- | :---: | :---: |
|  | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 2}$ |
| Unit sales (units) | 20,100 | 18,900 |
| Sales revenue (£) | 944,700 | 888,300 |
| Operating profit (£) | 160,000 | 144,400 |

There were no changes, of any description, in selling prices or costs over the two months.
a) What is the break-even point for the business's activities? (10 marks)
b) Due to the current economic climate, the Sales Director of Wilkes has estimated that future sales are likely to reduce significantly. What benefit will it be for the management of Wilkes Ltd to carry out the analysis required in part (a) and to know the business break-even point?
(5 marks)
c) What are the main weaknesses of using break-even analysis for decision making?
(5 marks)

Wright Ltd produces three products within the same production facility. Financial data relating to all three products is as follows:

| Product: | Meg <br> £ per unit | Stewie <br> £ per unit <br> 67 | Chris <br> £ per unit |
| :--- | :---: | :---: | :---: |
| Sales price | 55 | 67 | 80 |
| Costs: |  |  |  |
| Labour | 13 | 21 | 23 |
| Materials | 9 | 12 | 15 |
| Variable overheads | 8 | 12 | 16 |
| Fixed overheads | 10 | 15 | 20 |

All three products use only one raw material, which is the same material for all three products. This material costs $£ 6$ a kg and is scarce, such that the amount of all three products that can be produced falls well below the amounts that the market would take. All labour is a variable cost.
d) The maximum demand for each of the three products amounts to 500 units annually ( 1,500 units in total), and the total available material is $2,700 \mathrm{~kg}$. Provide workings with accompanying explanations, to show how the contribution of Wright Ltd can be maximised.
(20 marks)

## Section B - Answer ONE question from this section

5. 

a) What is depreciation and how may it be calculated?
b) Explain, giving examples, the difference between 'accruals' and 'prepayments'.
(10 marks)
6.

Compare and contrast the main differences between management accounting and financial accounting.
(20 marks)
7.

Are variable costs the same as direct costs? Illustrate your answer with examples where relevant.
(20 marks)

END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
UG Main Series Examination 2012-13

## INTRODUCTION TO FINANCIAL AND MANAGEMENT ACCOUNTING

NBS-1A2Y

## Time allowed: 3 hours

Answer THREE questions; TWO questions from Section $A$ and ONE question from Section B.

Notes are not permitted in this examination.
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## Section A

## Question 1

Mrs Johnson has recently decided to start a business selling mid-range smartphones in central Norwich. Mrs Johnson commences business on 1 March 2012. During March she undertakes the following transactions:
i) Pays $£ 40,000$ into the business bank account from her own resources.
ii) Borrows £25,000 from Mr Dawson at an interest rate of 1\% per month. Pays the proceeds into the business bank account. Pays one month's interest to Mr Dawson on 31 March from the business bank account.
iii) Purchases a fixed asset for $£ 18,000$. Pays $£ 10,000$ from the business bank account and agrees to pay the balance on 31 May.
iv) Rents premises for an annual rent of $£ 7,200$ payable monthly. The rent for March is not paid until 1 April.
v) Purchases 100 smartphones for $£ 100$ per unit. Pays for 25 smartphones immediately from the business bank account and agrees to pay the balance on 30 April.
vi) Decides to spend $£ 500$ each month during March, April and May to advertise the business. Pays the advertising agency $£ 1,500$ from the business bank account.
vii) Pays the following expenses from the business bank account:

1. Wages and salaries $£ 1,000$
2. Lighting and heating $£ 300$
3. Other expenses £350
viii)Sells 50 smartphones for $£ 200$ each. Pays proceeds from the sale of 40 smartphones into the business bank account. Does not receive the proceeds from the sale of 10 smartphones until 30 April.
ix) Mrs Johnson decides that the useful life of the fixed asset purchased within iii) above is likely to be 3 years, at the end of which it will have no resale value.
x) Mrs Johnson has not received a water bill at the end of the month, but she estimates that she has used $£ 100$ of water.

PLEASE TURN OVER

## Page 3

## Required:

Based on the first month's trading during March:
a) What is the balance in Mrs Johnson's bank account at the end of March 2012?
b) Identify whether Mrs Johnson has made a profit or a loss for the month of March 2012 by preparing an income statement.
c) Prepare a statement of financial position for Mrs Johnson's business as at the end of March 2012.

## Question 2

Threads Limited manufactures nuts and bolts which are sold to industrial users. The abbreviated financial statements for 2011 and 2012 are as follows:

## Income statements for the year ended 30 June

|  | 2011 | 2012 |
| :--- | :---: | :---: |
|  | $£ 000$ | $£ 000$ |
| Revenue | 1,180 | 1,200 |
| Cost of sales | $\underline{(680)}$ | $\frac{(750)}{450}$ |
| Gross profit | $(200)$ | $(208)$ |
| Operating expenses | $\underline{(66)}$ | $\frac{(75)}{167}$ |
| Depreciation | $\frac{234}{}$ | $\frac{(-)}{159}$ |
| Operating profit | $\frac{234}{}$ | $\frac{(48)}{111}$ |
| Interest | $\frac{(80)}{154}$ |  |
| Profit before taxation |  |  |

## Statements of financial position as at 30 June



Dividends were paid on ordinary shares of $£ 70,000$ and $£ 72,000$ in respect of 2011 and 2012, respectively.

## Required:

a) For both 2011 and 2012, calculate two ratios in each of the following categories:
i) Profitability / management performance (4 marks)
ii) Liquidity and gearing (4 marks)
iii) Working capital / efficiency (4 marks)
iv) Investor (4 marks)
b) Using the ratios you have calculated within part a) comment on the performance of Threads Limited from the viewpoint of a business considering supplying a substantial amount of goods to Threads Limited.

## Question 3

Touchstone Ltd manufactures and sells a single product. The company's sales and expenses for the last quarter follow:

|  | Total | Per unit |
| :--- | ---: | ---: |
| Sales | $£ 500,000$ | $£ 30$ |
| Less variable expenses | $\underline{160,000}$ | $\underline{12}$ |
| Contribution margin | 340,000 | $\underline{£ 18}$ |
| Less fixed expenses | $\underline{\underline{252,000}}$ |  |
| Profit | $\underline{\underline{£ 88,000}}$ |  |

## Required:

a) What is the quarterly break-even point in units sold and in sales pounds?
(10 marks)
b) What is the total contribution margin at the break-even point?
c) How many units would have to be sold each quarter to earn a target profit of $£ 90,000$ ? Use the unit contribution method. Verify your answer by preparing a contribution profit and loss account at the target level of sales.
(15 marks)
d) Refer to the original data. Compute the company's margin of safety in both pound and percentage terms.

## Question 4

Newton Limited is a manufacturer of high-end laptops and you are employed as the Management Accountant.

Newton Ltd has just received an order for nine laptops from a business customer and the following forecast on costs for the current year is available, based on past experience:

|  | $£$ |
| :--- | ---: |
| Direct Labour cost | 85,000 |
| Direct material cost | 90,000 |
| Factory Rent | 36,000 |
| Building insurance | 4,000 |
| Heating \& Lighting | 3,000 |
| Water rates | 850 |
| Indirect Labour cost | 11,000 |
| Indirect Expenses | 19,000 |

Additional information:

| Machine hours | 10,000 hours |
| :--- | ---: |
| Labour time | 5,000 hours |

Typically, each laptop requires 15 machine hours, 6 kg of material at a cost of $£ 12$ per kg and 4 direct labour hours to produce it. Sales prices are based on a mark-up on the full absorption cost of $25 \%$.

## Required:

a) Determine the minimum sales price that Newton Ltd would accept to produce the nine laptops, assuming overhead costs are allocated according to machine hours.
(15 marks)
b) Determine the minimum sales price that Newton Ltd would accept to produce the nine laptops, assuming overhead costs are allocated according to direct labour hours.
(15 marks)
c) Comment on the results of parts a) and b). Your discussion should include any other factors that you think are relevant to whether Newton Ltd should accept this order.

## Section B

## Question 5

Explain the differences between management accounting and financial accounting. (20 marks)

## Question 6

An accountant prepared a statement of financial position for a business. In this statement, the equity of the owner was shown next to the liabilities. This confused the owner, who argued: "My equity is my major asset and so should be shown as an asset on the statement of financial position". How would you explain this misunderstanding to the owner? In your answer, please make sure you refer to the business entity convention.

## Question 7

Define the terms fixed cost and variable cost. Explain how an understanding of the distinction between fixed cost and variable cost can be useful to managers.
(20 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2015-16

## INTRODUCTION TO FINANCIAL AND MANAGEMENT ACCOUNTING

NBS-4001Y

Time allowed: 3 hours

Answer THREE questions: TWO questions from Section $A$ and ONE question from Section B.
20.11 .2015


Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A

Answer TWO Questions from this section

## Question 1

After completing a cake course, Mrs Stone has decided to start her own business selling party cakes in a shop and also delivering party cakes in Norwich. Mrs Stone commenced business on 1 March 2016. During the month of March she undertook the following transactions:
i. Borrowed $£ 6,000$ from her bank at an interest rate of $8 \%$ per year. Paid the proceeds into the business bank account. Paid one month's interest on 30 March from the business bank account.
ii. Invested $£ 3,000$ of her own cash into the business and deposited the money into the bank account.
iii. Purchased a car to be used for cake deliveries to customers. The price of the car was $£ 4,000$ and was paid in full in cash.
iv. Rented a shop in central Norwich. The rent is $£ 600$ per month and is payable at the start of each month.
v. Entered into an insurance contract for the car. The monthly insurance premium is $£ 90$, which is paid a month in arrears. The insurance premium for March will be paid on 1 April.
vi. Purchased cake ingredients from a supplier amounting to $£ 2,500$. She agrees to pay for these on 1 April.
vii. Paid telephone expenses $£ 100$ and electricity charges $£ 260$.
viii. Sales made in the month of March were $£ 4,000$ out of which $£ 1,500$ were made for cash and the rest were made on credit.
ix. The cakes sold during March had been made of ingredients which cost Mrs Stone $£ 2,000$ when she purchased them from her supplier. This represents the cost of sales.
x. Received payment from customers to the value of $£ 800$.

## Required:

Based on the first month's trading during March:
a) What is the balance in Mrs Stone's bank account at the end of March 2016?
b) Prepare an income statement for the month of March 2016 for Mrs Stone's business.
c) Prepare a statement of financial position for Mrs Stone's business as at the end of March 2016.
(17 marks)
(Total 40 marks)

## Question 2

Below are the draft financial statements for Wolf L.td for the years 2014 and 2015.

Income statement for the years ended 30 June

|  | 2014 | 2015 |
| :--- | :---: | ---: |
|  | $£ 000$ | $£ 000$ |
| Sales revenue | 10,400 | 14,000 |
| Cost of sales | $(6,240)$ | $(9,400)$ |
| Gross profit | 4,160 | 4,600 |
| Wages and salaries | $(1,280)$ | $(1,400)$ |
| Overheads | $(1,040)$ | $(800)$ |
| Depreciation | $(600)$ | $(1,000)$ |
| Operating profit | 1,240 | 1,400 |
| Interest payable | $(200)$ | $(200)$ |
| Profit before taxation | 1,040 | 1,200 |
| Taxation | $\underline{(420)}$ | $\underline{(500)}$ |
| Profit for the year | $\underline{620}$ | $\underline{700}$ |


| Statement of financial position as at 30 June |  |  |
| :--- | ---: | ---: |
|  | 2014 | 2015 |
| ASSETS | $£ 000$ | $£ 000$ |
| Non-current assets |  |  |
| Property, plant and equipment | $\underline{5,060}$ | $\underline{6,100}$ |
| Current assets |  |  |
| Inventories | 1,000 | 1,600 |
| Trade receivables | 420 | 580 |
| Cash at bank | $\underline{1,520}$ | $\underline{460}$ |
|  | $\underline{2,940}$ | $\underline{2,640}$ |
| Total assets | $\underline{8,000}$ | $\underline{8,740}$ |

TURN OVER

EQUITY AND LIABILITIES

| Equity |  |  |
| :--- | ---: | ---: | ---: |
| Share capital: $£ 1$ shares fully paid | 1,960 | 1,960 |
| Share premium | 1,040 | 1,040 |
| Retained earnings | $\underline{1,400}$ | $\underline{1,800}$ |
| Non-current liabilities | $\underline{4,400}$ | $\underline{4,800}$ |
| Borrowings - 10\% loan notes | $\underline{2,000}$ | $\underline{2,000}$ |
| Current liabilities |  |  |
| Trade payables | $\underline{1,200}$ | 1,500 |
| Other payables | $\underline{1,600}$ | $\underline{1,440}$ |
|  | $\underline{1,000}$ | $\underline{8,740}$ |

Dividends were paid on ordinary shares of $£ 260,000$ and $£ 300,000$ for 2014 and 2015 respectively.

## Required:

a) For both 2014 and 2015, calculate two ratios in each of the following categories:
i) Profitability (6 marks)
ii) Efficiency
(6 marks)
iii) Liquidity and gearing
(6 marks)
iv) Investment
(6 marks)
b) Using the ratios calculated in (a) above, comment on the performance of Wolf Ltd from the viewpoint of a prospective investor.
(16 marks)
(Total 40 marks)

## Question 3

Tiger Ltd manufactures and sells a single product. The company's sales and expenses for the last quarter are the following:

## Total

$£$
800,000
300,000
500,000
420,000
Profit
80,000

## Required:

a) What is the quarterly break-even point in units sold and in sales pounds?
(10 marks)
b) What is the total contribution margin at the break-even point?
c) How many units would have to be sold each quarter to earn a target profit of $£ 150,000$ ? Use the unit contribution method. Verify your answer by preparing a contribution profit and loss account at the target level of sales.
(15 marks)
d) Refer to the original data presented in the table above. Compute the company's margin of safety in both pound and percentage terms.

## Question 4

Electron Ltd is a manufacturer of customized television systems and has just received an order for 7 television sets from a business customer. The following forecast on costs for the current year for Electron Ltd is available, based on past experience:

| Direct labour cost | 80,000 |
| :--- | ---: |
| Direct material cost | 60,000 |
| Factory rent | 18,000 |
| Building insurance | 4,000 |
| Heating \& Lighting | 3,500 |
| Water charges | 1,700 |
| Indirect labour cost | 14,000 |
| Indirect expenses | 19,000 |

Additional information:

| Machine hours | 6,000 hours |
| :--- | :--- |
| Labour hours | 2,000 hours |

Typically, each television set requires 20 machine hours, 2 kgs of material at a cost of $£ 8$ per kg and 6 direct labour hours to produce it. Sales prices are based on a mark-up on the full absorption cost of $40 \%$.

## Required:

a) Determine the minimum sales price that Electron Ltd would accept to produce the 7 television sets, assuming overhead costs are allocated according to machine hours.
(20 marks)
b) Determine the minimum sales price that Electron Ltd would accept to produce the 7 television sets, assuming overhead costs are allocated according to direct labour hours.
(20 marks)
(Total 40 marks)

## SECTION B

Answer ONE question from this section

## Question 5

Outline and explain the differences between Financial Accounting and Management Accounting.

## Question 6

a) What is depreciation and how could it be calculated?
b) Define and explain the accounting equation.
(Total 20 marks)

## Question 7

Explain what causes the profit for the reporting period not to equal the net cash inflow of a business.
(20 marks)

## END OF PAPER

## INTRODUCTION TO FINANCIAL AND MANAGEMENT ACCOUNTING

NBS-4001Y

Time allowed: 3 hours

Answer THREE questions: TWO questions from Section $A$ and ONE question from Section B.


Notes are not permitted in this examination.
Do not turn over until you are totd to do so by the Invigilator.

## SECTION A

Answer TWO Questions from this section

## Question 1

Mrs Smith owns and runs a business that sells fruit baskets from its busy city centre rented premises. All of these fruit baskets are purchased ready-made from a supplier. In addition to selling fruit baskets in the shop, Mrs Smith also provides a service for special events which includes delivery. The Statement of Financial Position of the business at 1 April 2016 is shown below:

## Mrs Smith - Statement of Financial Position as at 1 April 2016

$£ \quad £$
Fixed assets at cost 40,000
Accumulated depreciation Net book value $(15,000)$

Current assets
Stock 700

Trade receivables $\quad 1,850$
Prepayments $\quad \underline{\mathbf{5 , 0 0 0}}$ 7,550

Current liabilities
Trade payables
Bank overdraft
(850)
$(5,500)$
Net current assets
2,050
Long term liabilities (10\%)
$(9,600)$
Net assets
17,450
Financed by:
Capital invested $\quad 13,000$
Accumulated profits
4,450
17,450

During April, Mrs Smith made the following transactions:
(i) Bought a delivery van to deliver orders for $£ 4,500$. A deposit of $£ 2,000$ was paid for this and the remainder is due in May.
(ii) Received payment for previous catering services provided in March, amounting to the full trade receivables at the start of the month.
(iii) Purchased stock of fruit baskets for a total of $£ 1,800$. Paid $£ 300$ for this upfront, and agreed to pay the remainder in May.
(iv) Paid suppliers a total of $£ 1,600$ relating to stock purchased in the previous month.
(v) Made cash sales to various customers amounting to $£ 7,000$.
(vi) Entered into and completed a delivery job for a business customer, amounting to revenue of $£ 5,000$. The business customer paid for half of this job immediately and agreed to pay the remainder in May.
(vii) Paid wages to the shop staff and the delivery driver of $£ 2,500$.
(viii) Depreciation on the fixed assets (including the delivery van) amounted to £3,000.
(ix) Paid the interest on the bank loan for the month of April.
(x) The goods sold during the month of April costed $£ 2,400$ when purchased from the suppliers. This is the cost of sales.

## Required:

Based on the information given:
a) What is the balance on Mrs Smith's business bank account at the end of April 2016?
b) By producing an Income Statement for April 2016, calculate whether Mrs Smith has made a profit or a loss during the month.
c) By producing a Statement of Financial Position as at the end of April 2016, calculate Mrs Smith's overall financial position at the end of the month.
(17 marks)
(Total 40 marks)

## TURN OVER

## Question 2

Bradbury Ltd is a family-owned clothes manufacturer. The managing director decided to expand the business and successfully negotiated a five-year contract with a large clothes retailer. To fulfill the contract, Bradbury Ltd acquired new equipment and premises.

Financial information concerning the business is given below:

## Income statements for the year ended 30 November

|  | 2014 <br> $£ 000$ | 2015 |  |  |
| :--- | ---: | ---: | :---: | :---: |
|  |  | $£ 000$ |  |  |
| Revenue | $\underline{9,482}$ | $\underline{914}$ |  |  |
| Operating profit | $\underline{(22)}$ | 1,365 |  |  |
| Interest charges | 892 | $\underline{(81)}$ |  |  |
| Profit before taxation | $\underline{(358)}$ |  |  |  |
| Taxation | 534 | $\frac{(386)}{575}$ |  |  |
| Profit for the year |  |  |  |  |

## Statements of financial position as at 30 November



Dividends of $£ 120,000$ were paid on ordinary shares in respect of each of the two years.

## Required:

a) For both 2014 and 2015, calculate the following ratios:

| i) | Operating profit margin | (6 marks) |
| :--- | :--- | :--- |
| ii) | Return on capital employed | $(6$ marks $)$ |
| iii) | Current ratio | $(6$ marks $)$ |
| iv) | Gearing ratio | $(6$ marks $)$ |
| v) | Trade receivables settlement period | $(6$ marks $)$ |

b) Using the above ratios and any other information you consider relevant, comment on the results of the expansion programme.

## Question 3

Please answer each of the following questions.
a) A retail company sells smartphones, each of which is sold for $£ 350$ and bought from the manufacturer for $£ 200$. The retailer's fixed costs are $£ 150,000$. Maximum possible sales are 4,000 . How many smartphones must be sold to break even?
b) A business requires to sell 18,000 units in order to earn a target profit of $£ 120,000$. The contribution per unit is $£ 20$. What is the business's break-even point in units?
c) A business manufactures a product that is sold for $£ 8$ each. Variable costs are $£ 2$ for each product and total fixed costs are $£ 1,200$. During the year, the business sold 500 units of the product. What is the margin of safety?
(8 marks)
d) A company gives a quotation for a job which requires 50 kg of materials at $£ 20$ per $\mathrm{kg}, 15$ direct labour hours at $£ 30$ per hour and overheads recovered on the basis of kg used, at $£ 7$ per kg. A profit mark-up of $40 \%$ is added. What is the price chargeable to the customer?
e) Star Ltd has the following budgeted sales for May, June and July:

|  | May | June | July |
| :--- | :--- | :--- | :--- |
|  | $£$ | $£$ | $£$ |
| Credit sales | 50,000 | 65,000 | 70,000 |
| Cash sales | 62,000 | 45,000 | 58,000 |

$60 \%$ of credit customers pay after 2 months and $40 \%$ pay after 1 month. Those that pay after 1 month receive a $10 \%$ discount for prompt payment. During July it is expected that a warehouse will be sold for $£ 100,000$ to help pay off the business's overdraft. What are the total budgeted cash receipts for July?

## Question 4

Speed Ltd is a manufacturer of custom made motorcycles.
Speed Ltd has just received an order for 25 motorcycles from a business customer and the following forecast on costs for the current year is available, based on past experience:

Direct labour cost 64,000
Direct material cost $\quad 83,000$
Factory Rent $\quad 12,000$
Building insurance 1,200
Heating \& Lighting $\quad 3,000$
Water rates $\quad 1,800$
Indirect labour cost 14,000
Indirect expenses $\quad 16,000$
Additional information:
Machine hours $\quad 3,000$ hours
Direct labour hours 1,200 hours
Typically, each motorcycle requires 15 machine hours, 12 kgs of material at a cost of $£ 18$ per kg and 7 direct labour hours to produce it. Sales prices are based on a mark-up on the full absorption cost of $35 \%$.

## Required:

a) Determine the minimum sales price that Speed Ltd would accept to produce the 25 motorcycles, assuming overhead costs are allocated according to machine hours.
b) Determine the minimum sales price that Speed Ltd would accept to produce the 25 motorcycles, assuming overhead costs are allocated according to direct labour hours.
(20 marks)
(Total 40 marks)

## TURN OVER

## SECTION B

Answer ONE question from this section

## Question 5

Explain the roles of Financial Accounting and Management Accounting and outline the differences between the two. Your answer should explore the following dimensions:
i) Users
ii) Regulation
iii) Structure and purpose
iv) Principles and conventions

## Question 6

"Cash is the lifeblood of the business" is an expression widely used in the business world. Discuss why cash is so important to businesses.
(20 marks)

## Question 7

Define the budget and discuss how a budget is different from a forecast.

## INTRODUCTION TO FINANCIAL. AND MANAGEMENT ACCOUNTING

NBS-4001Y

Time allowed: 3 hours

Answer THREE questions: TWO questions from Section $A$ and ONE question from Section B.


Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A

Answer TWO Questions from this section

## Question 1

Mr. Miller has decided to start a business selling wall clocks in central Norwich. Mr. Wilson starts the business on 1 January 2016. During January he undertakes the following transactions:
i. Pays $£ 13,000$ into the business bank account from his own money.
ii. Borrows $£ 8,000$ from Mr. Rama at an interest rate of $2 \%$ per month. Pays the proceeds into the business bank account. Pays one month's interest to Mr. Rama on 31 January from the business bank account.
iii. Purchases a car for $£ 12,000$. Pays $£ 4,000$ from the business bank account and agrees to pay the balance on 31 March.
iv. Rents premises for an annual rent of $£ 6,600$ payable monthly. The rent for January is not paid until 1 February.
v. Purchases 80 wall clocks for $£ 90$ per unit. Pays for 30 wall clocks immediately from the business bank account and agrees to pay the balance on 31 March.
vi. Decides to spend $£ 200$ each month during January, February and March to advertise the business and in this respect pays the advertising agency $£ 600$ from the business bank account.
vii. Pays the following expenses from the business bank account:

Transport $£ 1,000$
Lighting and heating 250
Insurance 150
viii. Sells 50 wall clocks for $£ 180$ each. Pays proceeds from the sale of 40 wall clocks into the business bank account. Does not receive the proceeds from the sale of 10 wall clocks until 28 February.
ix. Mr. Wilson decides that the useful life of the car purchased within iii.) above is 4 years, at the end of which it will have no resale value. He uses the straight line depreciation method.
x. Mr. Wilson has not received a water bill at the end of the month, but he estimates that he has used $£ 70$ worth of water.

## Required:

For the first month of trading during January:
a) What is the balance in Mr. Miller's bank account at the end of January 2016 ?
b) Identify whether Mr. Miller has made a profit or a loss for the month of January 2016 by preparing an income statement.
(13 marks)
c) Prepare a statement of financial position for Mr. Miller's business as at the end of January 2016.
(Total 40 marks)

## Question 2

Marina Ltd manufactures navigation equipment which is sold to yacht manufacturers.
The abbreviated financial statements for 2014 and 2015 are as follows:

## Income statements for the year ended 30 June

|  | 2014 | 2015 |
| :--- | :---: | :---: |
|  | $£ 000$ | $£ 000$ |
|  |  |  |
| Revenue | 4,720 | 4,800 |
| Cost of sales | $\frac{(2,720)}{}$ | $\frac{(3,000)}{1,800}$ |
| Gross profit | $(800)$ | $(832)$ |
| Operating expenses | $\underline{(264)}$ | $\frac{(300)}{668}$ |
| Depreciation | 936 | $\frac{(32)}{636}$ |
| Operating profit | $\underline{(-)}$ | $(192)$ |
| Interest | $\underline{(320)}$ | 444 |

## Statements of financial position as at 30 June

|  | $\begin{aligned} & 2014 \\ & £ 000 \end{aligned}$ | $\begin{aligned} & 2015 \\ & £ 000 \end{aligned}$ |
| :---: | :---: | :---: |
| Non-current assets |  |  |
| Property, plant and equipment | 2,808 | $\underline{2,748}$ |
| Current assets |  |  |
| Inventories | 592 | 944 |
| Trade receivables | 408 | 624 |
| Cash | 12 | 16 |
|  | 1,012 | 1,584 |
| Total assets | 3,820 | $\underline{4,332}$ |
| Equity |  |  |
| Ordmary share capital (£1 shares, fully paid) | 2,000 | 2,000 |
| Retained earnings | 1,024 | 1,180 |
|  | 3,024 | 3,180 |
| Non-current liabilities |  |  |
| Borrowings - Bank loan | $\underline{-}$ | 200 |
| Current liabilities |  |  |
| Trade payables | 240 | 304 |
| Other payables and accruals | 72 | 64 |
| Taxation | 160 | 96 |
| Short-term borrowings (all bank overdraft) | 324. | 488 |
|  | 796 | 952 |
| Total equity and liabilities | $\underline{\underline{3,820}}$ | 4.332 |

Dividends were paid on ordinary shares of $£ 280,000$ and $£ 288,000$ in respect of 2014 and 2015, respectively.

## Required:

a) For both 2014 and 2015, calculate two ratios in each of the following categories:

| i) | Profitability | ( 6 marks $)$ |
| :--- | :--- | ---: |
| ii) | Efficiency | $(6$ marks $)$ |
| iii) | Liquidity and gearing | $(6$ marks $)$ |
| iv) | Investment | $(6$ marks $)$ |

b) Using the ratios you have calculated within part a) comment on the performance of Marina Ltd from the viewpoint of a business considering supplying a substantial amount of goods to Marina Ltd.
(16 marks)
(Total 40 marks)

## Question 3

Star Ltd manufactures and sells a single product. The company's forecasted sales and expenses for the year 2016 are as follows:

## Total

Sales
Less variable expenses
Contribution margin
Less fixed expenses
Profit

## Per unit

£35
15
$£ 20$

## Required:

a) What is the break-even point in units sold and in sales pounds for the year 2016?
(10 marks)
b) What is the total contribution margin at the break-even point for 2015 ?
(5 marks)
c) How many units would have to be sold in 2016 to earn a target profit of $£ 40,000$ ? Use the unit contribution method. Verify your answer by preparing a contribution profit and loss account at the target level of sales.
(15 marks)
d) Refer to the original data presented in the table above. Compute the company's margin of safety in both pound and percentage terms.
(10 marks)
(Total 40 marks)

TURN OVER

## Question 4

Comfort Ltd is a manufacturer of custom made chairs.
Comfort Ltd has just received an order for 20 chairs from a business customer and the following forecast on costs for the current year is available, based on past experience:

|  | $£$ |
| :--- | ---: |
| Direct labour cost | 63,000 |
| Direct material cost | 85,000 |
| Factory Rent | 15,000 |
| Building insurance | 2,400 |
| Heating \& Lighting | 3,500 |
| Water rates | 1,400 |
| Indirect labour cost | 12,000 |
| Indirect expenses | 18,000 |

Additional information:
Machine hours $\quad 4,000$ hours
Direct labour hours $\quad 1,800$ hours
Typically, each chair requires 12 machine hours, 8 kgs of material at a cost of $£ 11$ per kg and 6 direct labour hours to produce it. Sales prices are based on a mark-up on the full absorption cost of $25 \%$.

## Required:

a) Determine the minimum sales price that Comfort Ltd would accept to produce the 20 chairs, assuming overhead costs are allocated according to machine hours.
b) Determine the minimum sales price that Comfort L.td would accept to produce the 20 chairs, assuming overhead costs are allocated according to direct labour hours.
(20 marks)
(Total 40 marks)

## SECTION B

Answer ONE question from this section

## Question 5

Discuss the differences between financial accounting and management accounting.

## Question 6

What is the objective of producing accounting information and who are the users of accounting information?
(20 marks)

## Question 7

Define the terms fixed cost and variable cost. Explain how an understanding of the distinction between fixed cost and variable cost can be useful to managers.
(20 marks)

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2016-17

## INTRODUCTION TO FINANCIAL AND MANAGEMENT ACCOUNTING

NBS-4001Y

Time allowed: 3 hours

Answer FOUR questions; TWO questions from Section $A$ and TWO questions from Section B.

You are permitted to use a UEA approved calculator.
Candidates using a calculator are advised to include some working details in their answers.

All questions carry equal marks.

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator

## Page 2

## SECTION A (ANSWER TWO QUESTIONS ONLY)

## Question 1

2016:
August $\quad 1^{\text {st }} \quad$ Started business with $£ 7,400$ cash
$2^{\text {nd }}$ Paid $£ 7,000$ of the opening cash into the bank
$4^{\text {th }} \quad$ Bought goods on credit $£ 410$ from J Watson
$7^{\text {th }} \quad$ Bought goods for cash $£ 362$
$10^{\text {th }}$ Sold goods on credit $£ 218$ to L Less
$19^{\text {th }}$ Sold goods for cash $£ 54$
$22^{\text {nd }}$ Bought fixtures on credit from Firelighters Ltd. $£ 820$
$24^{\text {th }} \quad$ F Holmes lent us $£ 1,500$ paying us the money by cheque
29 ${ }^{\text {th }}$ We paid J Watson his account by cheque $£ 368$
$31^{\text {st }}$ We paid Firelighters Ltd. by cheque $£ 820$

## Required:

a) Enter the above transactions in the appropriate T accounts.
b) Close off the accounts at the end of the month.
c) How do we know that we have not made a mistake in the double entry?
d) What does the balance c/f on the debit side mean on a Trade Payable account such as J Watson?
e) If the balance carried forward was on the debit side of the bank account, what would this signify?

## Question 2

On 31 ${ }^{\text {st }}$ March 2017 the following information was available from the books of Andy Bowden Ltd:

|  | DR | CR |
| :---: | :---: | :---: |
|  | $\underline{£}$ | $\underline{\text { £ }}$ |
| Sales |  | 479,000 |
| Purchases | 226,000 |  |
| Inventory (at $1^{\text {st }}$ April 2016) | 29,200 |  |
| Equity |  | 109,000 |
| Bank |  | 2,000 |
| Salaries | 85,600 |  |
| Insurance | 8,800 |  |
| General expenses | 126,000 |  |
| 12\% Bank loan |  | 60,000 |
| Loan interest so far | 6,000 |  |
| Premises | 160,000 |  |
| Provision for depreciation premises |  | 9,600 |
| Shop fittings | 56,000 |  |
| Provision for depreciation shop fittings |  | 33,600 |
| Trade Receivables | 14,900 |  |
| Trade Payables |  | 19,300 |
|  | 712,500 | 712,500 |

The following information is also available.
i. The closing inventory as at $31^{\text {st }}$ March 2017 was valued at $£ 26,000$.
ii. General expenses include a prepayment of $£ 400$.
iii. A debt of $£ 700$ was considered irrecoverable. The full amount is to be treated as a bad debt in the accounts for the year ended 31 ${ }^{\text {st }}$ March 2017.
iv. The loan was taken out in November 2014 and is repayable in full during the financial year ended $31^{\text {st }}$ March 2019.
v. All the shop fittings had been purchased for $£ 56,000$ on $1^{\text {st }}$ April 2013, and depreciation has been charged using the straight line basis. The provision for the depreciation of shop fittings for the year ended $31^{\text {st }}$ March 2017 is to be charged using the same method and rate.
vi. Premises are depreciated by $2 \%$ per annum on cost using the straight line method.

## Required:

a) The Income Statement for the year ended 31 ${ }^{\text {st }}$ March 2017.
b) The Statement of Financial Position as at $31^{\text {st }}$ March 2017.
(Total 25 marks)

## Page 5

## Question 3

Harry and Jim are the only shareholders of Stone Ltd. The business is run by the manager Mr. Woodward.

Harry and Jim have just received the final accounts of Stone Ltd. for the year ended $31^{\text {st }}$ December 2017. They are concerned about the performance of the business. Despite the company making a profit, and Harry and Jim investing more equity in the business, the Statement of Financial Position shows that the company's bank balance has fallen from $£ 16,700$ at $31^{\text {st }}$ December 2016 to an overdraft of $£ 20$ at $31^{\text {st }}$ December 2017.

The following information is available.
Ratios at $31^{\text {st }}$ December 2016:
Current ratio $1.57: 1$
Acid test ratio $\quad 1.36: 1$
Trade Receivable days 45 days

Income Statement for the year ended 31st ${ }^{\text {st }}$ December 2017:

## £

Turnover $\quad 120,000$
Cost of sales $\quad(40,000)$
Gross Profit 80,000
Operating expenses $\quad(60,482)$
Operating Profit $\quad \underline{19,518}$

| Statement of Financial Position at | 31 ${ }^{\text {st }}$ Dec 2017 | 31 ${ }^{\text {st }}$ Dec 2016 |
| :---: | :---: | :---: |
|  | £ | £ |
| Non-Current Assets | 188,250 | 186,500 |
| Current Assets |  |  |
| Inventory | 8,760 | 5,600 |
| Trade Receivables | 24,528 | 18,780 |
| Bank |  | 16,700 |
|  | 33,288 | 41,080 |
| Total Assets | 221,538 | 227,580 |
| Equity \& Liabilities: |  |  |
| Equity: |  |  |
| Equity | 140,000 | 115,000 |
| Retained Profit | 33,018 | 17,500 |
|  | 173,018 | 132,500 |
| Non-Current Liabilities |  |  |
| Bank Loans | $(31,000)$ | $(69,000)$ |
| Current Liabilities |  |  |
| Creditors | 15,500 | 22,080 |
| Taxation | 2,000 | 4,000 |
| Bank | $\underline{20}$ | - |
|  | 17,520 | 26,080 |
| TOTAL EQUITY \& LIAIBLITIES | 221,538 | 227,580 |

## Page 7

## Required:

a) Calculate the following ratios for the year ended $31^{\text {st }}$ December 2017.
i. Gross profit margin
ii. Operating profit margin
iii. Return on Capital employed (Capital employed includes Long term debt)
iv. Current ratio
v. Acid test ratio
vi. Trade Receivable days
b) Write a report to the shareholder's that includes the performance of the company during 2017 and the reasons why the bank balance has fallen by £16,720.

## Page 8

## SECTION B (ANSWER TWO QUESTIONS ONLY)

## Question 4

Stow Glue Ltd. has the following departments involved in one of the stages of glue production:

- Mixing
- Bottling
- Maintenance

The budgeted fixed overheads relating to the departments for the next quarter are:

|  | $£$ | $£$ |
| :--- | :--- | :--- |
| Insurance of machinery |  | 50,400 |
| Rent and rates |  | 136,800 |
| Indirect labour costs: | 53,625 |  |
| Mixing | 131,175 |  |
| Bottling | $\underline{18,375}$ |  |
| Maintenance |  | $\underline{203,175}$ |
| Total |  | $\underline{390,375}$ |

The following information is also available:

| Department | NBV of Fixed Assets £000 | Square metres occupied | Number of employees |
| :---: | :---: | :---: | :---: |
| Mixing | 432 | 660 | 14 |
| Bottling | 216 | 480 | 48 |
| Maintenance | 72 | 60 | 6 |
| Total | 720 | 1,200 | 68 |

## Page 9

Fixed overheads are allocated or apportioned to the departments on the most appropriate basis.

The total maintenance overheads are then reapportioned to the two production departments. The maintenance department spends $80 \%$ of its time maintaining equipment in the mixing department and $20 \%$ in the bottling department.

The mixing department is highly automated, and operates with expensive machinery. The bottling department is highly labour intensive.

The following budgeted data relates to the next quarter:

|  | Mixing | Bottling |
| :--- | :---: | :---: |
| Machine hours | 5,237 | 3,624 |
| Labour hours | 4,806 | 17,256 |

## Required tasks:

a) Prepare the overhead analysis sheet for the next quarter, apportioning the overheads between the production department, using the most appropriate basis.
b) For each of the following departments, calculate the budgeted fixed overhead absorption rates for the next quarter using the most appropriate basis of absorption:
i) Mixing department
ii) Bottling department
c) Explain the limitations of absorption costing when calculating the full cost of a product or service.

## Question 5

Kleanpacks Ltd. make liquid cleaner. The following is a copy of the original budgets and actual performance of the company for the last 12 months.

|  | Draft Budgets |  |  |  | Actual |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sales (litres) |  |  | 3,000,000 |  | 2,600,000 |  |
|  | $£ 000$ | $£ 000$ | £000 | £000 | $£ 000$ | $£ 000$ |
| Turnover |  | 10,000 |  | 15,000 |  | 14,300 |
|  |  |  |  |  |  |  |
| Materials | 1,600 |  | 2,400 |  | 1,950 |  |
| Labour | 1,800 |  | 2,700 |  | 2,392 |  |
| Power | 1,300 |  | 1,950 |  | 1,768 |  |
| Storage | 870 |  | 1,030 |  | 992 |  |
| Transport | 1,040 |  | 1,560 |  | 1,410 |  |
| Maintenance | 770 |  | 770 |  | 790 |  |
| Depreciation | 970 |  | 970 |  | 960 |  |
| Admin | $\underline{650}$ |  | $\underline{650}$ |  | $\underline{658}$ |  |
|  |  | $(9,000)$ |  | $(12,030)$ |  | $(10,920)$ |
| Profit |  | 1,000 |  | 2,970 |  | 3,380 |

Additional Information:

- Materials, Labour and power are variable costs.
- Storage is a semi-variable cost.
- Transport is a stepped fixed cost. For every $£ 130,000$ spent on transport, the company can carry 250,000 litres.
- Maintenance, depreciation and admin are fixed costs.


## Required tasks:

a) Prepare a flexed budget for the actual sales volume and compare it with the actual results showing total variances.
b) Suggest two possible reasons for each of the Material and Labour variances.

## Question 6

The CS group is planning its annual marketing conference for its sales executives and has approached the VBJ Holiday company (VBJ) to obtain a quotation. VBJ has been trying to win the business of the CS group for some time and is keen to provide a quotation which the CS group will find acceptable in the hope that this will lead to future contracts.

The manager of VBJ has produced the following cost estimate for the conference:

| Coach running costs | $£ 2,000$ |
| :--- | :--- |
| Driver costs | $£ 3,000$ |
| Hotel costs | $£ 5,000$ |
| General overheads | $£ 2,000$ |
| Sub-total | $£ 12,000$ |
| Profit (30\%) | $£ 3,600$ |
| Total | $£ 15,600$ |

You have considered this cost estimate but believe it would be more appropriate to base the quotation on relevant costs. You have therefore obtained the following further information:

Coach running costs represent the fuel costs of $£ 1,500$ plus an apportionment of the annual fixed cost of operating the coach. If the contract did not go ahead, the coach would not be in use for eight out of the ten days of the conference. For the other two days a contract has already been accepted which would earn a contribution of $£ 250$ per day. A replacement coach could be hired for $£ 180$ per day.

Driver costs represent the salary of one driver for 10 days. The driver is a full time member of staff. Any additional drivers needed are hired from a recruitment agency at a cost of $£ 400$ per day.

General overheads are based upon the overhead absorption rate of VBJ and are set annually when the company prepares its budgets. The only overhead specific to the contract was the $£ 250$ cost of preparing the quotation.

## Required tasks:

a) Prepare a statement showing the total relevant cost of the contract. (12 marks)
b) Explain the reasons for each of the values in your quotation and for excluding any of the costs.
(13 marks)

## END OF PAPER

## INTRODUCTION TO FINANCIAL \& MANAGEMENT ACCOUNTING

## EXAM FEEDBACK

This module has had a change in Module Organiser for 2016/17 and so, whilst the learning objectives have remained broadly similar, the exam style and structure has had a major overhaul. That being said, the performance of students was generally very good, with an average mark of $65 \%$, and many students scoring a first class mark.

To be more specific, I will look at each question in turn.
Question 1 - Double Entry Bookkeeping:
This was a topic that has not been examined in this way before. However, performance in the question was much better than expected (based on my previous experience). The biggest area of weakness was in closing the $T$ accounts at the end of the month. Many students prepared a Trial Balance to check their entries even when it was not required. This shows a real understanding of the double entry process.

## Question 2 - Accounts Preparation:

The students who attempted this question, on the whole, scored highly and I was quite surprised that more students didn't choose this question. There was a good understanding of the structure of the financial statements and the adjustments that needed to be made. There were a couple of adjustments that were not well done. The first was the accrual for bank interest of $£ 1,200$ as $12 \%$ of $£ 60,000$ is $£ 7,200$ but only $£ 6,000$ appeared in the trial balance. Also, the depreciation for Shop Fittings was to be calculated using deduction rather than the more traditional methods and many students couldn't cope with this learning extension.

## Question 3 - Ratio Analysis:

More students picked this question than expected which was pleasing and it requires them to analyse data. All the ratios were calculated well with the exception of ROCE. Many students find it hard to identify the capital employed. Where students dropped marks in the analysis section was not making the report specific to the question of why the bank balance had fallen. Many answers were very general without students spotting the more obvious reasons such as repayment of loans and purchase of non-current assets. The reason for this is that some students conduct their analysis just using the ratios rather than looking at the financial statements in more depth.

## Question 4 - Absorption Costing:

This was a very popular choice and the numerical parts were answered well. However, the written part asking students to look at the weaknesses of absorption costing was answered poorly indicating that not much extension reading had taken place.

## Question 5 - Flexible Budgeting and Variance Analysis:

This question was a popular choice and I was pleased that it was answered so well. Most students were able to flex the budget, calculate the variances and identify what might have caused them. There were a couple a budgets that students found difficult to flex. The first was Storage being a semi-variable cost and the second was Transport being a stepped fixed cost. I'm not sure why this was the case as both types of costs were looked at in lectures and seminars.

## Question 6 - Decision Making:

This question was the least popular choice as students can't rely on a memorisable format to lead them through the question. Those that attempted it did poorly not being able to identify the difference between relevant and non-relevant costs. The topic was explored in lectures and seminars but does require some higher order thinking to apply the theory to different scenarios.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2017-18

## INTRODUCTION TO FINANCIAL AND MANAGEMENT ACCOUNTING <br> NBS-4001Y

Time allowed: 3 hours

Answer FOUR questions; TWO questions from Section A and TWO questions from Section B.

Candidates using a calculator are advised to include some working details in their answers.

All questions carry equal marks.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator

## Page 2

## SECTION A (ANSWER 2 QUESTIONS ONLY)

## Question 1

2016:
August $\quad 1^{\text {st }} \quad$ Started business with $£ 10,500$ cash
$2^{\text {nd }} \quad$ Put $£ 9,000$ of the cah into a bank account
$4^{\text {th }} \quad$ Bought goods for cash $£ 550$
$7^{\text {th }} \quad$ Bought goods on credit from $T$ dry $£ 800$
$10^{\text {th }}$ Bought stationary on credit from Buttins Ltd. $£ 89$
19 ${ }^{\text {th }}$ Received a loan from B Barclay by cheque $£ 2,000$
$22^{\text {nd }}$ Returned goods to T Dry $£ 80$
$24^{\text {th }}$ Sold goods for cash $£ 500$
29 ${ }^{\text {th }}$ Paid T Dry $£ 700$ by cheque
$31^{\text {st }} \quad$ Bought goods on credit from T Dry $£ 200$

## Required:

a) Enter the above transactions in the appropriate $T$ accounts
b) Close off the accounts at the end of the month
c) What could cause the trial balance not to balance?
d) When looking at the balances on the trial balance, all the debits are what two categories of transactions?
e) Explain what is meant by the Money Measurement and Accruals concept?

## Question 2

Given below is the list of initial balances taken from a sole trader's ledger accounts at $30^{\text {th }}$ June 2018.

|  | Debit | Credit |
| :--- | :--- | :--- |
| Sales |  | 141,800 |
| Machinery at cost | 67,400 |  |
| Office equipment at cost | 5,600 |  |
| Trade Receivables | 19,200 |  |
| Telephone | 900 | 6,050 |
| Trade Payables | 98,000 | 1,800 |
| Bank overdraft | 2,100 |  |
| Purchases |  | 31,200 |
| Insurance | 8,250 | 3,300 |
| Provision for Dep - machinery |  | 5,000 |
| Provision for Dep - office equipment |  |  |
| Stock at 1st July 2017 | 25,000 | 300 |
| Loan |  |  |
| Wages |  |  |
| Loan interest |  |  |
| Equity |  |  |

## Page 4

The following information is also available:

- The value of stock at $30^{\text {th }}$ June 2018 was $£ 9,000$
- The machinery and office equipment have yet to be depreciated for the year. Machinery is depreciated at $30 \%$ on the reducing balance basis and office equipment at $20 \%$ of cost.
- A telephone bill for $£ 200$ for the three months to $30^{\text {th }}$ June 2018 did not arrive until after the trial balance had been drawn up.
- Of the insurance payments $£ 400$ is for the year ending $30^{\text {th }}$ September 2018.


## Required:

a) The Income Statement for the year ended 30 th June 2018.
b) The Statement of Financial Position as at $30^{\text {th }}$ June 2018.

## Question 3

Sally Forth is a shareholder in Tay Ltd. She has asked you to assist her by analysing the financial statements of the company for the last two years. The financial statements of Tay Ltd. are set out below:

Tay Ltd. Income Statement for the year ended 31 ${ }^{\text {st }}$ December 2017 and 2018:

| $31^{\text {st }}$ Dec 2017 | $3^{\text {st }}$ Dec 2018 |
| :--- | :--- |
| $£ 000$ | $£ 000$ |

Turnover 2,100 2,400

Cost of sales
$(1,155)$
$(1,392)$
Gross Profit 945 1,008
Operating expenses (787)
(780)

Operating Profit
158
228
Interest
(56)
(91)

Retained Profit $\underline{102}$
137

| Statement of Financial Position at | 31 $^{\text {st }}$ Dec 2017 | 31 $^{\text {st }}$ Dec 2018 |
| :--- | :--- | :--- |
|  | $£ 000$ | $£ 000$ |
| Non-Current Assets | 4,100 | 4,750 |

## Current Assets

Inventory
208
320

Trade Receivables
360
Bank
68
507
680
Total Assets
4,607
5,430

## Equity \& Liabilities:

Equity:

| Equity | 2,500 | 2,500 |
| :--- | :--- | :--- |
| Retained Profit | $\underline{1,146}$ | $\underline{1,239}$ |
|  | 3,646 | 3,739 |

## Non-Current Liabilities

Bank Loans $800 \quad 1,300$

## Current Liabilities

Trade Payables ..... 139 ..... 195
Taxation ..... 22 ..... 44
Bank ..... O ..... 152
161 ..... 391
TOTAL EQUITY \& LIAIBLITIES 4,607 ..... 5,430

Prepare a report for Sally Forth that includes the following:
a) Calculate the following ratios:
i. Gross profit ratio
ii. Operating profit ratio
iii. Stock turnover in days (based on cost of sales)
iv. Trade receivables days
b) A comment on the relative performance of the company for the two years based on the ratios calculated and what this tells you about the company.
c) Give one suggestion as to how EACH of the ratios might be improved.
(8 marks)

## Page 7

## SECTION B (ANSWER TWO QUESTIONS ONLY)

## Question 4

F4L has budgeted for the following overheads for its two profit and three cost centres for the next financial year.

| The Profit Centres are: | Scheduled services |
| :--- | :--- |
|  | Charter flights |
| The Service Centres are: | Aircraft maintenance |
|  | Fuel and parts store |
|  | General Administration |

£000 £000
Depreciation of aircraft 36,400
Fuel \& other variable costs 42,200
Pilots salaries:
Scheduled services 5,250
Charter flights $\quad \underline{4,709}$
Total salaries 9,959
Rent 12,600
Indirect labour costs:
Aircraft maintenance
9,600

Fuel and parts store
3,200
General Administration
7,800
Total Indirect Labour cost
20,600

The following information is also available:

|  | Net Book <br> Value of <br> aircraft $£ 000$ | Planned <br> number of <br> miles flown | Floor space | Number of <br> Employees |
| :--- | ---: | ---: | ---: | ---: |
| Scheduled <br> Flights | $1,080,000$ | 215,600 |  | 105 |
| Charter <br> Flights | 720,000 | 176,400 |  | 96 |
| Aircraft <br> maintenance |  |  | 190,000 | 260 |
| Fuel \& Parts |  |  | 114,000 | 146 |
| General <br> Administration | $\mathbf{1 , 8 0 0 , 0 0 0}$ | $\mathbf{3 9 2 , 0 0 0}$ | $\mathbf{3 8 0 , 0 0 0}$ | $\mathbf{8 2 7}$ |
| Total |  |  | $\mathbf{7 6 , 0 0 0}$ | $\mathbf{2 2 0}$ |

Other information is as follows:

- The Aircraft maintenance department spends $60 \%$ of its time maintaining the aircraft in Scheduled Services and the remainder in Charter Flights.
- $55 \%$ of the issues from the Fuel and Parts Store is made the Scheduled Services and the remainder to Charter Flights.
- Scheduled Services and Charter Flights both incur General Administration costs equally.


## Required:

a) Prepare an overhead analysis table to allocate or apportion the fixed overheads between the profit departments, using the most appropriate basis.
b) Calculate the budgeted fixed overhead absorption rates using the planned number of miles flown for:
i. Scheduled Services
ii. Charter Flight
c) Explain the limitations of absorption costing when calculating the full cost of a product or service and suggest an alternative method of costing.

## Question 5

The charter flight centre of a company called F4L had a contract with a customer to fly 5,000 miles. The budget for the contract is as follows:
Likely miles
5,000
$£$
Sales Revenue
2,500,000
Variable / Semi-variable costs:
Fuel 400,000
Landing fees 850,000
Other variable costs 135,000

## Fixed Costs:

Wages 420,000
Other fixed overheads 625,000
Total Cost 2,430,000
Total Profit $\quad \mathbf{7 0 , 0 0 0}$
Profit per mile flown 14
The customer wishes to revise the contract to increase the miles flown to either 6,000 or 7,000 miles and has negotiated a price reduction of $£ 50$ per mile.

Note: Landing fees are a semi-variable cost with a fixed charge of $£ 600,000$.

## Required:

a) Prepare the budgets for 6,000 and 7,000 miles including budgeted profit and budgeted profit per mile.
(16 marks)
b) Explain the terms "relevant" and "irrelevant" in terms of short term decision making.
(2 marks)
c) Identify which of the costs in part a) are "relevant" and which are "irrelevant" in terms of reviewing the contract.
(3 marks)
d) Should the new contract be accepted, please give an explanation for your answer.

## Question 6

Illuminate plc manufactures light bulbs, which sell for $£ 12$ each. The management accountant has analysed the sales and total costs for the first half of the year. Fixed costs per month have been the same each month and she is forecasting that this will continue. However, see is trying to project the forecast for the rest of the year. She has been given a target profit of $£ 180,000$ for the next month.

| Month | Sales (No. of light bulbs) | Total Cost $£$ |
| :---: | :---: | :---: |
| January | 30,000 | 240,000 |
| February | 35,000 | 260,000 |
| March | 15,000 | 180,000 |
| April | 24,000 | 216,000 |
| May | 26,000 | 224,000 |
| June | 18,000 | 192,000 |

## Required:

a) Using the high/low method, calculate the variable cost for each light bulb
b) Using the high/low method, calculate the fixed cost for each light bulb
c) Using the information in part (a) and (b), what is the break-even point in the number of light bulbs for the next month
d) Using the information in part (a) and (b), how many light bulbs does Illuminate need to sell to achieve the profit target for the next month?
(4 marks)
e) What is the margin of safety in number of light bulbs for next month. How does margin of safety help Illuminate meaure its risk?
f) What are the assumptions behind break-even analysis and therefore, what are the limitations of the analysis?

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END OF PAPER

## Introduction

The 2017/18 exam for Introduction to Financial and Management Accounting had an average mark of $60 \%$ with a standard deviation of 24 . This average mark is down from the 2016/17 exam which had an average of $65 \%$ and a lower standard deviation of 20 . However, the mark category with the highest frequency was $70 \%-80 \%$. Therefore, we can surmise that many students who follow the learning requirements set out in the module go on to achieve excellent marks, but there is a significant tail of students who's attendance and motivation is often poor, fail the module with very low marks indeed. The tail in 2017/18 is longer than in 2016/17 as expressed by the increased standard deviation.

In terms of the performance in each question:

## Question 1

The first question required the students to complete a double entry task. On the whole, this was done well as was the understanding of why a trial balance may not balance. What was less well understood was the accounting concepts covered in the very first lecture.

## Question 2

The second question was an accounts preparation question requiring adjustments. This question has handled well by students apart from the Insurance Payments prepayment adjustment. Nearly all students recognised the prepayment, but included all $£ 400$ rather than only the final quarter (from year end to September) which is $£ 100$.

## Question 3

This question was well answered by most who attempted it. It was pleasing to see that analysis part was well answered and, in most cases, detailed.

## Question 4

This question required the students to prepare an overhead analysis sheet which had been covered in lectures and seminars. However, as the information was presented in a slightly different way, some students struggled to cope with the change. A vast majority of students handled this part of the question well.

The most disappointing answers were to part c) as this question was designed to highlight student's additional reading which is clearly lacking at year 1 . Very few students answered this part well.

## Question 5

This question was designed for students to show their understanding of flexible budgeting and, for the most part, costs were flexed in the correct way. However, in order to flex the sales revenue, students had to include a price reduction of $£ 50$ per mile. Surprisingly, this extra mathematical complexity confused most students.

## Question 6

The final question was concerned with break-even analysis; a topic not tested last year. However, it was answered extremely well with some poor answers around the limitations of the analysis.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2018-19
Version 1

## INTRODUCTION TO FINANCIAL AND MANAGEMENT ACCOUNTING (1)

- NBS Students

NBS-4001Y

Time allowed: 3 hours

Answer FOUR questions; TWO questions from Section A and TWO questions from Section B.

Candidates using a calculator are advised to include some working details in their answers.

All questions carry equal marks.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator

## SECTION A (ANSWER 2 QUESTIONS ONLY)

## Question 1

2019:
August $\quad 1^{\text {st }} \quad$ Started business with $£ 10,000$ cash
$2^{\text {nd }}$ Put $£ 9,500$ of the cash into a bank account
$4^{\text {th }} \quad$ Bought goods for cash $£ 250$
$7^{\text {th }}$ Bought goods on credit from $T$ dry $£ 1,800$
$10^{\text {th }}$ Bought stationery on credit from Buttins Ltd. $£ 50$
19 Bought a delivery van via cheque for $£ 10,000$
$22^{\text {nd }}$ Returned goods to T Dry $£ 100$
$24^{\text {th }}$ Sold goods for cash $£ 2,000$
29 ${ }^{\text {th }}$ Paid T Dry $£ 1,800$ by cheque
$31^{\text {st }} \quad$ Paid Buttins Ltd. $£ 50$ by cash

## Required:

a) Enter the above transactions in the appropriate T accounts (10 marks)
b) Close off the accounts at the end of the month
c) What does the closing balance on the Bank Account signify? (2 marks)
d) The closing balances indicate that a payment has been made in error. What mistake has been made and how would it be corrected?
e) Explain what is meant by the Business Entity concept and the principle of prudence?

## Question 2

Wayne has been in business for many years. His accountant has extracted the following trial balance from his books as at $31^{\text {st }}$ March 2019:

|  | Debit | Credit |
| :--- | :--- | :--- |
| Bank | 1,200 |  |
| Equity |  | 33,000 |
| Cash | 300 |  |
| Computer Equipment | 6,000 |  |
| Computer Equipment Acc Dep |  | 2,000 |
| Insurance | 2,000 |  |
| Office Expenses | 15,000 |  |
| Office Furniture at cost | 5,000 |  |
| Office Furniture Acc Dep | 55,000 |  |
| Purchases | 25,000 |  |
| Salaries |  | 100,000 |
| Sales | 10,000 |  |
| Stock at 1st April 2018 | 20,000 | 4,000 |
| Trade Payables | 1,500 | $\mathbf{1 4 1 , 0 0 0}$ |
| Trade Receivables |  |  |
| Drawings |  |  |
|  |  |  |

The following information is also available:

- The value of stock at $31^{\text {st }}$ March 2019 was $£ 15,000$
- The insurance included $£ 500$ worth of cover which related to the year to $31^{\text {st }}$ March 2020.
- Depreciation is charged on Office Equipment at $10 \%$ on cost. Deprecation is charged on Computer Equipment at $25 \%$ on a reducing balance basis.
- A bad debt of $£ 1,000$ included in the trade receivables is to be written off.
- At $31^{\text {st }}$ March 2019, there was an amount owing for salaries of $£ 1,000$


## Required:

a) The Income Statement for the year ended $31^{\text {st }}$ March 2019. (12 marks)
b) The Statement of Financial Position as at $31^{\text {st }}$ March 2019. (13 marks)

## Question 3

The following figures are for $A B$ Engineering Supplies Ltd. at $31^{\text {st }}$ December 2019:
$£ 000$ ..... $£ 000$
Turnover ..... 160
Gross Profit ..... 40
Expenses ..... 8
Average Inventory ..... 10
Non-Current Assets ..... 108
Current Assets:
Inventory ..... 10
Trade Payables ..... 8
Bank ..... $\underline{2}$20
Current Liabilities ..... 10
Equity ..... 118
a) Calculate:
i. Gross Profit Margin
ii. Operating Profit Margin
iii. Rate of stock turnover
iv. ROCE (Capital Employed = Non-Current Assets + Current Assets)
v. Current Ratio
vi. Quick (Acid Test) ratio (12 marks)
b) The following figures are for another firm in the same industry, CD Engineering Services Ltd., for the year ended $31^{\text {st }}$ December 2019

| Gross Profit Margin | $25 \%$ |
| :--- | :--- |
| Operating Profit Margin | $10 \%$ |
| Rate of stock turnover | 9 or 41 days |
| ROCE | $12.5 \%$ |
| Current Ratio | $1: 1$ |
| Quick (Acid Test) ratio | $0.5: 1$ |

Compare your results in (a) with those given for CD Engineering Services Ltd. and as a result of this comparison, say which you think was the more successful business.
c) Gearing is an important ratio to understand the long term financing implications for a company. Identify how Gearing is calculated and what is the implication of debt vs. equity.

## SECTION B (ANSWER TWO QUESTIONS ONLY)

## Question 4

A furniture making business manufacturers quality furniture to customers' orders. It has three production departments and two service departments. Budgeted overhead costs for the coming year are as follows:

| Allocated overhead | $£ 7,100$ |
| :--- | :--- |
| Rent | $£ 22,400$ |
| Machine insurance | $£ 6,000$ |
| Depreciation | $£ 18,000$ |
| Supervisors salaries | $£ 24,000$ |

The three production departments - $\mathrm{A}, \mathrm{B}$ and C , and the two service departments $X$ and $Y$, are housed in the new premises, the details of which are given below:

|  | A | B | C | X | Y |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Allocated overheads | 2,800 | 1,700 | 1,200 | 800 | 600 |
| Floor area (square <br> metres) | 3,000 | 1,800 | 600 | 600 | 400 |
| Machine Value | 24,000 | 10,000 | 8,000 | 4,000 | 2,000 |
| Budgeted direct <br> labour hrs | 3,200 | 1,800 | 1,000 |  |  |
| Labour rates per hour | $£ 3.80$ | $£ 3.50$ | $£ 3.40$ | $£ 3.00$ | $£ 3.00$ |
| Service department <br> X's costs | $50 \%$ | $25 \%$ | $25 \%$ |  |  |
| Service department <br> Y's costs | $20 \%$ | $30 \%$ | $50 \%$ |  |  |

## Required:

a) Prepare an overhead analysis table to allocate or apportion the overheads between the departments, using the most appropriate basis and calculate the Overhead Absorption Rate for the three production departments.
(13 marks)

TURN OVER
b) Two pieces of furniture are to be manufactured for customers. Direct costs are as follows:

|  | Job 123 | Job 124 |
| :--- | :--- | :--- |
| Direct Material | $£ 154$ | $£ 108$ |
| Direct Labour | 20 hours in Dept A | 16 hours in Dept A |
|  | 12 hours in Dept B | 10 hours in Dept B |
|  | 10 hours in Dept C | 14 hours in Dept C |

## Calculate the total cost of each job.

c) If the firm quotes prices to customers that reflect a required profit of $25 \%$ on selling price, calculate the quoted selling price for each job.

Total (25 marks)

## Question 5

Club Atlantic is an all-weather holiday complex providing holidays throughout the year. The fee charged to guests is fully inclusive of accommodation and all meals. However, because the holiday industry is so competitive, Club Atlantic is only able to generate profits by maintaining strict financial control of all activities.

The clubs restaurant is one area where there is a constant need to monitor costs. Susan Green is the manager of the restaurant. At the beginning of each year she is given an annual budget which is broken down into months. Each month she receives a statement monitoring actual costs against the annual budget and highlighting any variances. The statement for the month ended $31^{\text {st }}$ October is shown below:

|  | Budget | Actual | Variance |
| :--- | :---: | :---: | :---: |
| Number of guest days | 9,600 | 11,160 | $1,560 \mathrm{~F}$ |
|  | $£$ | $£$ |  |
| Food | 20,160 | 20,500 | 340 A |
| Cleaning Materials | 1,920 | 2,232 | 312 A |
| Heat and Light | 2,400 | 2,050 | 350 F |
| Power | 2,320 | 2,517 | 197 A |
| Catering wages | 7,200 | 8,400 | $1,200 \mathrm{~A}$ |
| Rent | 1,800 | 1,860 | 60 A |
| Total | $\mathbf{3 5 , 8 0 0}$ | $\mathbf{3 7 , 5 5 9}$ | $\mathbf{1 , 7 5 9} \mathbf{A}$ |

## Assumptions:

- Food, Cleaning Materials and Heat \& Light are variable costs based on the number of guest days
- Power has both fixed and variable elements. The monthly fixed cost is $£ 400$.
- There is one member of catering staff for every 40 guests and the daily cost of a member of staff is $£ 30$
- Rent is a fixed apportioned cost


## Required:

a) Using the data, prepare a revised performance statement using flexible budgeting. Your statement should show both the revised budget and the revised variances.

Club Atlantic uses the original, master budget to motivate its managers. If managers keep expenses below the master budget they receive a bonus. A colleague of Susan is Brian Hilton. Brian is in charge of the swimming pool and golf course, both of which have high levels of fixed costs. Each month he manages to keep expenses below budget and enjoys regular bonuses. Susan rarely receives a bonus.
b) Is the current reward system fair when the holiday complex hosts more guests than expected?
c) Explain why the current system motivates Susan to discourage guests using the restaurant facilities.
d) What would be a better method of reward in order to motivate staff to encourage more guests to use the facilities?

Total (25 marks)

## Question 6

A company has the following production planned for the next four weeks:

|  | A <br> £ per unit | B <br> per unit | C <br> per unit | D <br> £ per unit |
| :--- | :---: | :---: | :---: | :---: |
| Selling Price | 160 | 214 | 100 | 140 |
| Direct Material Cost | 24 | 56 | 22 | 40 |
| Direct Labour Cost | 66 | 88 | 33 | 22 |
| Variable Overhead Cost | 24 | 18 | 24 | 18 |
| Fixed Overhead Cost | 16 | 10 | 8 | 12 |
| Profit | $\mathbf{3 0}$ | $\mathbf{4 2}$ | $\mathbf{1 3}$ | $\mathbf{4 8}$ |
| Planned Output | 300 | 125 | 240 | 400 |
| Direct Labour hours per unit | 6 | 8 | 3 | 2 |

The direct labour force is threatening to go on strike for two weeks out of the coming four. This means that only 2,160 hours will be available for production rather than the usual 4,320 hours.

## Required:

a) If the strike goes ahead, what is the profit maximising production plan?
(12 marks)
Another part of the company has three shops ( $R, S$ and $T$ ) to which the following budgeted information relates:

|  | Shop R <br> $\mathbf{£ 0 0 0}$ | Shop S <br> $\mathbf{£ 0 0 0}$ | Shop T <br> $\mathbf{£ 0 0 0}$ | Total <br> $\mathbf{£ 0 0 0}$ |
| :--- | :---: | :---: | :---: | :---: |
| Sales | 400 | 500 | 600 | 1,500 |
| Variable Cost | $(300)$ | $(440)$ | $(480)$ | $(1,220)$ |
| Contribution | $\mathbf{1 0 0}$ | $\mathbf{6 0}$ | $\mathbf{1 2 0}$ | $\mathbf{2 8 0}$ |
| Less Fixed Costs | $(60)$ | $(70)$ | $(70)$ | $(200)$ |
| Profit | $\mathbf{4 0}$ | $\mathbf{1 0 )}$ | $\mathbf{5 0}$ | $\mathbf{8 0}$ |

$60 \%$ of the total fixed costs are general company overheads. These are apportioned to the shops on the basis of sales value. The other fixed costs are specific to each shop and are avoidable if the shop closes down.
b) If shop $S$ is closed down and the sales of the other two shops remain unchanged, what would be the revised budgeted profit for the company?
c) Should management of the company close Shop S?

## Introduction

The 2018/19 exam for Introduction to Financial and Management Accounting had an average mark of $53 \%$ with a standard deviation of 22 . This average mark is down from the 2017/18 exam which had an average of $60 \%$. However, the mark category with the highest frequency was $70 \%-80 \%$. Therefore, we can surmise that many students who follow the learning requirements set out in the module go on to achieve excellent marks, but there is a significant tail of students who's attendance and motivation is often poor, fail the module with very low marks indeed. What was noticeable was that if a question was not identical to last years paper or the mock paper then it was poorly answered even if a similar question had been delivered in lecturers or practiced in seminar. Consequently, poor attendance to lectures or seminars will affect student performance due to lack of question practice.

In terms of the performance in each question:

## Question 1

The first question required the students to complete a double entry task. On the whole, this was done well as was the understanding of why a trial balance may not balance. What was less well understood was the accounting concepts covered in the very first lecture. Also, there were a number of students who were confused about what closing the accounts meant. One student thought they needed graph paper. Also, many included a trial balance even those this was not required. However, preparing a trial balance helps to identify if mistakes have been made.

## Question 2

The second question was an accounts preparation question requiring adjustments. This question has handled well by students apart from the how to deal with drawings. This concept was explained when practicing questions using MyAccountingLab rather than from a lecture or seminar. If the student had not completed these practice questions, they would be unlikely to make the correct adjustment.

One student was not aware that office equipment was part of office furniture.

## Question 3

This question was well answered by most who attempted it. It was pleasing to see that analysis part was well answered and, in most cases, detailed.

## Question 4

This question required the students to prepare an overhead analysis sheet which had been covered in lectures and seminars. A vast majority of students handled this part of the question well, but many did not attempt to calculate the overhead absorption rates.

The most disappointing answers were to part b) where students were required to apply the information in part a) to cost two products. In many cases, students forgot to include the direct costs or forgot to include the overheads. This was disappointing as a similar task had been covered in lectures but had not been covered in an exam before. Part c) caused much confusion as students did not seem to differentiate between margin and mark up.

## Question 5

This question was designed for students to show their understanding of flexible budgeting and, for the most part, costs were flexed in the correct way. The written parts of this question were extremely well answered, even by those who couldn't cope with the calculation. This showed a good understand of the differences between fixed and variable costs. One student was confused by the term "number of guest days."

## Question 6

The final question required students to undertake a limiting factor analysis but was very poorly answered by those students who attempted it. The question did not state that limiting factor analysis was to be used but should have been deduced by the fact that a strike was due that would limit labour hours. Similar questions had been delivered in lectures and seminars but the lack of a direct instruction confused a vast majority of students.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2017-18

## INTRODUCTION TO FINANCIAL AND MANAGEMENT ACCOUNTING <br> NBS-4010Y

Time allowed: 3 hours

Answer FOUR questions; TWO questions from Section A and TWO questions from Section B.

Candidates using a calculator are advised to include some working details in their answers.

All questions carry equal marks.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator

## Page 2

## SECTION A (ANSWER 2 QUESTIONS ONLY)

## Question 1

2016:
August $\quad 1^{\text {st }} \quad$ Started business with $£ 10,500$ cash
$2^{\text {nd }} \quad$ Put $£ 9,000$ of the cah into a bank account
$4^{\text {th }} \quad$ Bought goods for cash $£ 550$
$7^{\text {th }} \quad$ Bought goods on credit from $T$ dry $£ 800$
$10^{\text {th }}$ Bought stationary on credit from Buttins Ltd. $£ 89$
19 ${ }^{\text {th }}$ Received a loan from B Barclay by cheque $£ 2,000$
$22^{\text {nd }}$ Returned goods to T Dry $£ 80$
$24^{\text {th }}$ Sold goods for cash $£ 500$
29 ${ }^{\text {th }}$ Paid T Dry $£ 700$ by cheque
$31^{\text {st }} \quad$ Bought goods on credit from T Dry $£ 200$

## Required:

a) Enter the above transactions in the appropriate $T$ accounts
b) Close off the accounts at the end of the month
c) What could cause the trial balance not to balance?
d) When looking at the balances on the trial balance, all the debits are what two categories of transactions?
e) Explain what is meant by the Money Measurement and Accruals concept?

## Question 2

Given below is the list of initial balances taken from a sole trader's ledger accounts at $30^{\text {th }}$ June 2018.

|  | Debit | $\underline{\text { Credit }}$ |
| :--- | :--- | :--- |
| Sales |  | 141,800 |
| Machinery at cost | 67,400 |  |
| Office equipment at cost | 5,600 |  |
| Trade Receivables | 19,200 |  |
| Telephone | 900 |  |
| Trade Payables |  | 6,050 |
| Bank overdraft |  | 1,800 |

Purchases 98,000
Insurance 2,100
Provision for Dep - machinery 31,200
Provision for Dep - office equipment 3,300
Stock at $1^{\text {st }}$ July $2017 \quad 8,250$
Loan
5,000
Wages
25,000
Loan interest 300

Equity
37,600

## Page 4

The following information is also available:

- The value of stock at $30^{\text {th }}$ June 2018 was $£ 9,000$
- The machinery and office equipment have yet to be depreciated for the year. Machinery is depreciated at $30 \%$ on the reducing balance basis and office equipment at $20 \%$ of cost.
- A telephone bill for $£ 200$ for the three months to $30^{\text {th }}$ June 2018 did not arrive until after the trial balance had been drawn up.
- Of the insurance payments $£ 400$ is for the year ending $30^{\text {th }}$ September 2018.


## Required:

a) The Income Statement for the year ended 30 th June 2018.
b) The Statement of Financial Position as at $30^{\text {th }}$ June 2018.

## Page 5

## Question 3

Sally Forth is a shareholder in Tay Ltd. She has asked you to assist her by analysing the financial statements of the company for the last two years. The financial statements of Tay Ltd. are set out below:

Tay Ltd. Income Statement for the year ended 31 ${ }^{\text {st }}$ December 2017 and 2018:

| $31^{\text {st }}$ Dec 2017 | $\mathbf{3 1}^{\text {st }}$ Dec 2018 |
| :--- | :--- |
| $£ 000$ | $£ 000$ |

Turnover $\quad 2,100 \quad 2,400$

Cost of sales
$(1,155)$
$(1,392)$
Gross Profit 945 1,008
Operating expenses (787)
(780)

Operating Profit 158
228
Interest (56)
Retained Profit $\underline{102}$
137

| Statement of Financial Position at | 31 $^{\text {st }}$ Dec 2017 | 31 $^{\text {st }}$ Dec 2018 |
| :--- | :--- | :--- |
|  | $£ 000$ | $£ 000$ |
| Non-Current Assets | 4,100 | 4,750 |

## Current Assets

Inventory 208320
Trade Receivables 231
360
Bank
68
0
$\underline{507} \underline{680}$
Total Assets
4,607
5,430

TURN OVER

## Equity \& Liabilities:

Equity:
Equity
2,500
2,500
Retained Profit
1,146
1,239
3,646
3,739
Non-Current Liabilities
Bank Loans 800 1,300

## Current Liabilities

Trade Payables 139195
Taxation 22
44
Bank $\underline{0}$
152
$\underline{161 \quad \underline{391}}$
TOTAL EQUITY \& LIAIBLITIES $\underline{\mathbf{4 , 6 0 7}} \underline{\mathbf{5 , 4 3 0}}$

Prepare a report for Sally Forth that includes the following:
a) Calculate the following ratios:
i. Gross profit ratio
ii. Operating profit ratio
iii. Stock turnover in days (based on cost of sales)
iv. Trade receivables days
(8 marks)
b) A comment on the relative performance of the company for the two years based on the ratios calculated and what this tells you about the company.
c) Give one suggestion as to how EACH of the ratios might be improved.
(8 marks)

Total (25 marks)
END OF SECTION A

## Page 7

## SECTION B (ANSWER TWO QUESTIONS ONLY)

## Question 4

F4L has budgeted for the following overheads for its two profit and three cost centres for the next financial year.

| The Profit Centres are: | Scheduled services <br> Charter flights |
| :--- | :--- |
| The Service Centres are: | Aircraft maintenance |
|  | Fuel and parts store |
|  | General Administration |


|  | $\mathbf{£ 0 0 0}$ | $\mathbf{£ 0 0 0}$ |
| :--- | :--- | :--- |
| Depreciation of aircraft |  | 36,400 |
| Fuel \& other variable costs |  | 42,200 |
| Pilots salaries: | 5,250 |  |
| Scheduled services | $\underline{4,709}$ |  |
| $\quad$ Charter flights |  | 9,959 |
| Total salaries |  | 12,600 |
| Rent | 9,600 |  |
| Indirect labour costs: | 3,200 |  |
| $\quad$ Aircraft maintenance | $\underline{7,800}$ |  |
| Fuel and parts store |  | 20,600 |

TURN OVER

The following information is also available:

|  | Net Book <br> Value of <br> aircraft £000 | Planned <br> number of <br> miles flown | Floor space | Number of <br> Employees |
| :--- | ---: | ---: | ---: | ---: |
| Scheduled <br> Flights | $1,080,000$ | 215,600 |  | 105 |
| Charter <br> Flights | 720,000 | 176,400 |  | 96 |
| Aircraft <br> maintenance |  |  | 190,000 | 260 |
| Fuel \& Parts |  |  | 114,000 | 146 |
| General <br> Administration | $\mathbf{1 , 8 0 0 , 0 0 0}$ | $\mathbf{3 9 2 , 0 0 0}$ | $\mathbf{3 8 0 , 0 0 0}$ | $\mathbf{8 2 7}$ |
| Total |  |  | $\mathbf{7 6 , 0 0 0}$ | $\mathbf{2 2 0}$ |

Other information is as follows:

- The Aircraft maintenance department spends $60 \%$ of its time maintaining the aircraft in Scheduled Services and the remainder in Charter Flights.
- $55 \%$ of the issues from the Fuel and Parts Store is made the Scheduled Services and the remainder to Charter Flights.
- Scheduled Services and Charter Flights both incur General Administration costs equally.


## Required:

a) Prepare an overhead analysis table to allocate or apportion the fixed overheads between the profit departments, using the most appropriate basis.
b) Calculate the budgeted fixed overhead absorption rates using the planned number of miles flown for:
i. Scheduled Services
ii. Charter Flight
c) Explain the limitations of absorption costing when calculating the full cost of a product or service and suggest an alternative method of costing.

## Question 5

The charter flight centre of a company called F4L had a contract with a customer to fly 5,000 miles. The budget for the contract is as follows:
Likely miles
5,000
$£$
Sales Revenue
2,500,000
Variable / Semi-variable costs:

| Fuel | 400,000 |
| :--- | :--- |
| Landing fees | 850,000 |
| Other variable costs | 135,000 |

## Fixed Costs:

> Wages 420,000

Other fixed overheads 625,000
Total Cost 2,430,000
Total Profit $\quad \mathbf{7 0 , 0 0 0}$
Profit per mile flown 14
The customer wishes to revise the contract to increase the miles flown to either 6,000 or 7,000 miles and has negotiated a price reduction of $£ 50$ per mile.

Note: Landing fees are a semi-variable cost with a fixed charge of $£ 600,000$.

## Required:

a) Prepare the budgets for 6,000 and 7,000 miles including budgeted profit and budgeted profit per mile.
(16 marks)
b) Explain the terms "relevant" and "irrelevant" in terms of short term decision making.
c) Identify which of the costs in part a) are "relevant" and which are "irrelevant" in terms of reviewing the contract.
(3 marks)
d) Should the new contract be accepted, please give an explanation for your answer.

## Question 6

Illuminate plc manufactures light bulbs, which sell for $£ 12$ each. The management accountant has analysed the sales and total costs for the first half of the year. Fixed costs per month have been the same each month and she is forecasting that this will continue. However, see is trying to project the forecast for the rest of the year. She has been given a target profit of $£ 180,000$ for the next month.

| Month | Sales (No. of light bulbs) | Total Cost $£$ |
| :---: | :---: | :---: |
| January | 30,000 | 240,000 |
| February | 35,000 | 260,000 |
| March | 15,000 | 180,000 |
| April | 24,000 | 216,000 |
| May | 26,000 | 224,000 |
| June | 18,000 | 192,000 |

## Required:

a) Using the high/low method, calculate the variable cost for each light bulb
b) Using the high/low method, calculate the fixed cost for each light bulb
c) Using the information in part (a) and (b), what is the break-even point in the number of light bulbs for the next month
d) Using the information in part (a) and (b), how many light bulbs does Illuminate need to sell to achieve the profit target for the next month?
e) What is the margin of safety in number of light bulbs for next month. How does margin of safety help Illuminate meaure its risk?
f) What are the assumptions behind break-even analysis and therefore, what are the limitations of the analysis?

## END OF PAPER

## Introduction

The 2017/18 exam for Introduction to Financial and Management Accounting had an average mark of $60 \%$ with a standard deviation of 24 . This average mark is down from the 2016/17 exam which had an average of $65 \%$ and a lower standard deviation of 20 . However, the mark category with the highest frequency was $70 \%-80 \%$. Therefore, we can surmise that many students who follow the learning requirements set out in the module go on to achieve excellent marks, but there is a significant tail of students who's attendance and motivation is often poor, fail the module with very low marks indeed. The tail in 2017/18 is longer than in 2016/17 as expressed by the increased standard deviation.

In terms of the performance in each question:

## Question 1

The first question required the students to complete a double entry task. On the whole, this was done well as was the understanding of why a trial balance may not balance. What was less well understood was the accounting concepts covered in the very first lecture.

## Question 2

The second question was an accounts preparation question requiring adjustments. This question has handled well by students apart from the Insurance Payments prepayment adjustment. Nearly all students recognised the prepayment, but included all $£ 400$ rather than only the final quarter (from year end to September) which is $£ 100$.

## Question 3

This question was well answered by most who attempted it. It was pleasing to see that analysis part was well answered and, in most cases, detailed.

## Question 4

This question required the students to prepare an overhead analysis sheet which had been covered in lectures and seminars. However, as the information was presented in a slightly different way, some students struggled to cope with the change. A vast majority of students handled this part of the question well.

The most disappointing answers were to part c) as this question was designed to highlight student's additional reading which is clearly lacking at year 1 . Very few students answered this part well.

## Question 5

This question was designed for students to show their understanding of flexible budgeting and, for the most part, costs were flexed in the correct way. However, in order to flex the sales revenue, students had to include a price reduction of $£ 50$ per mile. Surprisingly, this extra mathematical complexity confused most students.

## Question 6

The final question was concerned with break-even analysis; a topic not tested last year. However, it was answered extremely well with some poor answers around the limitations of the analysis.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2018-19
Version 1

## INTRODUCTION TO FINANCIAL AND MANAGEMENT ACCOUNTING (2)

- Non-NBS Students

NBS-4010Y

Time allowed: 3 hours

Answer FOUR questions; TWO questions from Section $A$ and TWO questions from Section B.

Candidates using a calculator are advised to include some working details in their answers.

All questions carry equal marks.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator

## SECTION A (ANSWER 2 QUESTIONS ONLY)

## Question 1

2019:
August $\quad 1^{\text {st }} \quad$ Started business with $£ 10,000$ cash
$2^{\text {nd }}$ Put $£ 9,500$ of the cash into a bank account
$4^{\text {th }} \quad$ Bought goods for cash $£ 250$
$7^{\text {th }}$ Bought goods on credit from $T$ dry $£ 1,800$
$10^{\text {th }}$ Bought stationery on credit from Buttins Ltd. $£ 50$
19 Bought a delivery van via cheque for $£ 10,000$
$22^{\text {nd }} \quad$ Returned goods to T Dry $£ 100$
$24^{\text {th }}$ Sold goods for cash $£ 2,000$
29 ${ }^{\text {th }}$ Paid T Dry $£ 1,800$ by cheque
$31^{\text {st }} \quad$ Paid Buttins Ltd. $£ 50$ by cash

## Required:

a) Enter the above transactions in the appropriate T accounts (10 marks)
b) Close off the accounts at the end of the month
c) What does the closing balance on the Bank Account signify? (2 marks)
d) The closing balances indicate that a payment has been made in error. What mistake has been made and how would it be corrected?
e) Explain what is meant by the Business Entity concept and the principle of prudence?

## Question 2

Wayne has been in business for many years. His accountant has extracted the following trial balance from his books as at $31^{\text {st }}$ March 2019:

|  | $\underline{\text { Debit }}$ | Credit |
| :--- | :--- | :--- |
| Bank | 1,200 |  |
| Equity |  | 33,000 |
| Cash | 300 |  |
| Computer Equipment | 6,000 |  |
| Computer Equipment Acc Dep |  | 2,000 |
| Insurance | 2,000 |  |
| Office Expenses | 15,000 |  |
| Office Furniture at cost | 5,000 |  |
| Office Furniture Acc Dep | 55,000 |  |
| Purchases | 25,000 |  |
| Salaries |  | 100,000 |
| Sales | 10,000 |  |
| Stock at 1st April 2018 | 20,000 | 4,000 |
| Trade Payables | 1,500 | 141,000 |
| Trade Receivables | 141,000 |  |
| Drawings |  |  |
|  |  |  |

The following information is also available:

- The value of stock at $31^{\text {st }}$ March 2019 was $£ 15,000$
- The insurance included $£ 500$ worth of cover which related to the year to $31^{\text {st }}$ March 2020.
- Depreciation is charged on Office Equipment at $10 \%$ on cost. Deprecation is charged on Computer Equipment at $25 \%$ on a reducing balance basis.
- A bad debt of $£ 1,000$ included in the trade receivables is to be written off.
- At $31^{\text {st }}$ March 2019, there was an amount owing for salaries of $£ 1,000$


## Required:

a) The Income Statement for the year ended $31^{\text {st }}$ March 2019. (12 marks)
b) The Statement of Financial Position as at $31^{\text {st }}$ March 2019. (13 marks)

## Question 3

The following figures are for $A B$ Engineering Supplies Ltd. at $31^{\text {st }}$ December 2019:
$£ 000$ ..... $£ 000$
Turnover ..... 160
Gross Profit ..... 40
Expenses ..... 8
Average Inventory ..... 10
Non-Current Assets ..... 108
Current Assets:
Inventory ..... 10
Trade Payables ..... 8
Bank ..... $\underline{2}$20
Current Liabilities ..... 10
Equity ..... 118
a) Calculate:
i. Gross Profit Margin
ii. Operating Profit Margin
iii. Rate of stock turnover
iv. ROCE (Capital Employed = Non-Current Assets + Current Assets)
v. Current Ratio
vi. Quick (Acid Test) ratio (12 marks)
b) The following figures are for another firm in the same industry, CD Engineering Services Ltd., for the year ended $31^{\text {st }}$ December 2019

| Gross Profit Margin | $25 \%$ |
| :--- | :--- |
| Operating Profit Margin | $10 \%$ |
| Rate of stock turnover | 9 or 41 days |
| ROCE | $12.5 \%$ |
| Current Ratio | $1: 1$ |
| Quick (Acid Test) ratio | $0.5: 1$ |

Compare your results in (a) with those given for CD Engineering Services Ltd. and as a result of this comparison, say which you think was the more successful business.
c) Gearing is an important ratio to understand the long term financing implications for a company. Identify how Gearing is calculated and what is the implication of debt vs. equity.

## SECTION B (ANSWER TWO QUESTIONS ONLY)

## Question 4

A furniture making business manufacturers quality furniture to customers' orders. It has three production departments and two service departments. Budgeted overhead costs for the coming year are as follows:

| Allocated overhead | $£ 7,100$ |
| :--- | :--- |
| Rent | $£ 22,400$ |
| Machine insurance | $£ 6,000$ |
| Depreciation | $£ 18,000$ |
| Supervisors salaries | $£ 24,000$ |

The three production departments - $\mathrm{A}, \mathrm{B}$ and C , and the two service departments $X$ and $Y$, are housed in the new premises, the details of which are given below:

|  | A | B | C | X | Y |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Allocated overheads | 2,800 | 1,700 | 1,200 | 800 | 600 |
| Floor area (square <br> metres) | 3,000 | 1,800 | 600 | 600 | 400 |
| Machine Value | 24,000 | 10,000 | 8,000 | 4,000 | 2,000 |
| Budgeted direct <br> labour hrs | 3,200 | 1,800 | 1,000 |  |  |
| Labour rates per hour | $£ 3.80$ | $£ 3.50$ | $£ 3.40$ | $£ 3.00$ | $£ 3.00$ |
| Service department <br> X's costs | $50 \%$ | $25 \%$ | $25 \%$ |  |  |
| Service department <br> Y's costs | $20 \%$ | $30 \%$ | $50 \%$ |  |  |

## Required:

a) Prepare an overhead analysis table to allocate or apportion the overheads between the departments, using the most appropriate basis and calculate the Overhead Absorption Rate for the three production departments.
(13 marks)

TURN OVER
b) Two pieces of furniture are to be manufactured for customers. Direct costs are as follows:

|  | Job 123 | Job 124 |
| :--- | :--- | :--- |
| Direct Material | $£ 154$ | $£ 108$ |
| Direct Labour | 20 hours in Dept A | 16 hours in Dept A |
|  | 12 hours in Dept B | 10 hours in Dept B |
|  | 10 hours in Dept C | 14 hours in Dept C |

## Calculate the total cost of each job.

c) If the firm quotes prices to customers that reflect a required profit of $25 \%$ on selling price, calculate the quoted selling price for each job.

Total (25 marks)

## Question 5

Club Atlantic is an all-weather holiday complex providing holidays throughout the year. The fee charged to guests is fully inclusive of accommodation and all meals. However, because the holiday industry is so competitive, Club Atlantic is only able to generate profits by maintaining strict financial control of all activities.

The clubs restaurant is one area where there is a constant need to monitor costs. Susan Green is the manager of the restaurant. At the beginning of each year she is given an annual budget which is broken down into months. Each month she receives a statement monitoring actual costs against the annual budget and highlighting any variances. The statement for the month ended $31^{\text {st }}$ October is shown below:

|  | Budget | Actual | Variance |
| :--- | :---: | :---: | :---: |
| Number of guest days | 9,600 | 11,160 | $1,560 \mathrm{~F}$ |
|  | $£$ | $£$ |  |
| Food | 20,160 | 20,500 | 340 A |
| Cleaning Materials | 1,920 | 2,232 | 312 A |
| Heat and Light | 2,400 | 2,050 | 350 F |
| Power | 2,320 | 2,517 | 197 A |
| Catering wages | 7,200 | 8,400 | $1,200 \mathrm{~A}$ |
| Rent | 1,800 | 1,860 | 60 A |
| Total | $\mathbf{3 5 , 8 0 0}$ | $\mathbf{3 7 , 5 5 9}$ | $\mathbf{1 , 7 5 9} \mathbf{A}$ |

## Assumptions:

- Food, Cleaning Materials and Heat \& Light are variable costs based on the number of guest days
- Power has both fixed and variable elements. The monthly fixed cost is $£ 400$.
- There is one member of catering staff for every 40 guests and the daily cost of a member of staff is $£ 30$
- Rent is a fixed apportioned cost


## Required:

a) Using the data, prepare a revised performance statement using flexible budgeting. Your statement should show both the revised budget and the revised variances.

Club Atlantic uses the original, master budget to motivate its managers. If managers keep expenses below the master budget they receive a bonus. A colleague of Susan is Brian Hilton. Brian is in charge of the swimming pool and golf course, both of which have high levels of fixed costs. Each month he manages to keep expenses below budget and enjoys regular bonuses. Susan rarely receives a bonus.
b) Is the current reward system fair when the holiday complex hosts more guests than expected?
c) Explain why the current system motivates Susan to discourage guests using the restaurant facilities.
d) What would be a better method of reward in order to motivate staff to encourage more guests to use the facilities?

Total (25 marks)

## Question 6

A company has the following production planned for the next four weeks:

|  | A <br> £ per unit | B <br> per unit | C <br> per unit | D <br> £ per unit |
| :--- | :---: | :---: | :---: | :---: |
| Selling Price | 160 | 214 | 100 | 140 |
| Direct Material Cost | 24 | 56 | 22 | 40 |
| Direct Labour Cost | 66 | 88 | 33 | 22 |
| Variable Overhead Cost | 24 | 18 | 24 | 18 |
| Fixed Overhead Cost | 16 | 10 | 8 | 12 |
| Profit | $\mathbf{3 0}$ | $\mathbf{4 2}$ | $\mathbf{1 3}$ | $\mathbf{4 8}$ |
| Planned Output | 300 | 125 | 240 | 400 |
| Direct Labour hours per unit | 6 | 8 | 3 | 2 |

The direct labour force is threatening to go on strike for two weeks out of the coming four. This means that only 2,160 hours will be available for production rather than the usual 4,320 hours.

## Required:

a) If the strike goes ahead, what is the profit maximising production plan?
(12 marks)
Another part of the company has three shops ( $R, S$ and $T$ ) to which the following budgeted information relates:

|  | Shop R <br> $\mathbf{£ 0 0 0}$ | Shop S <br> $\mathbf{£ 0 0 0}$ | Shop T <br> $\mathbf{£ 0 0 0}$ | Total <br> $\mathbf{£ 0 0 0}$ |
| :--- | :---: | :---: | :---: | :---: |
| Sales | 400 | 500 | 600 | 1,500 |
| Variable Cost | $(300)$ | $(440)$ | $(480)$ | $(1,220)$ |
| Contribution | $\mathbf{1 0 0}$ | $\mathbf{6 0}$ | $\mathbf{1 2 0}$ | $\mathbf{2 8 0}$ |
| Less Fixed Costs | $(60)$ | $(70)$ | $(70)$ | $(200)$ |
| Profit | $\mathbf{4 0}$ | $\mathbf{1 0 )}$ | $\mathbf{5 0}$ | $\mathbf{8 0}$ |

$60 \%$ of the total fixed costs are general company overheads. These are apportioned to the shops on the basis of sales value. The other fixed costs are specific to each shop and are avoidable if the shop closes down.
b) If shop $S$ is closed down and the sales of the other two shops remain unchanged, what would be the revised budgeted profit for the company?
c) Should management of the company close Shop S?

## Introduction

The 2018/19 exam for Introduction to Financial and Management Accounting had an average mark of $53 \%$ with a standard deviation of 22 . This average mark is down from the 2017/18 exam which had an average of $60 \%$. However, the mark category with the highest frequency was $70 \%-80 \%$. Therefore, we can surmise that many students who follow the learning requirements set out in the module go on to achieve excellent marks, but there is a significant tail of students who's attendance and motivation is often poor, fail the module with very low marks indeed. What was noticeable was that if a question was not identical to last years paper or the mock paper then it was poorly answered even if a similar question had been delivered in lecturers or practiced in seminar. Consequently, poor attendance to lectures or seminars will affect student performance due to lack of question practice.

In terms of the performance in each question:

## Question 1

The first question required the students to complete a double entry task. On the whole, this was done well as was the understanding of why a trial balance may not balance. What was less well understood was the accounting concepts covered in the very first lecture. Also, there were a number of students who were confused about what closing the accounts meant. One student thought they needed graph paper. Also, many included a trial balance even those this was not required. However, preparing a trial balance helps to identify if mistakes have been made.

## Question 2

The second question was an accounts preparation question requiring adjustments. This question has handled well by students apart from the how to deal with drawings. This concept was explained when practicing questions using MyAccountingLab rather than from a lecture or seminar. If the student had not completed these practice questions, they would be unlikely to make the correct adjustment.

One student was not aware that office equipment was part of office furniture.

## Question 3

This question was well answered by most who attempted it. It was pleasing to see that analysis part was well answered and, in most cases, detailed.

## Question 4

This question required the students to prepare an overhead analysis sheet which had been covered in lectures and seminars. A vast majority of students handled this part of the question well, but many did not attempt to calculate the overhead absorption rates.

The most disappointing answers were to part b) where students were required to apply the information in part a) to cost two products. In many cases, students forgot to include the direct costs or forgot to include the overheads. This was disappointing as a similar task had been covered in lectures but had not been covered in an exam before. Part c) caused much confusion as students did not seem to differentiate between margin and mark up.

## Question 5

This question was designed for students to show their understanding of flexible budgeting and, for the most part, costs were flexed in the correct way. The written parts of this question were extremely well answered, even by those who couldn't cope with the calculation. This showed a good understand of the differences between fixed and variable costs. One student was confused by the term "number of guest days."

## Question 6

The final question required students to undertake a limiting factor analysis but was very poorly answered by those students who attempted it. The question did not state that limiting factor analysis was to be used but should have been deduced by the fact that a strike was due that would limit labour hours. Similar questions had been delivered in lectures and seminars but the lack of a direct instruction confused a vast majority of students.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2010-11

## FINANCIAL ACCOUNTING

NBS-2A1Y

Time allowed: 3 hours.
Answer any FOUR questions (all questions carry 25 marks).

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the invigilator.

## 1.

The following trial balance has been extracted from the financial records of Clogg Ltd as at 31 December 2010.

|  | £'000 | $£^{\prime} 000$ |
| :---: | :---: | :---: |
| Revenue |  | 17,300 |
| Purchases | 7,800 |  |
| Inventory 1 January 2010 | 1,300 |  |
| Salaries of employees | 880 |  |
| Administration expenses | 360 |  |
| Distribution costs | 670 |  |
| Plant and machinery | 4,500 |  |
| Land | 2,000 |  |
| Buildings | 1,400 |  |
| Motor vehicles | 700 |  |
| Provision for depreciation - Plant and machinery |  | 900 |
| Provision for depreciation - Buildings |  | 140 |
| Provision for depreciation - Motor vehicles |  | 350 |
| Investments | 350 |  |
| Bad debt | 50 |  |
| Trade receivables | 3,500 |  |
| Trade payables |  | 1,900 |
| Cash and cash equivalents | 50 |  |
| Accrued expenses |  | 260 |
| Prepaid expenses | 180 |  |
| Share capital (£1 ordinary shares) |  | 500 |
| Share premium account |  | 200 |
| Retained earnings 1 January 2010 |  | 150 |
| 10\% Debenture loan (repayable 2012) |  | 2,000 |
| Interest paid on debenture loan | 100 |  |
| Interim dividend paid 30 June 2010 | 50 |  |
| Taxation | 10 |  |
| Deferred taxation |  | 100 |
| Share issue proceeds (see note 6 below) |  | 100 |
|  | 23,900 | 23,900 |

## Notes:

1. Inventory at 31 December 2010 was valued at cost - £1,600,000.
2. Land was professionally revalued at 31 December, the new value was $£ 2,500,000$ and the financial statements for 2010 should include the revaluation surplus of $£ 500,000$. (Assume there are no taxation consequences from the revaluation).
3. Taxation on the profits for 2010 was estimated at $£ 1,900,000$.
4. The balance on the taxation account in the trial balance represents an under-provision for taxation in the previous year (2009).
5. Provide for deferred taxation for 2010, £60,000.
6. 100,000 new ordinary shares were issued at par (£1each) in July 2010. This amount has not yet been included in the share capital account.
7. Sundry accruals and prepayments have already been entered into the financial records and are included in the above trial balance apart from
an additional accrual for accountancy fees $(£ 5,000)$ which is an administration expense.
8. Provide for outstanding debenture interest.
9. Depreciation charges for 2010 are as follows: Buildings $£ 20,000$, Plant and machinery $£ 450,000$ and motor vehicles $£ 175,000$.
10. Buildings, plant and machinery depreciation charges are to be treated as part of cost of sales.
11. Motor vehicles depreciation is to be treated as a distribution cost.
12. Salaries are to be included in cost of sales $50 \%$, distribution $25 \%$ and administration 25\%.

## You are to decide upon a suitable accounting treatment for the two following items, explaining and justifying the assumptions which you make.

13. The figure for administration costs in the above trial balance includes £100,000 spent developing a new product.
14. Investments have been the subject of a professional revaluation as at 31 December 2010, which was received 15 January 2011 indicating that they were worthless.

## Required:

(a) Prepare a statement of comprehensive income for Clogg Ltd for the year ended 31 December 2010.
NB You are required to explain and justify your assumptions made in relation to the expenditure shown in notes 13 and 14 above.
(21 marks)

## A Statement of Financial Position is not required

(b) Prepare a statement of changes in equity for the year ended 31 December 2010.
2.

Shown below are the financial statements of Brawn Ltd.
Statement of financial position as at 31 December.


## Notes:

1. During the year ended 31 December 2010, the company issued $1,300,000$ new ordinary shares at a price of $£ 1.60$ per share.
2. A dividend of $£ 100,000$ was paid during 2010.
3. Land was revalued (gain $£ 1,100,000$ ).
4. Non current assets were purchased during 2010.
5. The total depreciation charge for 2010 was $£ 200,000$.
6. Some of the debentures were repaid 1 January 2010.
7. During 2010, non current assets with a net book value of $£ 500,000$ were sold for $£ 450,000$.
8. The final instalment of interest on the debenture $(£ 85,000)$ was unpaid at 31 December 2010 and was included in trade payables in the statement of financial position.
9. Taxation and interest paid are to be treated as an operating cash flows. Dividends paid are to be treated as a financing cash flow.

## Required:

(a) Prepare a statement of cash flows for Brawn Ltd for the year ended 31 December 2010 in accordance with IAS7 (Statements of cash flow) using the indirect method.
(20 marks)
(b) Briefly comment upon the cash flow performance of Brawn Ltd revealed by your statement.
(5 marks)
(NB. No ratio calculations are needed.)

## 3.

The summary statements of financial position as at 31 December 2010 for Cam Ltd and Cob Ltd are shown below:

| Assets | Cam Ltd <br> $£^{\prime 000}$ | Cob Ltd <br> $£^{\prime} 000$ |
| :--- | ---: | ---: |
| Non current assets (at net book value) | 1,900 | 1,500 |
| Current assets | $\underline{3,800}$ | $\underline{8,700}$ |
| Total assets | $\underline{2,300}$ |  |
|  |  |  |
| Equity and liabilities |  |  |
| Capital and reserves | 3,600 | 400 |
| Share capital (£1 shares) | 1,000 | 800 |
| Retained earnings |  |  |
| Non current liabilities | 300 | 900 |
| Debenture loan | $\underline{5,700}$ | $\underline{2,300}$ |
| Current liabilities | $\underline{300}$ |  |
| Total equity and liabilities |  |  |

## The above statements are before recognising the following items:

1. Cam purchased all of the ordinary share capital of Cob Ltd for cash on 31 December 2010, the purchase price was $£ 1,800,000$.
2. The fair value of the non current assets of Cob Ltd at 31 December 2010 was $£ 2,000,000$.

## Required:

(a) Prepare the summary statement of financial position of Cob Ltd as at 31 December 2010, immediately following the acquisition of the interest in Cob Ltd.
(b) Prepare the summary consolidated statement of financial position of Cam Ltd and its subsidiary Cob Ltd, as at 31 December 2010. (10 marks)
(c) Explain why consolidated financial statements are prepared for groups of companies.
(d) Discuss the accounting treatment of goodwill required by accounting standards.
(8 marks)

## 4.

The financial accountant for Mandy Ltd is preparing the company financial statements for the year ended 31 December 2010. It is now March 2011. Mandy Ltd is a building and civil engineering company. Three issues have arisen which require resolution:
In each case assume the issue is material. Any other assumptions should be stated and justified.
(a) The company has just received a report from an adviser indicating that the value of its portfolio of investments in quoted shares has decreased by £50,000 since 31 December 2010.

## Required:

Explain how this decrease in value should be dealt with before the financial statements are finalised.
(5 marks)
(b) The company uses straight line depreciation for its plant and machinery. The company Chairman has decided that a depreciation period of ten years instead of the current five year period will be more appropriate and will result in higher profits. Plant and machinery depreciation was $£ 150,000$ in the draft statement of financial performance for the year ended 31 December 2010, using the current five year asset life.

## Required:

Discuss the financial implications of the proposed change in the asset life from five to ten years.
(8 marks)
(c) Mandy Ltd entered into a contract, in October 2010, for a three year period to construct a water treatment plant for the Southsea Water Company in Ipswich.
The contract will start in August 2011.
The agreed contract price is $£ 3,500,000$. This is a fixed price contract and no increases in this price are allowed under the terms of the contract.
Since the contract was signed there have been unexpected cost increases and the total expected costs will now be $£ 4,700,000$. It is not possible for Mandy Ltd to cancel the contract without incurring additional penalty costs.

The Chairman of Mandy does not want this anticipated contract loss to have any adverse impact on the financial results for 2010 or 2011.

## Required:

Discuss the accounting implications of this contract as far as the financial statements for 2010 and 2011 are concerned and whether a provision for contract losses can be set up in the financial statements for 2010 or 2011.
NB ignore corporate governance issues and the position of the company chairman.
(12 marks)

## 5.

The IASB framework for the preparation and presentation of financial statements identifies the users of financial statements.

## Required:

Select FIVE possible users of financial statements and for each user:

- Give an example of the type of information they may be interested in.
- Explain why that user group may be interested in that type of information.
- Give an example of how the regulatory framework for accounting seeks to ensure that the information needs of members of that user group are met.
(25 marks)


## 6.

Some accountants argue that financial statements should reflect the effects of changing price levels but at the present time there is no relevant, mandatory accounting standard for recognising these effects.

## Required:

Discuss the advantages and disadvantages of traditional, historic accounting methods and how some of the alternative methods, for example current purchasing power (CPP) accounting and current cost accounting, have tried to address these disadvantages.

## END OF PAPER.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2011-12

## FINANCIAL ACCOUNTING

NBS-2A1Y
Time allowed 3 hours
Answer any FOUR questions

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the invigilator.

## Question 1

The trial balance of Nippy Ltd at 31 December 2011 is shown below.

|  | £'000 | £'000 |
| :---: | :---: | :---: |
| £1 Ordinary shares |  | 4,000 |
| Share premium account |  | 1,500 |
| Cash and cash equivalents | 200 |  |
| Trade receivables | 4,200 |  |
| Trade payables |  | 700 |
| Plant and machinery at cost | 3,000 |  |
| Land at Valuation | 8,000 |  |
| Motor vehicles at cost | 2,500 |  |
| Provision for depreciation, plant and machinery |  | 1,400 |
| Provision for depreciation, motor vehicles |  | 1,800 |
| Profit on sale of plant |  | 200 |
| Investment at cost | 1,900 |  |
| Intangible asset: development costs | 700 |  |
| Provision for doubtful trade receivables |  | 100 |
| Sales revenue |  | 14,000 |
| Purchases | 3,800 |  |
| Inventory 1 January 2011 | 600 |  |
| Salaries and wages | 2,750 |  |
| Distribution costs | 1,300 |  |
| Administrative expenses | 2,000 |  |
| Bad debts | 100 |  |
| 8\% Debenture loan |  | 5,000 |
| Ordinary share dividend paid March 2011 | 400 |  |
| Taxation (over provision 2010) | 50 |  |
| Debenture loan interest paid | 200 |  |
| Retained earnings 1 January 2011 |  | 2,700 |
| Revaluation reserve 1 January 2011 |  | 300 |
|  | 31,700 | 31,700 |

```
Notes:
    i
    ii
    iii
    iv
    v The provision for doubtful receivables is to be reduced to
        £50,000 (administrative item).
    vi The intangible asset (development costs) represents
        expenditure incurred developing a new product over the last
        three years. Unfortunately, due to legal issues, this product
        cannot now be completed.
    vii The provision for tax on the company profits for the year is
        estimated to be £450,000.
    viii The land is to be further revalued by £500,000 at 31 December
        2011.
    ix Inventory valuation at 31 December 2011 is £700,000.
    x
        The recoverable amount of the investment is £1,850,000.
```


## Required:

(a)

Prepare a statement of comprehensive income for the year ended 31
December for Nippy Ltd. This statement should be in a form suitable for publication in so far as the information given permits. (11 marks)
(b)

Explain your treatment of the development costs described in note vi above.
(6 marks)
(c)

Prepare a statement of changes in equity for the year ended 31 December 2011 for Nippy Ltd.
(4 marks)
(d)

Explain the purpose of the statement of changes in equity you have prepared.

NB: YOU ARE NOT REQUIRED TO PREPARE A STATEMENT OF FINANCIAL POSITION.
(Total marks 25)

## Question 2

Pearl Ltd has invested in Ruby Ltd.
Pearl acquired its $100 \%$ interest in Ruby on 31 December 2011 for $£ 3,800,000$ cash, when the non current assets of Ruby were valued at £4,100,000.
The summary statements of financial position for Pearl and Ruby at 31 December 2011 immediately before the acquisition of Ruby are shown below.

|  | Pearl Ltd £'000 | $\underline{\text { Ruby Ltd £'000 }}$ |
| :--- | ---: | ---: |
| Non current assets | 13,000 | 4,000 |
| Current assets | $\underline{5,000}$ | $\underline{1,000}$ |
| Total assets | $\underline{18,000}$ | $\underline{5,000}$ |
| £1 Ordinary shares | 3,000 | 2,000 |
| Reserves | 12,000 | 500 |
| Liabilities-non current | 2,000 | 1,000 |
| Liabilities-current | $\underline{1,000}$ | $\underline{1,500}$ |
| Total equity and liabilities | $\underline{8,000}$ | $\underline{5,000}$ |

Required:
(a) Explain why Pearl Ltd should prepare consolidated financial statements following the acquisition of Ruby.
(b) Prepare the statements of financial position of Pearl Ltd and Ruby Ltd immediately after the investment in Ruby by Pearl.
(c) Prepare the summary consolidated statement of financial position of Pearl Ltd as at 31 December 2011.
(d) Explain why positive purchased goodwill is recognised as an asset in consolidated financial statements of financial position, if it arises as a result of an acquisition.
(YOU ARE NOT REQUIRED TO DISCUSS THE ACCOUNTING PROCEDURES FOR GOODWILL)

## Question 3

The summary statements of financial position for Opal Ltd at 31 December are shown below:

|  | $\begin{array}{r} \underline{2011} \\ \underbrace{\prime} 000 \\ \hline \end{array}$ | $£^{\prime} 000$ | $\begin{array}{r} \underline{2010} \\ \underline{£^{\prime} 000} \\ \hline \end{array}$ | £'000 |
| :---: | :---: | :---: | :---: | :---: |
| Non current assets |  | 800 |  | 625 |
| Current assets: |  |  |  |  |
| Inventory | 100 |  | 120 |  |
| Trade receivables | 120 |  | 80 |  |
| Cash and cash | = |  | $\underline{20}$ |  |
|  |  | 220 |  | 220 |
| Total assets |  | 1,020 |  | 845 |
| Equity and liabilities |  |  |  |  |
| £1 ordinary shares |  | 630 |  | 600 |
| account |  |  |  |  |
| Revaluation reserve |  | 30 |  | - |
| Retained earnings |  | 80 |  | 70 |
| Debenture loan |  | 50 |  | 60 |
| Trade payables | 70 |  | 50 |  |
| Bank overdraft | 80 |  | - | - |
| Taxation | 10 |  | $\underline{5}$ |  |
|  |  | 160 |  | 55 |
|  |  | 1,020 |  | 845 |

The summary statement of comprehensive income of Opal Ltd for the year ended 31 December 2011 is shown below:
£'000
Revenue ..... 280
Cost of sales ..... (100)
Gross profit ..... 180
Operating costs ..... (60)
Operating profit ..... 120
Profit on disposal of non current assets ..... (10)
Profit before interest and taxation ..... 130
Interest paid ..... (9)
Taxation ..... (11)
Profit for the year ..... 110
Other comprehensive income-asset revaluation ..... 30
Total comprehensive income ..... 140
TURN OVER

## Notes:

i Debenture interest paid in 2011 was $£ 8,000$.
ii Bank overdraft interest of $£ 1,000$ was paid during 2011.
iii Non current assets were revalued during 2011 by $£ 30,000$.
iv $\quad$ Non current assets with a net book value of $£ 30,000$ were sold for £20,000 during 2011.
v Depreciation charged during 2011 was £80,000.
vi A dividend of $£ 100,000$ was paid to the ordinary shareholders in 2011.
vii Dividends paid should be treated as a financing cash flow.
vii Interest and taxation should be treated as operating cash flows.

## Required:

(a) Prepare a statement of cash flows using the indirect method for Opal Ltd for the year ended 31 December 2011.
(20 marks)
(b) Using the statement of cash flows prepared in part (a), discuss the reasons for the reduction in liquidity of Opal Ltd in the year to 31 December 2011.

## Question 4

It is March 2012 and the draft financial statements of Box Ltd for the year ended 31 December 2011 have recently been prepared. Box Ltd manufactures parts for the motor vehicle industry. There are five, material, unresolved issues to deal with before the financial statements can be finalised, as shown below.
(a) The managing director of Box Ltd has invested heavily in new plant and machinery during 2011. The draft financial statements include the purchase costs of these items. No depreciation has been provided on these assets because the company intends to carry out an annual overhaul of each item to maintain its condition and therefore the managing director does not believe that a depreciation charge is needed.

## Required:

Respond to the managing director's decision not to depreciate the new assets.
(b) In addition to the main activity of the company, Box Ltd also runs a car hire business. In order to rationalise its activities a board meeting of the company agreed to sell the car hire business during 2012.

## Required:

Explain how the disposal of this significant part of the business activities of Box Ltd will be accounted for in 2011 and 2012.
(5 marks)
(c) The investment in new plant and machinery has resulted in a need to provide for deferred taxation in 2011. The managing director is concerned that as a result, profits will be reduced because of higher taxation charges.

## Required:

Explain the purpose of deferred taxation charges in financial statements and respond to the managing director's view.
(d) In February 2012, Box Ltd received a report from its financial advisor which indicated that a long term investment owned by the company had fallen in value to $£ 350,000$ at 31 December 2011. The carrying value of the investment in the draft statement of financial position at 31 December 2011 was $£ 550,000$. The managing director believes that the value of the investment will soon increase again so no changes are required to the financial statements in 2011.

## Required:

Discuss the accounting issues arising from the fall in the value of the investment.
(e) Inventory was valued at $£ 1,600,000$ at 31 December 2011. Included in this inventory valuation were motor vehicle parts which cost $£ 120,000$ to manufacture. In November 2011 a customer of Box Ltd cancelled all future orders for these parts. They could be modified for use by another customer at a cost of $£ 25,000$ and could then sold for an estimated price of $£ 60,000$.

## Required:

Explain the effect of these changes in inventory on the financial statements of Box Ltd.

## Question 5

(a) Discuss the meaning and main purposes of the "conceptual framework" as set out in the IASB Framework for the Preparation and Presentation of Financial Statements.
(b) Explain your understanding of the term "Generally Accepted Accounting Practice" (G.A.A.P.) and give examples of the likely content of G.A.A.P.
(c) Explain why it is difficult to harmonise accounting practice from one country to another.

## Question 6

The capital maintenance concept is a key element in financial reporting.
(a) Explain your understanding of the "capital maintenance" concept.
(b) Explain and differentiate between two approaches to capital maintenance described as "financial" and "operating" capital maintenance.
(c) Briefly discuss the link between a chosen system of capital maintenance and the main qualitative characteristics of financial reporting identified in the "IASB Framework for the Preparation and Presentation of Financial Statements".
(d) A small business starts with capital of $£ 10,000$ and has only one transaction in its first trading period. An item is bought for £10,000 and sold for $£ 15,000$. When the item is sold, the cost of purchasing an identical item is $£ 11,000$. General price inflation between the dates of buying and selling the item is $5 \%$.

## Required:

Prepare income statements for the business, using the financial and operating capital maintenance concepts and explain the results.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2012-13

## FINANCIAL ACCOUNTING

NBS-2A1Y

Time allowed: 3 hours

Answer FOUR questions; THREE from Section A and ONE from Section B.

All questions carry equal marks.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A

1. The following trial balance has been extracted from the financial records of AB Ltd. as at 31 December 2012:

|  | $\mathbf{£ 0 0 0}$ | $\underline{\mathbf{5 0 0 0}}$ |
| :--- | ---: | ---: |
| Land at cost | 320 |  |
| Buildings at cost | 740 |  |
| Equipment at cost | 500 |  |
| Vehicles at cost | 800 |  |
| Goodwill at cost |  |  |
| Accumulated depreciation at 1 January 2012: |  | 160 |
| Buildings |  | 150 |
| Equipment | 240 | 280 |
| Vehicles | 380 |  |
| Inventory 1 January 2012 |  |  |
| Trade receivables |  | 230 |
| Trade payables |  |  |
| Cash and cash equivalents |  | 1,000 |
| Ordinary share capital | 1,200 | 3,700 |
| Retained earnings 1 January 2012 | 300 |  |
| Revenue | 500 |  |
| Purchases | 280 |  |
| Directors fees | 390 |  |
| Wages and salaries | 100 |  |
| Distribution costs | $\underline{6,720}$ | $\underline{6,720}$ |
| Administration expenses |  |  |

## Additional information:

- Inventory at 31 December 2012 was valued at $£ 280,000$.
- Land was valued at $£ 500,000$ at 31 December 2012 and this valuation is to be included in the financial statements.
- Depreciation charges for 2012 are: Buildings $£ 40,000$, equipment $£ 50,000$, vehicles $£ 60,000$.
- Taxation is estimated at $£ 160,000$ on the profit for the year.
- Trade receivables include an amount of $£ 10,000$ which should be written off as a bad debt.
- Administration expenses include loan interest charges for 2012 of $£ 15,000$, the loan was repaid in September 2012.
- Accrue for unpaid wages $£ 20,000$.
- Goodwill is impaired, in the opinion of the directors of $A B$ Ltd it is now valued at $£ 400,000$.
- Deferred taxation of $£ 20,000$ is to be recognised.
- Expenses are to be included as shown in the following table:


## Cost of sales

- Wages and salaries 75\%
- All equipment depreciation


## Administration expenses

- Wages and salaries

25\%

- All buildings depreciation
Directors fees - Depreciation
- Bad debt
.

$$
2
$$

- Bad debt

Distribution costs

- All vehicles depreciation

The figures for administration costs and distribution expenses shown in the trial balance should also be included in the appropriate expense allocation.

## You are to decide the appropriate treatment of any expenses not shown in the above table.

## Required:

a) Prepare the statement of comprehensive income for $A B L$ td for the year ended 31 December 2012 in accordance with International Accounting Standards.

## A Statement of Financial Position is not required

b) Prepare a statement of changes in equity for $A B$ Ltd for the year ended 31 December 2012.
c) Explain your treatment of the goodwill impairment loss.
2. You are assisting in the preparation of the draft financial statements of CD Plc. for the year ended 31 December 2012 and the five items below require appropriate treatment.
a) CD Plc. leased an item of machinery on 1 January 2012 (cost price $£ 100,000$ ) and is making a regular monthly payment of $£ 2,500$ to Nationwide Leasing Plc over a five year leasing period.

## Required:

Discuss the accounting treatment of the leased asset in the financial statements of CD Plc.

## Detailed calculations are not required

b) CD Plc. agreed, in October 2012, to close down part of the business from 31 December 2012.
The closed business activity is considered material.
The net assets of the closed business activity were for sale at 31
December 2012.

## Required:

Discuss how the financial aspects of the closure would be reported in the 2012 financial statements of CD Plc.
c) CD Plc. had ordinary share capital of 60 million $£ 1$ shares at 31 December 2012, after a successful rights issue (1 new share for every 5 held) on 1 October 2012. The profit after tax of CD Plc was $£ 525,000$ in 2012.

## Required:

Calculate the Earnings per Share (EPS) figure for CD Plc for 2012 and also explain the significance of the EPS to the users of the financial statements of CD Plc.
d) CD Plc. received a report on 18 January 2013 from its investment financial manager showing that the value of investments shown at cost $(£ 950,000)$ in the draft statement of financial position at 31 December 2012 was incorrect. The market value of these investments had fallen to $£ 400,000$.

## Required:

Discuss how the company should now treat the investments in its financial statements, in accordance with accounting standards and the IASB "Conceptual Framework" recognition criteria for assets.
e) A customer of CD Plc. is taking legal action claiming compensation for damages arising from using the company's products.
The case is expected to be the subject of court action in 2014 and the amount claimed is material.

## Required:

Explain the factors which will determine the accounting treatment for the customer claim. State carefully any assumptions you make.
(5 marks)
(Total 25 marks)
3. The summary statement of comprehensive income for EF Ltd is given below for the year ended 31 December 2012 together with statements of financial position for 2011 and 2012.

## Summary statement of comprehensive income for the year to 31 December 2012:

|  | $\underline{£^{\prime} 000}$ |
| :--- | ---: |
| Operating profit | 4,400 |
| Interest paid | $\underline{400}$ |
| Profit before taxation | $3, \mathbf{8 0 0}$ |
| Taxation | $\underline{1,000}$ |
| Profit after taxation | $\underline{4,200}$ |
| Land revaluation |  |

## Summary statements of financial position as at 31 December:

|  | $\underline{2012 £}$ £ 000 | 2011 £'000 |
| :---: | :---: | :---: |
| Non-current assets at net book value | 31,460 | 21,760 |
| Current assets |  |  |
| Inventory | 1,360 | 1,200 |
| Trade receivables | 5,520 | 5,200 |
| Cash and cash equivalents | 80 | 160 |
| Total current assets | 6,960 | 6,560 |
| Total assets | 38,420 | 28,320 |
| Equity and liabilities |  |  |
| Ordinary share capital (£1 shares) | 18,000 | 16,000 |
| Share premium account | 1,400 | 1,200 |
| Revaluation reserve | 3,000 | 2,000 |
| Retained earnings | 7,300 | 4,800 |
| Total equity | 29,700 | 24,000 |
| Non current liability: loan | 4,000 |  |
| Current liabilities |  |  |
| Trade payables | 3,680 | 2,880 |
| Taxation | 1,040 | 1,440 |
| Total current liabilities | 4,720 | 4,320 |
| Total equity and liabilities | 38,420 | 28,320 |

## Notes:

- A dividend of $£ 700,000$ was paid during 2012.
- Non-current assets were re-valued during 2012 and the surplus was added to the revaluation reserve.
- Non current assets were purchased during the year.
- During 2012, the company sold non-current assets which had a net book value of $£ 4,800,000$ for $£ 5,600,000$. The profit on sale, $£ 800,000$, has been included in the income statement as part of profit before tax for 2012.
- Depreciation charged against operating profit was $£ 7,600,000$.
- New share capital was issued during 2012.
- Interest should be treated as an operating cash flow, dividends paid should be treated as a financing cash flow.


## Required

a) Prepare a cash flow statement for EF Ltd for the year ended 31 December 2012 in compliance with IAS7 (Cash flow statements) in so far as the information given permits, using the indirect method.
(20 marks)
b) A manager of EF Ltd made the following comment:
"The company made a profit of $£ 3,200,000$ in 2012 but the cash balance fell to $£ 80,000$ in 2012 so I think the draft accounts must be incorrect"
Prepare a brief response to this statement
4. GH Ltd purchased all of the ordinary share capital of IJ Ltd on 31 December 2012 for $£ 4,500,000$ cash.

The summary statements of financial position of both companies immediately before the purchase of the share capital of IJ Ltd are shown below.

|  | GH Ltd <br> $\mathbf{£ ' 0 0 0}$ | IJ Ltd <br> $\mathbf{£ ' 0 0 0}$ |
| :--- | ---: | ---: |
| Non current assets | 8,500 | 3,000 |
| Current assets |  |  |
| Inventory | 2,000 | 1,000 |
| Trade receivables | $\underline{5,000}$ | 2,000 |
| Cash | $\underline{18,500}$ | $\underline{6,100}$ |
| Total assets |  |  |
| Equity and liabilities | 4,000 | 1,000 |
| Share capital | 500 |  |
| Revaluation reserve | 8,000 | 3,000 |
| Retained earnings | 2,000 | 1,000 |
| Non current liabilities | 4,000 | 1,000 |
| Trade payables | $\underline{18,500}$ | $\underline{6,100}$ |
| Bank overdraft |  |  |

The fair value of the non current assets of IJ Ltd was $£ 3,200,000$ at 31
December 2012. There were no other necessary fair value adjustments.

## Required:

a) Calculate the goodwill arising on the acquisition of IJ Ltd.
b) Prepare the summary statement of financial position of GH Ltd as at 31 December 2012 immediately following the purchase of the interest in IJ Ltd.
(2 marks)
c) Prepare the summary consolidated statement of GH Ltd and its subsidiary IJ Ltd at 31 December 2012.
(13 marks)
d) Explain the accounting treatment of the goodwill when the financial statements for GH Ltd and its subsidiary IJ Ltd are prepared one year after the acquisition at 31 December 2013. State any assumptions you make.

## SECTION B

5. International Financial Reporting Standards (IFRS) are issued by the International Accounting Standards Board (IASB).

## Required:

a) Explain why the IASB issues international financial reporting standards (IFRS).
(12 marks)
b) Explain the difficulties which may prevent the universal adoption of IFRS.
(6 marks)
c) Explain the possible consequences for a company which does not comply with IFRS
(7 marks)
(Total 25 marks)
6. It is thought that "Creative Accounting" has been widely used in the past by some companies.

## Required:

a) Explain your understanding of the term "creative accounting".
(2 marks)
b) Why might a company wish to use "creative accounting techniques" when preparing its financial statements?
(5 marks)
c) Discuss any six possible methods of creative accounting and explain the possible effect on the financial statements for each of these methods.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
UG Reassessment /Delayed First Sit Examination 2015-2016

## FINANCIAL ACCOUNTING

NBS-5002Y

Time allowed: 3 hours

Answer FOUR questions: THREE questions chosen from Section A and ONE question chosen from Section B.

EACH question is worth 25 marks
The TOTAL number of marks available for this paper is 100


Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator

## SECTION A

$$
1 .
$$

The following trial balance has been extracted from the financial records of ZeddCo Ltd as at 31 December 2015:

| Land at cost | $\frac{£ 000}{} 320$ | $\underline{£ 000}$ |
| :--- | ---: | :--- |
| Buildings at cost | 840 |  |
| Equipment at cost | 300 |  |
| Vehicles at cost | 400 |  |
| Goodwill at cost | 900 |  |

## Accumulated depreciation at 1 January 2015:

Buildings ..... 260
Equipment ..... 50
Vehicles ..... 180
Inventory 1 January 2015 ..... 240
Trade receivables ..... 480
Trade payables ..... 330
Cash and cash equivalents ..... 470Ordinary share capital1,000
Retained earnings 1 January 2015 ..... 1,300
Revenue ..... 3,600
Purchases ..... 1,100
Directors fees ..... 400
Wages and salaries ..... 600
Distribution costs ..... 180
Administration expenses ..... 290
Dividend paid ..... 200
6.720 ..... 6,720

## Additional information:

- Inventory at 31 December 2015 was valued at $£ 280,000$.
- Land was valued at $£ 600,000$ at 31 December 2015 and this valuation is to be included in the financial statements.
- Depreciation charges for 2015 are: Buildings $£ 40,000$, equipment $£ 50,000$, vehicles $£ 60,000$.
- Taxation is estimated at $£ 180,000$ on the profit for the year.
- Trade receivables include an amount of $£ 10,000$ which should be written off as a bad debt
- Accrue for unpaid wages $£ 30,000$.
- Goodwill is impaired, in the opinion of the directors of ZeddCo Ltd it is now valued at $£ 800,000$.
- Expenses are to be included as shown in the following table:


## Cost of sales

- Wages and salaries 75\%
- All equipment depreciation


## Administration expenses Distribution costs

- Wages and salaries 25\%
- All buildings
- All vehicles depreciation
- Directors fees
- Bad debt depreciation

The figures for administration costs and distribution expenses shown in the trial balance should also be included in the appropriate expense allocation. You are to decide the appropriate treatment of any expenses not shown in the above table.

## Required:

(a)

Prepare the statement of comprehensive income and a statement of changes in equity, for ZeddCo Ltd for the year ended 31 December 2015 in accordance with International Accounting Standards as far as possible.
(15 marks)

## A Statement of Financial Position is not required.

(b)

Prepare a statement of changes in equity for ZeddCo Ltd for the year ended 31 December 2015.
(c)

Explain your treatment of the goodwill impairment loss.
2.

You are assisting in the preparation of the draft financial statements of Lot Co Plc for the year ended 31 December 2015 and the four items below require appropriate treatment.
(a)

Lot Co Plc leased an item of machinery on 1 January 2015 (cost price $£ 100,000$ ) and is making a regular monthly payment of $£ 2,500$ to National Leasing Plc over a five year leasing period.

## Required:

Discuss the accounting treatment of the leased asset in the financial statements of Lot Co plc.

## Detailed calculations are not required

(b)

Lot Co plc agreed, in October 2015, to permanently close down part of its business from 31 December 2015.
The closed business activity is considered material.
The net assets of the closed business activity were still for sale at 31
December 2015.

## Required:

Discuss how the financial aspects of the closure would be reported in the 2015 financial statements of Lot Co plc.
(c)

Lot Co plc had ordinary share capital of 60 million $£ 1$ shares at 31 December 2015, after a successful rights issue ( 1 new share for every 5 held) on 1 October 2015. The profit after tax of Lot Co plc was £525,000 in 2015.

## Required:

Calculate the earnings per share (EPS) figure for Lot Co plc for 2015 and also explain the significance of the EPS to the users of its financial statements.
(7 marks)
(d)

A customer of Lot Co Plc is taking legal action claiming compensation for damages arising from using the company's products.
The case is expected to be the subject of court action in 2016 or 2017 and the amount claimed is material.

## Required:

Explain the factors which will determine the accounting treatment for the customer claim. State carefully any assumptions you make.
3.

The summary statement of comprehensive income for Big Co Ltd is given below for the year ended 31 December 2015 together with statements of financial position for 2014 and 2015.

## Summary statement of profit and loss and other comprehensive income for the year to 31 December 2015:

|  | $\underline{£^{\prime} 000}$ |
| :--- | ---: |
| Operating profit | 4,400 |
| Interest paid | $\underline{400}$ |
| Profit before taxation | $\underline{4,000}$ |
| Taxation | 3,200 |
| Profit after taxation | $\underline{1,000}$ |
| Land revaluation | $\underline{4,200}$ |

Summary statements of financial position as at 31 December:
Non-current assets at net book value $\quad \frac{2015 £^{\prime} 000}{31,460} \quad \frac{2014 £^{\prime} 000}{21,760}$

Current assets
Inventory 1,360 1,200
Trade receivables $\quad 5,520 \quad 5,200$
Cash and cash equivalents $\quad \underline{80} \quad 160$
Total current assets $\quad \underline{6,960} \quad \underline{6,560}$
Total assets $\quad \underline{38,420} \quad \underline{28,320}$
Equity and liabilities
Ordinary share capital ( $£ 1$ shares) $\quad 18,000 \quad 16,000$
$\begin{array}{lll}\text { Share premium account } & 1,400 & 1,200\end{array}$
Revaluation reserve $\quad 3,000 \quad 2,000$
Retained earnings $\quad \underline{7,300} \quad \underline{4,800}$
Total equity 29,700
Non current liability: loan 4,000
Current liabilities
Trade payables $\quad 3,680 \quad 2,880$
Taxation
Total current liabilities
1,040
1,440
Total equity and liabilities
38,420
28,320

## Notes:

- A dividend of $£ 700,000$ was paid during 2015.
- Non current assets were revalued during 2015 and the surplus was added to the revaluation reserve.
- Non current assets were purchased during the year.
- During 2015, the company sold non-current assets which had a net book value of $£ 4,800,000$ for $£ 5,600,000$. The profit on sale, $£ 800,000$, has been included in the income statement as part of profit before tax for 2015.
- Depreciation charged against operating profit was $£ 7,600,000$.
- New share capital was issued during 2015.
- Interest should be treated as an operating cash flow, dividends paid should be treated as a financing cash flow.


## Required:

(a)

Prepare a cash flow statement for Big Co Ltd for the year ended 31 December 2015 in compliance with IAS7 (statements of cash flow) in so far as the information given permits, using the indirect method.
(b)

A manager of Big Co Ltd made the following comment:
"The company made a profit of $£ 3,200,000$ in 2015 but the cash balance fell to $£ 80,000$ in 2015 so I think the draft accounts must be incorrect"

## Required:

Prepare a brief response to this statement.
(Total 25 marks)
4.

Grand Co Ltd purchased all of the ordinary share capital of Small Co Ltd on 31 December 2015 for $£ 4,500,000$ cash.

The summary statements of financial position of both companies immediately before the purchase of the share capital of Small Co Ltd are shown below.

|  | Grand Co Ltd <br> $£^{\prime}, 000$ | Small Co Ltd <br> $£^{\prime} 000$ |
| :--- | :---: | :---: |
| Non current assets | 8,500 | 3,000 |
| Current assets |  |  |
| Inventory | 2,000 | 1,000 |
| Trade receivables | $\underline{5,000}$ | 2,000 |
| Cash | $\underline{18,500}$ | $\underline{100}$ |
| Total assets |  | $\underline{6,100}$ |
|  | 4,000 |  |
| Equity and liabilities | 500 | 1,000 |
| Share capital | 8,000 | 3,000 |
| Revaluation reserve | 2,000 | 1,000 |
| Retained earnings | 4,000 | 1,000 |
| Non current liabilities | $\underline{18,500}$ | $\underline{100}$ |
| Trade payables | $\underline{6,100}$ |  |
| Bank overdraft |  |  |

The fair value of the non-current assets of Small Co Ltd was $£ 3,200,000$ at 31 December 2015. There were no other necessary fair value adjustments.

Required:
(a)

Calculate the goodwill arising on the acquisition of Small Co Ltd.
(b)

Prepare the summary statement of financial position of Grand Co Ltd as at 31 December 2015 immediately following the purchase of the interest in Small Co Ltd.
(c)

Prepare the summary consolidated statement of Grand Co Ltd and its subsidiary Small Co Ltd at 31 December 2015.
(13 marks)

## TURN OVER

(d)

Explain the accounting treatment of the goodwill when the financial statements for Grand Co Ltd and its subsidiary are prepared one year after the acquisition at 31 December 2016. State any assumptions you make.
(Total 25 marks)

## SECTION B

5. 

International Financial Reporting Standards (IFRS) are issued by the International Accounting Standards Board (IASB).

## Required:

(a)

Explain why the IASB issues IFRS.
(12 marks)
(b)

Explain the difficulties which may prevent the universal adoption of IFRS.
(6 marks)
(c)

Explain the possible consequences for a company which does not comply with IFRS.
(Total 25 marks)
6.

It is thought that "Creative Accounting" may have been widely used in the past by some companies.

## Required:

(a)

Explain your understanding of the term "creative accounting".
(b)

Why might a company wish to use "creative accounting techniques" when preparing its financial statements?
(5 marks)
(c)

Discuss any six possible methods of creative accounting and explain the possible effect on the financial statements for each of these methods.

## END OF PAPER

## FINANCIAL ACCOUNTING

NBS-5002Y

Time allowed: 3 hours

Answer FOUR questions: THREE questions chosen from section $A$ and ONE question chosen from section $B$

EACH question is worth 25 marks
The TOTAL number of marks available for this paper is 100


Notes are not permitted in this examination.
Do not turn over until you are told to do so by the invigilator.

## SECTION A

Attempt THREE questions only.
1.

The trial balance of CQ Ltd at 31 December 2015 is shown below:

|  | $\underline{£^{\prime} 000}$ | $\underline{£^{\prime} 000}$ |
| :--- | ---: | ---: |
| Property at cost | 50,000 |  |
| Plant at cost | 70,000 |  |
| Plant: accumulated depreciation |  | 24,000 |
| Capitalised development expenditure at cost | 30,000 |  |
| Capitalised development expenditure, amortisation | 20,000 | 6,000 |
| Inventory 1 January 2015 | 43,000 |  |
| Trade receivables |  | 22,000 |
| Bank overdraft |  | 24,000 |
| Trade payables | 205,000 |  |
| Sales revenue | 15,000 |  |
| Purchases | 22,000 |  |
| Distribution costs | 6,800 |  |
| Administration expenses | 200 |  |
| Dividend paid | 9,000 |  |
| Interest paid on bank overdraft |  | 70,000 |
| Research expenditure in 2015 | $\underline{471,000}$ | $\underline{471,000}$ |
| £1 ordinary shares | $\underline{25000}$ |  |
| Retained earnings |  |  |

## Notes:

1. Property is valued at $£ 70,000,000$ on 31 December 2015, and this valuation is to be recognised in the financial statements.
2. Taxation on 2015 profits is estimated at $£ 11,000,000$.
3. Capitalised development expenditure is to be amortised at $20 \%$ on cost. The amortisation charge is to be included in cost of sales.
4. Research expenditure includes $£ 1,000,000$ which is to be transferred to capitalised development costs, no amortisation is needed for this expenditure.
5. Inventory is valued at $£ 25,000,000$ at 31 December 2015.
6. Depreciation of plant is $£ 4,000,000$ for 2015 and is to be included in cost of sales.
7. There are no further adjustments for any accruals or prepayments.

Required:
(a)

Prepare a statement of profit/loss and other comprehensive income for the year ended 31 December 2015.
(b)

Prepare a statement of changes in equity for the year ended 31 December 2015.
(c)

Prepare a statement of financial position at 31 December 2015.
(12 marks)
(Total 25 marks)
2.

The draft, summary, statement of financial position for RS Ltd at 31 December 2015 is shown below.
Assets ..... $£^{\prime} 000$
Non current assets ..... 500
Current assets ..... 200
Total assets ..... 700
Equity and liabilities
£1 ordinary shares ..... 100
Retained earnings ..... 200
Non-current liabilities ..... 200
Current liabilities ..... 200700

The following items are still outstanding:

1. Trade receivables with a book value of $£ 20,000$ have become impaired and are to be de-recognised.
2. Non-current assets are to be increased in value by $£ 50,000$ following a professional revaluation at 31 December 2015.
3. Loan interest on the non-current liabilities amounting to $£ 10,000$ is outstanding and should be accrued.
4. Inventory, included in current assets, costing $£ 100,000$ is damaged. It could be sold for $£ 90,000$ provided that $£ 25,000$ is spent on repairs.
5. A loan of $£ 50,000$, included in non-current liabilities was repaid (from liquid resources included in current assets) on 30 December 2015.
6. Non-current assets include a trade investment carried at $£ 120,000$. On 7 February 2016, a report was received from a financial advisor indicating that this investment was worth $£ 100,000$ at 31 December 2015.

Required:
(a)

For each of the outstanding items above, clearly state the required adjustment to the summary draft statement of financial position at 31 December 2015. You should explain the reasons for your proposed adjustments referring to relevant accounting standards if appropriate.
(18 marks)
(b)

Produce a revised statement of summary financial position following your adjustments described in part (a) above.
(Total 25 marks)
3.

The summary statements of financial position for AS Itd and PB Ltd at 31 December 2015 are shown below.

|  | AS Itd $£^{\prime} 000$ | $\begin{aligned} & \text { PB Itd } \\ & £^{\prime} 000 \end{aligned}$ |
| :---: | :---: | :---: |
| Non-current assets | 450 | 160 |
| Current assets | 701 | 410 |
| Total assets | 1,151 | $\underline{570}$ |
| Equity and liabilities |  |  |
| £1 ordinary shares | 400 | 96 |
| Share premium account | 16 | 3 |
| Retained earnings | 278 | 128 |
| Current liabilities | 457 | 343 |
|  | 1,151 | $\underline{570}$ |

AS Ltd bought 100\% of the ordinary share capital of PB Ltd at 31 December 2015 for $£ 317,000$ cash when the fair value of the non-current assets of PB Ltd was $£ 200,000$.

Required:
(a)

Prepare a revised, summary, statement of financial position for AS Ltd immediately after the purchase of the interest in PB Ltd.
(3 marks)
(b)

Prepare a summary, consolidated, statement of financial position for AS Ltd and its subsidiary PB Ltd at 31 December 2015.
(c)

Explain why goodwill should be recognised as an asset following the successful acquisition of a subsidiary entity by a parent company.
(6 marks)
(d)

Describe the accounting treatment of positive purchased goodwill in the accounting periods following acquisition
4.

The statements of financial position of Oz Itd, a small company, at 31 December 2015 and 2014 are shown below.

|  | $\underline{2015 £}$ | 2015 £ | $\underline{2014 £}$ | 2014 £ |
| :---: | :---: | :---: | :---: | :---: |
| Non-current assets |  | 74,200 |  | 62,200 |
| Current assets |  |  |  |  |
| Inventory | 20,400 |  | 14,400 |  |
| Receivables | 7,000 |  | 7,400 |  |
| Bank | $\underline{0}$ | 27,400 | 2,800 | 24,600 |
| Total assets |  | 101,600 |  | 86,800 |
| £1 Ordinary shares |  | 23,000 |  | 16,000 |
| Share premium account |  | 5,000 |  | 4,000 |
| Retained earnings |  | 22,000 |  | 20,200 |
| Revaluation reserve |  | 8,000 |  | 7,200 |
|  |  | 58,000 |  | 47,400 |
| Non-current liabilities |  | 16,600 |  | 7,800 |
| Current liabilities |  |  |  |  |
| Bank overdraft | 5,800 |  | 0 |  |
| Taxation | 2,000 |  | 2,400 |  |
| Payables | 19,200 | 27,000 | 29,200 | 31,600 |
| Total equity and liabilities |  | 101,600 |  | 86,800 |

The statement of profit, loss and other comprehensive income of Oz Itd for the year ended 31 December 2015 is shown below.

| Revenue | $\mathbf{£}$ |
| :--- | ---: |
| Cost of sales | $\underline{117,200}$ |
| Gross profit | $\underline{93,000}$ |
| Operating expenses | 17,200 |
| Profit on sale of assets | $\underline{2,000}$ |
| Profit before interest and taxation | $\underline{8,800}$ |
| Interest paid | $\underline{7,000}$ |
| Profit before taxation | $\underline{\underline{2,000}}$ |
| Taxation | $\underline{5,800}$ |

Notes.

1. Dividend paid $£ 4,000$.
2. Non current assets have been revalued by $£ 800$ (increase)
3. Non-current assets with a book value of $£ 2,000$ were sold for $£ 4,000$.
4. Depreciation for 2015 was $£ 5,000$

Required:
(a)

Prepare a statement of cash flow, using the indirect method, for Oz Ltd for the year ended 31 December 2015 in compliance with IAS 7 (statement of cash flow) in so far as the information given permits.
(b)

Explain the adjustments made for changes in the amounts of working capital when preparing a cash flow statement
(Total 25 marks)

## SECTION B

Answer ONE question only
5.

The International Accounting Standards Board "Conceptual framework for financial reporting" includes references to various attributes which may make financial information useful to users of financial statements.

Required:
(a)

Discuss the meaning of the attributes of financial information shown below and how their application in financial reporting makes financial information more useful to users:

- Relevance.
- Faithful representation.
- Comparability
- Understandability.
(b)

Alpha Plc received $£ 50$ million following the sale of its business premises to the Barwest Bank Plc. Alpha entered into a lease of the premises for a 20 year period and will repay the sale proceeds to the bank plus interest at the end of the agreement.
Suggest an appropriate accounting treatment which Alpha should use in order to "faithfully represent" this transaction in its financial statements.
(Total 25 marks)

## TURN OVER

6. 

The International Accounting Standards Board "Conceptual framework for financial reporting" (the conceptual framework) includes definitions and recognition criteria for assets and liabilities.

Required:
(a)

Give the definitions of assets and liabilities and state the recognition criteria for assets and liabilities.

## (b)

Discuss why it is important to define the elements of financial statements.
(c)

Consider the following three situations entered into by Beta plc and in each case discuss whether an asset or liability exists by applying the definitions.

- Beta plc purchased a legal right to use a new manufacturing process developed by another company for a five year period. Using this process will give significant cost savings.
- Beta plc paid a local employment enterprise to set up IT training facilities for unemployed persons in the local area, Beta staff wishing to use the training facilities may do so at any time even though they are not unemployed.
- Beta plc sells used cars from one of its operating divisions. Each car is sold with a comprehensive repairs warranty.
(4 marks for each of the three situations to a maximum of 12 marks)
(Total 25 marks)


## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School

## FINANCIAL ACCOUNTING

NBS-5002Y
Time allowed: 3 Hours

Answer FOUR questions, TWO from Section A, ONE question from Section B, ONE question from Section $C$.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the invigilator.

## SECTION A

## Answer Section A IN FULL

1. The following trial balance has been extracted from the accounting records of Turmeric plc as at 31 March 2017.

|  | $£$ | $£$ |
| :--- | ---: | ---: |
| Revenue |  | $1,250,000$ |
| Purchases | 890,000 |  |
| Administrative expenses | 125,000 |  |
| Interest Paid | 5,000 |  |
| Dividends paid | 50,000 | 100,000 |
| Ordinary shares at 1 April 2016 |  | 700,000 |
| Share premium at 1 April 2016 |  | $1,200,000$ |
| Share issue |  | 77,200 |
| Retained earnings at 1 April 2016 | $1,300,000$ |  |
| Land at cost at 1 April 2016 | 700,000 |  |
| Buildings at cost at 1 April 2016 |  | 210,000 |
| Buildings accumulated depreciation at 1 |  |  |
| April 16 | 500,000 | 140,000 |
| Plant and machinery at cost at 1 April 16 |  |  |
| Plant and machinery accumulated |  |  |
| depreciation at 1April 16 | 40,000 |  |
| Goodwill | 69,420 |  |
| Inventories at 1 April 16 | 216,750 |  |
| Receivables | 33,030 | 100,000 |
| Cash and cash equivalents |  | 152,000 |
| Bank loan repayable on 1 April 2021 |  |  |
| Payables |  | $3,929,200$ |

In addition the following notes are available:
Note 1: $\quad$ A credit note for $£ 5,000$ was issued in April 2017 which related to sales made in March 2017.

Note 2: A provision for doubtful debt is required for $10 \%$ of the outstanding receivables. Bad and doubtful debts should be charged to administrative expenses.

Note 3: Inventories have been correctly valued at 31 march at $£ 72,400$.
Note 4: $\quad$ Depreciation on buildings is calculated at $5 \%$ of cost and should be charged against administrative expenses.

Note 5: $\quad$ Depreciation on plant and machinery is calculated at 20\% of cost and should be charged against cost of sales.

Note 6: $\quad$ Goodwill arose on the acquisition of the assets of a sole trader business 2 years ago. The annual impairment review at 31 March 2017 concluded that there was an impairment loss on goodwill of $£ 10,000$ which has yet to be accounted for.

Note 7: $\quad$ Tax for the year is estimated at $£ 12,300$.
Note 8: During the year Turmeric issued 400,000 new $£ 1$ ordinary shares at $£ 3$ per share. The money received was paid into the bank but the share issue has yet to be accounted for with the credit entry posted to a "share issue" account. Turmeric paid total dividends of $£ 50,000$ during the year.

## Required:

Prepare the following statements for Turmeric plc in a form suitable for publication. Notes to the accounts are not required.
a) A statement of profit or loss for the year to 31 March 2017;
b) A statement of changes in equity for the year to 31 march 2017;
c) A balance sheet as at 31 March 2017.
2. Parsnip plc is a quoted company with investments in two other companies, Spinach Ltd and Artichoke Ltd. The balance sheets and the statements of profit or loss of all three companies at 31 March 2017 are as follows:

Balance Sheets

|  | Parsnip £ | Spinach £ | Artichoke £ |
| :---: | :---: | :---: | :---: |
| Non-current assets |  |  |  |
| Property, plant \& equipment | 200,000 | 550,000 | 500,000 |
| Investments | 900,000 |  |  |
|  | 1,100,000 | 550,000 | 500,000 |
| Current assets | 600,000 | 500,000 | 200,000 |
|  | 1,700,000 | 1,050,000 | 700,000 |
| Equity and liabilities |  |  |  |
| Equity |  |  |  |
| Share capital (£1 ordinary shares) | 600,000 | 500,000 | 400,000 |
| Retained earnings | 700,000 | 350,000 | 300,000 |
|  | 1,300,000 | 850,000 | 700,000 |
| Non-current liabilities | 150,000 | 50,000 |  |
| Current liabilities | 250,000 | 150,000 |  |
|  | 1,700,000 | 1,050,000 | 700,000 |

Statement of profit or loss

|  | Parsnip $£$ | Spinach £ | Artichoke £ |
| :---: | :---: | :---: | :---: |
| Revenue | 1,000,000 | 1,200,000 | 1,400,000 |
| Cost of sales | $(800,000)$ | $(900,000)$ | $(1,000,000)$ |
| Gross profit | 200,000 | 300,000 | 400,000 |
| Expenses | $(50,000)$ | $(100,000)$ | $(150,000)$ |
| Operating profit | 150,000 | 200,000 | 250,000 |
| Dividends received from associate | 25,000 |  |  |
| Profit before tax | 175,000 | 200,000 | 250,000 |
| Income tax | $(50,000)$ | $(50,000)$ | $(50,000)$ |
| Profit for the year | 125,000 | 150,000 | 200,000 |

## Notes

Note 1: On 1 October 2016 Parsnip plc, acquired 80\% of the ordinary shares of Spinach Ltd for $£ 700,000$. On 1 April 2016 it acquired $25 \%$ of the ordinary shares of Artichoke Ltd for $£ 200,000$. On 1 April 2016 the
retained earnings of both Spinach and Artichoke were $£ 200,000$ each. You may assume that profits accrue evenly throughout the year and that dividends were paid out of post-acquisition retained earnings

Note 2: On 1 February 2017 Parsnip sold goods to Spinach for £50,000. Parsnip's normal margin is $20 \%$. $75 \%$ of this inventory remains on hand in Spinach's warehouse at 31 March 2017. The $£ 50,000$ Spinach owed to Parsnip in relation to this transaction remained unpaid at the year end.

Note 3: $\quad$ The groups accounting policy is to measure non-controlling interest at acquisition as a percentage share of the net assets acquired.

## Required:

Prepare the consolidated balance sheet and the consolidated statement of profit or loss for the Parsnip group for the year ended 31 March 2017, in accordance with international financial reporting standards.

## SECTION B

## Answer ONE question from Section B

3. The following information has been extracted from the Trial Balance of Broccoli plc at 31 March 2017:
$£ \quad £$
Freehold land and buildings

Cost
Accumulated depreciation at 31 March 2016
Plant and equipment Cost
Accumulated depreciation at 31 March 2016
Finance lease payment

841,000

198,500
101,300
10,000

The following information is also relevant:

## Freehold land and buildings

On 1 April 2016 the finance director decided that the revaluation basis would be more appropriate than the cost basis for Broccoli's land and buildings. On that date the land was valued at $£ 700,000$ and the buildings at $£ 200,000$, with the remaining useful life of the buildings assessed at 25 years. No entries have yet been made in respect of this revaluation. Broccoli does not make an annual transfer between retained earnings and the revaluation surplus.

## Plant and equipment

On 1 April 2016 the company entered into a finance lease for a new machine. The terms of this lease require Broccoli to pay $£ 10,000$ on 31 March annually for four years commencing on 31 March 2017. The only entries made in the accounting records in respect of the lease are for the payment made on 31 March 2017. The machine would have cost $£ 36,000$ to buy outright and has a useful life of five years. Broccoli allocates finance charges on a sum of digits basis.

On 1 April 2016 Broccoli scrapped equipment which had a cost of $£ 12,000$ and which had accumulated depreciation of $£ 7,200$ on 31 March 2016, incurring a loss on disposal of $£ 800$. This has not yet been accounted for.

## Depreciation

Depreciation for the year has yet to be charged. All depreciation is calculated on a straight line basis. All plant and equipment is estimated to have a useful life of five years.

## Required:

a) Prepare a property, plant and equipment note for Broccoli for the year ended 31 March 2017, in a form suitable for publication. You should show the movements on cost/valuation and on accumulated depreciation as well as the opening and closing carrying amounts for the different categories of property, plant and equipment.
b) Prepare extracts from the statement of cash flows for Broccoli for the year ended 31 March 2017 which reflect the property, plant and equipment transactions that took place in the year.
(Total 25 marks)
4. Treacle plc is preparing its accounts to the year ended 31 March 2017. There are a number of issues which need some explanation and guidance which you have been asked to prepare as one of the accountants working in the finance department.

## Issue 1

In late March the directors of Treacle uncovered a material fraud that had been carried out by the company's credit controller and had been continuing for some time. Their investigations revealed that $£ 4$ million of trade receivables included in the balance sheet as at 31 March 2017 had actually been paid but the money had been stolen by the credit controller. More detailed analysis revealed that of the £4 million $£ 1.5$ million had been stolen in the year ended 31 March 2016, with the rest

## Page 7

being stolen in the year ended 31 March 2017. It will not be possible to recover the money from the credit controller and the company is not insured against this loss.

## Issue 2

Treacle has provided a 12 month warranty on some of the products that it sells. They expect that the cost of meeting the promises made under the warranties is about $5 \%$ of relevant sales, the volume of relevant sales in the current year being £8 million. The warranty provision at 31 March 2016 was $£ 100,000$.

## Issue 3

On $15^{\text {th }}$ March 2017 Treacle sold goods to Petal Ltd, an unrelated company, for $£ 100,000$ on a sale or return basis, accounting for this transaction as a normal credit sale. These goods had cost Treacle $£ 80,000$. The goods have yet to be sold by Petal Ltd.

## Required:

For each of the transactions outlined above identify the accounting issue, state the relevant accounting principles and rules and finally apply those principles to the issues raised to provide advice to the Treacle about an appropriate accounting treatment.

The marks available for each issue are:

| Issue 1 | (9 marks) |
| :--- | :--- |
| Issue 2 | (8 marks) |
| Issue 3 | $(8$ marks $)$ |

(Total 25 marks)

## SECTION C

## Answer ONE question from Section C

5. CoffeeBean plc is a well-known brand associated with a chain of coffee shops around the world. It is estimated to be worth about $£ 40$ billion. CoffeeBean have developed the brand value over the last 10 years and now wish to include this asset on the balance sheet at valuation. The argument being put forward by the company directors is that when they considered the elements of financial statements as set out in the IASB Conceptual Framework for Financial Reporting the brand seemed to fall within the definition of an asset, and they considered that the brand value is financial information which is highly relevant to the primary users of their financial reports.

## Required:

a) Discuss the proposed accounting treatment for CoffeeBean's brand and explain whether it would be permitted under International Financial Reporting Standards. (10 marks)
b) Explain what is meant by the terms:
i. Elements of financial statements
ii. Asset
iii. Relevant to primary users
(9 marks)
c) Discuss the relationship between the conceptual framework and individual IFRS and IAS like IAS 38 Intangibles.
6. Molasses plc are considering the best way to get a fleet of cars for their sales force. They have two options: the first is to acquire the cars on a finance lease for 5 years at an annual cost of $£ 250,000$; the second option is to acquire the cars on an operating lease for 1 year at an annual cost of $£ 300,000$.

The market price of purchasing the fleet of cars outright is $£ 1,250,000$. The present value of the minimum lease payments under the finance lease option is $£ 1,136,488$ and under the operating lease option is $£ 300,000$. The interest rate implicit in the lease is $5 \%$ in both cases. The useful life of the cars is 6 years.

## Required:

a) Describe the factors which are taken into account to determine whether a lease is a finance lease or an operating lease.
b) Discuss the concept of substance over form and describe how it applies to finance leases and operating leases.
c) Discuss what impact the choice of lease will have on the company's following ratios
i. Net Profitability
ii. Asset turnover
iii. Return on capital employed
iv. Gearing.

## FINANCIAL ACCOUNTING

NBS-5002Y

Time allowed 3 Hours

Answer FOUR questions, TWO from Section A and TWO from Section B.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the invigilator.

## SECTION A

## Answer both questions 1 and 2 in section $A$

## Question 1

The following trial balance relates to Oncue plc for the year ended 31 December 2017:

|  | $£^{\prime} 000$ | $£^{\prime} 000$ |
| :---: | :---: | :---: |
| Equity shares of $£ 1$ each |  | 1,700 |
| Share Premium |  | 200 |
| Retained earnings at 1 January 2017 |  | 346 |
| Land and buildings at cost | 1,098 |  |
| Depreciation on premises at 1 January 2017 |  | 200 |
| Plant and equipment at cost | 1,800 |  |
| Depreciation on plant and equipment at 1 January 2017 |  | 450 |
| Inventory at 1 January 2017 | 180 |  |
| Trade receivables | 242 |  |
| Cash and cash equivalents | 222 |  |
| Trade payables |  | 164 |
| 5\% Loan repayable 2025 |  | 40 |
| Revenue |  | 968 |
| Purchases | 290 |  |
| Distribution costs | 118 |  |
| Administrative expenses | 99 |  |
| Loan Interest | 1 |  |
| Tax |  | 2 |
| Dividend paid | 20 |  |
|  | 4,070 | 4,070 |

Further notes:

1) Inventory was valued at $£ 220,000$ at 31 December 2017. On 2 January 2018, it was discovered that inventory which had cost $£ 80,000$, had been damaged by flooding on $25^{\text {th }}$ December 2017. It was estimated that it could only be sold for $£ 20,000$.
2) The land cost $£ 498,000$. Buildings are to be depreciated at $10 \%$ straight line basis.
3) Plant and equipment is to be depreciated at $20 \%$ reducing balance basis.
4) All depreciation is to be treated as an administrative expense.
5) The estimated tax charge for the year is $£ 16,000$. The amount for tax in the trial balance is the under/over provision for the preceding year.
6) There is a bad debt of $£ 2,000$ and a provision of $5 \%$ is required for doubtful debts.
7) A final dividend of $£ 60,000$ is proposed at the year end.

## Page 3

## Required:

Prepare the following statements in a form suitable for publication. Notes to the accounts are not required.
a) A Statement of Profit or Loss for the year ended 31 December 2017.
(8.5 marks)
b) A Balance Sheet as at 31 December 2017.
c) Explain your treatment of the damaged inventory in note (1).
d) Explain your treatment of note (7).

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## Question 2

Pine plc, Salix Ltd and Ash Ltd have prepared the following balance sheets for the year ended 31 December 2017:

|  | $\begin{array}{r} \text { Pine } \\ \text { £'000 } \\ \hline \end{array}$ | $\begin{array}{r} \text { Salix } \\ £^{\prime} 000 \\ \hline \end{array}$ | $\begin{array}{r} \text { Ash } \\ £^{\prime} 000 \end{array}$ |
| :---: | :---: | :---: | :---: |
| Non-current assets |  |  |  |
| Property, plant \& equipment | 2,090 | 1,580 | 640 |
| Investment in Salix | 2,213 |  |  |
| Investment in Ash | 700 |  |  |
|  | 5,003 | 1,580 | 640 |
| Current assets |  |  |  |
| Inventories | 565 | 435 | 314 |
| Receivables | 440 | 178 | 120 |
| Cash and cash equivalents | 96 | 377 | 80 |
|  | 1,101 | 990 | 514 |
| Total Assets | 6,104 | 2,570 | 1,154 |
| Equity and Liabilities |  |  |  |
| Equity |  |  |  |
| Share Capital (£1 ordinary shares) | 3,000 | 1,500 | 800 |
| Retained Earnings | 2,340 | 885 | 270 |
| Non-current liabilities |  |  |  |
| Loans | 500 | 25 |  |
| Current Liabilities |  |  |  |
| Payables | 264 | 160 | 84 |
| Total Equity and Liabilities | 6,104 | 2,570 | 1,154 |

The following information is relevant for preparing the consolidated balance sheet of the Pine Group:

1) On 1 January 2017 Pine plc purchased $1,125,000$ ordinary shares in Salix Ltd. At that date, the retained earnings of Salix Ltd were $£ 985,000$ and the fair value of Salix's net assets exceeded the carrying amount by $£ 270,000$. This increase related to land.
2) Also on 1 January 2017, Pine plc purchased 320,000 ordinary shares in Ash Ltd when the retained earnings of Ash were $£ 120,000$.
3) On 4 November 2017, Pine sold goods to Salix Ltd for $£ 80,000$. Pine charges a mark-up of $25 \%$. Half of this inventory is held by Salix at 31 December 2017.

## Page 5

4) A balance of $£ 22,000$ for the sale of inventory by Pine to Salix, is outstanding at the year end.
5) At the year end the goodwill in Salix is deemed to be impaired by $£ 19,000$.
6) The group's policy is to measure non-controlling interest as a percentage of net assets.

## Required:

a) Explain the difference between a subsidiary and an associate.
b) Prepare the Consolidated Balance Sheet of the Pine group for the year ended 31 December 2017, in accordance with International Financial Reporting Standards.

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## Section B

## Answer 2 from 4 questions in section $B$

## Question 3

Fastrack plc provided the following information for the year ended 31 March 2017.
Income Statement for the year ended 31 March

| 2017 | 2016 |
| :---: | :---: |
| $£^{\prime} 000$ | $£^{\prime} 000$ |
| 726 | 842 |
| $(424)$ | $(425)$ |
| 302 | 417 |
| $(103)$ | $(115)$ |
| $(210)$ | $(175)$ |
| $(11)$ | 127 |
| 6 | 4 |

Finance costs
Profit before tax
Tax
Profit for the year attributable to equity holders
(10) (10)

Revenue
Cost of sales
Gross profit
Distribution costs
Administrative expenses
Profit from operations
Income from investments
(15) 121

| 0 | $(25)$ |
| :---: | :---: |
| $(15)$ | 96 |

Statement of Financial Position at 31 March

| 2017 | 2016 |
| ---: | ---: |
| £'000 | $£^{\prime} 000$ |

Non-current assets
PPE at cost
$437 \quad 414$
Accumulated depreciation on PPE
(120)
(95)

Investments
Current Assets
Inventories
$82 \quad 66$
Trade and other receivables
$114 \quad 65$
Cash and cash equivalents

| - | 52 |
| :---: | :---: |
| 647 | 636 |

Equity
Ordinary shares
$180 \quad 140$
Non-redeemable preference shares 7560
Share premium
Retained earnings
$20 \quad 0$
Reaing

| 152 | 191 |
| :--- | :--- |
| 427 | 391 |

Non-Current liabilities
$5 \%$ debentures 150200
Current liabilities
Trade and other payables 56
Current tax liabilities
Bank overdraft
Total equity and liabilities

| 2 | 0 |
| :---: | :---: |
| 220 | 245 |
| 647 | 636 |

## Page 7

## Additional information:

1) $£ 50,000$ debentures were redeemed at par on 1 March 2017.
2) Additional preference shares were issued at nominal value 1 January 2017. A preference dividend of $£ 4,000$ was paid during the year.
3) A bonus issue of 10,000 ordinary shares was made on 31 August 2016 and there was a further issue of ordinary shares in February 2017.
4) An interim dividend of $£ 10,000$ was paid on the ordinary shares and a final ordinary dividend of $£ 10,000$ was proposed at 31 March 2017.
5) An item of machinery with a carrying amount of $£ 85,000$, was sold for $£ 70,000$ during the year.
6) Additions to PPE cost $£ 130,000$.

## Required:

a) Prepare a Statement of Cash Flows for the year ended 31 March 2017 in accordance with IAS7. Use the indirect method.
(19 marks)
b) At the end of the year, the finance director thinks one item of machinery may have suffered an impairment loss of $£ 20,000$. Explain how this would change the Statement of Cash Flows.
c) State three advantages of producing a Cashflow Statement.

Total 25 marks

## Page 8

## Question 4

The directors of Sullivan plc are using accounting ratios to analyse the performance of the company.

The following information is taken from the financial statements for the year ended 31 December 2017:

Income Statement for the year ended 31 December 2017

| Revenue | 855,000 |
| :--- | :---: |
| Cost of Sales | $\frac{(432,500)}{422,500}$ |
| Gross Profit | $\frac{(289,400)}{133,100}$ |
| Operating expenses | $\underline{(44,000)}$ |
| Profit from operations | 89,100 |

Statement of Financial Position at 31 December 2017

| Non-current assets |  |
| :--- | :---: |
| PPE | 854,000 |
| Current assets | 72,300 |
| Inventories | 135,000 |
| Trade receivables | 13,700 |
| Cash and cash equivalents | $1,075,000$ |
| Total assets |  |

Equity and liabilities
Equity
Ordinary share capital (£1 each) 350,000
Share premium 50,000
Retained earnings 38,000
Non-current liabilities
10\% Loan (repayable 2025)
6\% Redeemable preference shares 200,000
Current liabilities
Trade payables
87,000
Total equity and liabilities
1,075,000

## Page 9

Additional information:
Inventory at 1 January 2017 was $£ 74,000$.
The market price of an ordinary share at 31 December 2017 was $£ 2.50$.
Ding plc is the main competitor of Sullivan plc. It has a gearing ratio of $40 \%$ and a price earnings ratio of 12.

## Required:

a) Calculate the following ratios for Sullivan plc to two decimal places. Show the formula used for each ratio.
i. Return on capital employed
ii. Gearing
iii. Working capital cycle
iv. Price earnings
b) Evaluate what the gearing and price earnings ratios tell investors and compare the gearing and price earnings ratios of Sullivan plc and Ding plc.
(9 marks)
c) Explain three limitations of using ratio analysis to compare companies.
(6 marks)

Total 25 marks

## Question 5

A company prepares its financial statements to 31 December each year. On 1 January 2016, it entered a lease agreement for a machine which was specially designed for the business. The machine would have cost $£ 550,000$ if purchased for cash straight away. The lease required four annual payments of $£ 150,000$ in advance, the first payment to be made 1 January 2016. At the end of the lease, ownership will pass to the lessee.

The company uses straight-line depreciation and has a discount rate of $10 \%$. The actuarial method is used to calculate the finance cost.

The machine has an expected useful life of ten years.

| Year | DF 10\% |
| :--- | :--- |
| 0 | 1.0000 |
| 1 | 0.9091 |
| 2 | 0.8264 |
| 3 | 0.7513 |
| 4 | 0.6830 |

## Required:

a) Discuss what type of lease this is under IAS 17.
b) Show the entries in the profit and loss account for the year ended 31

December 2017.
c) Show the entries in the balance sheet at 31 December 2017.
d) What is meant by substance over form?
e) Discuss what is meant by off balance sheet finance and how this has been an issue with accounting for leases.

Total 25 marks

## Question 6

Clockwise plc is a company that makes clocks and watches. The accounts for the year ended 31 March 2017 have been prepared but the finance director requires advice concerning the following situations:

## Issue 1

A machine was purchased for $£ 400,000$ three years ago and has been depreciated for three years on a $20 \%$ reducing balance basis. Due to a fall in demand for the product this machine produces, the market value for it is only thought to be $£ 100,000$ at the year end. The finance director does not know how to value it and what entries should be made in the accounts.

## Issue 2

It is discovered that due to fraud, the inventory at 31 March 2016 was overvalued.

## Issue 3

During July 2016, a customer commenced legal action against the company for damage caused by one of its products. The company lawyers advise that the claim, which is for $£ 28,000$, could possibly succeed.

## Issue 4

The company owns a non-current asset which it has decided it no longer wishes to use. It plans to sell it as soon as possible. The finance director does not know how to value it in the balance sheet.

## Required:

For each of the issues above, outline the relevant accounting rules and apply them to the facts, advising on the appropriate accounting treatment.
a) Issue 1
b) Issue 2
c) Issue 3
d) Issue 4

## END OF PAPER

Q1.
Most students managed to calculate the NBV of PPE correctly. Mistakes in COS were very common; the correct figures were used but wrong computation/total. Requirements c) and d) answers were either very vague or they were not answered at all, marks were lost here.

Q2.
The majority of students answered this question very well, which demonstrates hard work and a good understanding of the topic. A small number of students completely ignored this topic, which is surprising given that the question/topic was compulsory.

Q3.
A very popular choice among questions from Section B. Some students answered this question very well; others had difficulties in computing the depreciation figure. In requirement b) many students discussed impairment instead of focusing on the impact on cash flow.

Q4.
Not a very popular choice. Of the few students who chose this topic, very few scored high marks. However, most students were able to discuss the limitations of ratio analysis very well.

Q5.
The most popular option with virtually all students choosing it. Generally, high marks scored here with the discussion part better answered than the numerical part.

## Q6.

The least popular choice. Some good answers but most students who chose this question did not answer it well and/or the answers were very short.

## FINANCIAL ACCOUNTING

## NBS-5002Y

Time allowed 3 Hours

Answer FOUR questions, TWO from Section A and TWO from Section B.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the invigilator.

## SECTION A

## Answer BOTH questions in section A

## Question 1 ( 25 marks)

The following trial balance relates to Torode plc for the year ended 31 December 2018:

|  | $£^{\prime} 000$ | £'000 |
| :---: | :---: | :---: |
| Equity shares of $£ 1$ each |  | 80,000 |
| Share Premium |  | 5,000 |
| Retained earnings at 1 January 2018 |  | 23,460 |
| Property at cost | 95,000 |  |
| Plant and equipment at cost | 40,800 |  |
| Depreciation on plant and equipment at 1 January 2018 |  | 16,000 |
| Inventory at 1 January 2018 | 3,600 |  |
| Trade receivables | 2,420 |  |
| Cash and cash equivalents | 5,330 |  |
| Trade payables |  | 1,640 |
| 5\% Loan repayable 2025 |  | 40,000 |
| Revenue |  | 240,800 |
| Purchases | 155,000 |  |
| Distribution costs | 22,600 |  |
| Administrative expenses | 12,750 |  |
| Research and development expenditure | 64,400 |  |
| Loan Interest | 1,000 |  |
| Dividend paid | 4,000 |  |
|  | 406,900 | 406,900 |

Further notes:

1) Inventory was valued at $£ 3,820,000$ at 31 December 2018.
2) Property is to be revalued at $£ 120,000,000$ at 31 December 2018.
3) Plant and equipment is to be depreciated at $20 \%$ reducing balance basis. The depreciation is to be included in cost of sales.
4) Research and development expenditure includes development costs of $£ 38,000,000$ which are to be capitalised. No amortisation is required for this expenditure. The remaining expenditure is to be included in cost of sales.
5) The estimated tax charge for the year is $£ 3,000,000$.
6) A $5 \%$ provision is required for doubtful debts.
7) There is an accrual of loan interest.

## Required:

Prepare the following statements in a form suitable for publication. Note to the accounts are not required.
a) A Statement of Profit or Loss for the year ended 31 December 2018. (9.5 marks)
b) A Statement of Financial Position as at 31 December 2018.
(15.5 marks)

## Question 2 (25 marks)

Pansy plc, Salvia Ltd and Aster Ltd have prepared the following balance sheets for the year ended 31 December 2018:

|  | Pansy <br> $£^{\prime} 000$ | Salvia <br> $£^{\prime} 000$ | Aster <br> $£^{\prime} 000$ |
| :--- | ---: | ---: | ---: |
| Non-current assets |  |  |  |
| Property, plant \& equipment | 6,600 | 6,304 | 2,880 |
| Investment in Salvia | 6,800 |  |  |
| Investment in Aster | 2,650 |  | 2,880 |
|  | 16,050 | 6,304 |  |
| Current assets |  |  | 446 |
| Inventories | 996 | 664 | 170 |
| Receivables | 980 | 286 | 65 |
| Cash and cash equivalents | 2,620 | 1,140 | 681 |
| Total Assets | 18,670 | 7,444 | 3,561 |
| Equity and Liabilities |  |  |  |
| Equity |  |  |  |
| Share Capital (£1 ordinary shares) | 10,000 | 6,000 | 3,200 |
| Share premium | 3,000 | 500 |  |
| Retained Earnings | 4,100 | 882 | 321 |
|  | 17,100 | 7,382 | 3,521 |
| Non-current liabilities |  |  |  |
| Loans | 1,200 | 20 |  |
| Current Liabilities |  | 370 | 42 |

The following information is relevant for preparing the consolidated balance sheet of the Pansy Group.

1) On 1 January 2018 Pansy plc purchased $4,500,000$ ordinary shares in Salvia Ltd. At that date, the retained earnings of Salvia Ltd were $£ 702,000$ and the fair value of its net assets exceeded the carrying amount by $£ 450,000$. This increase related to land.
2) Pansy plc purchased 1,280,000 ordinary shares in Aster Ltd on 30 June 2018, when the retained earnings of Aster were $£ 341,000$.
3) On 4 July 2018, Pansy sold goods to Salvia Ltd for $£ 400,000$. Pansy has a profit margin of $20 \%$. Half this inventory is held by Salvia at 31 December 2018.
4) A balance of $£ 20,000$ for the sale of this inventory is outstanding at the year end.
5) At the year end the goodwill in Salvia is deemed to be impaired by $£ 11,000$.

6 ) The group's policy is to measure non-controlling interest as a percentage of net assets.

## Required:

a) Prepare the consolidated balance sheet of the Pansy group for the year ended 31 December 2018, in accordance with international financial reporting standards.
(21 marks)
b) Discuss how point (3) would be treated in the consolidated statement of profit or loss.
(4 marks)
Total 25 marks

## SECTION B

## Answer TWO questions in section B

## Question 3 (25 marks)

On 1 July 2017 Galetti Ltd entered a three-year lease for a new a machine, ownership of which will pass to Galetti at the end of the lease. Galetti Ltd prepares accounts to the 30 June. The asset has a useful life of three years.

Galetti made an initial payment of $£ 15,000$ on 1 July 2017 and then three annual payments of $£ 50,000$ commencing 30 June 2018. Initial direct costs of $£ 800$ are also incurred by Galetti. The rate of interest implicit in the lease is $8 \%$ and the relevant discount factors are:

| Year | DF 8\% |
| :---: | :---: |
| 1 | 0.925926 |
| 2 | 0.857339 |
| 3 | 0.793832 |

## Required:

a) Show the entries in the financial statements of Galetti Ltd for the three years of the lease under the provisions of IFRS 16.
(16 marks)
b) Explain what two types of lease are exempt from the usual accounting rules for leases under IFRS 16.
c) Analyse the difference in accounting treatment for a lessee, between the lease in part (a) and an exempt lease as in part (b).
(5 marks)
Total 25 marks

## Question 4 (25 marks)

On 1 January 2018 Fisher Plc, a UK company, established a wholly owned foreign subsidiary, Rhodes Ltd. Fisher subscribed for the 2 million $€ 1$ shares by paying the nominal value in cash. Rhodes Ltd prepares its financial statements using the euro whilst Fisher Plc uses pounds sterling as its functional currency.

The financial statements of Rhodes Ltd for the year to 31 December 2018 are below.
Rhodes Ltd Statement of Profit or Loss for the year ended 31 December 2018
Euros Euros
000's 000's
Revenue $\quad 4,000$
Cost of Sales $\quad \underline{(2,480)}$
Gross Profit $\quad \frac{1,520}{}$
Administration expenses 675
Distribution costs $\underline{231}$
(906)

Profit before tax 614
Taxation (54)
Profit for the year 560

Rhodes Ltd Statement of Financial Position at 31 December 2018

| Euros | Euros |
| :--- | :--- |
| 000 's | 000 's |

Non-current assets:

PPE

2,602

Depreciation
(560)

2,042
Current assets:
Inventory 644
Receivables 138
Cash $\underline{100}$
882
Total Assets $\quad \underline{2,924}$
Equity
Share capital ( $2 \mathrm{~m} € 1$ shares) 2,000
Retained earnings $\quad \underline{560}$
2,560
Long term loan 280
Current liabilities:
Payables
84

Total equity and liabilities $\underline{\underline{2,924}}$
The exchange rates were:

|  | $€ / £$ |
| :--- | :---: |
| 1 January 2018 | $1 / 0.91$ |
| Average for the year to 31 December 2018 | $1 / 0.88$ |
| 31 December 2018 | $1 / 0.84$ |

## Required:

a) Prepare the translated accounts of Rhodes Ltd for the year ended 31 December 2018 that will be used in the consolidated financial statements of Fisher Plc. Use the closing rate method and analyse the difference on exchange. (17 marks)

Fisher is also considering the purchase of a subsidiary in a country called Southland, where the currency is the Southland dollar. Under the accounting system in Southland, non-current assets are not depreciated. The finance director of Fisher has suggested preparing financial statements in a presentation currency to raise finance for this purchase.

## Required:

b) Discuss what is meant by a presentational currency and why it might be used.
(4 marks)
c) Discuss what changes Fisher will need to make to the accounts of its subsidiary in Southland prior to consolidation.
(4 marks)

## Question 5 (25 marks)

The following information is given for Grossman Plc.

## Grossman Plc Statement of Financial Position at 31 December

|  | $2018$ <br> £'000 | $2017$ $£^{\prime} 000$ |
| :---: | :---: | :---: |
| Non-current assets (see note) |  |  |
| Cost | 250,500 | 180,000 |
| Accumulated depreciation | $(140,000)$ | $(110,000)$ |
|  | 110,500 | 70,000 |
| Current assets |  |  |
| Inventories | 12,200 | 10,500 |
| Trade and other receivables | 13,800 | 3,700 |
| Cash \& cash equivalents | - | 900 |
|  | 26,000 | 15,100 |
| Total assets | 136,500 | 85,100 |
| Equity and liabilities |  |  |
| Equity |  |  |
| Share capital | 40,000 | 26,000 |
| Share premium | 10,500 | 4,000 |
| Revaluation surplus | 11,500 | 4,500 |
| Retained earnings | 18,800 | 15,800 |
| Total equity | 80,800 | 50,300 |
| Non-current liabilities |  |  |
| Loan | 36,400 | 20,700 |
| Current liabilities |  |  |
| Bank overdraft | 5,400 | - |
| Trade and other payables | 8,400 | 8,500 |
| Current tax liability | 5,000 | 5,300 |
| Warranty provision | 500 | 300 |
| Total equity and liabilities | 136,500 | 85,100 |

## Grossman Statement of Profit or Loss for the year ended 31 December 2018

Gross profit
64,579
Operating expenses
Finance costs - loan interest
Profit before tax
Taxation
Profit for the year
5,000

Additional information:

1. During the year Grossman paid dividends of $£ 2$ million.
2. On 30 June 2018 the company disposed of plant and equipment at a loss of $£ 900,000$. The plant had originally cost $£ 10$ million and had accumulated depreciation of $£ 6$ million.
3. During the year the company revalued its property upwards by $£ 7$ million and reset the accumulated depreciation of $£ 4$ million on these properties to zero.

## Required:

a) Prepare the statement of cash flows for Grossman for the year ended 31 December 2018 using the indirect method and presented in a form suitable for publication in accordance with IAS 7 Statement of Cash Flows. (19 marks)
b) Analyse the resulting statement of cash flows identifying the significant factors which have contributed to the change in the company's liquidity position during the year ended 31 December 2018.
(6 marks)
Total 25 marks

## Question 6 ( 25 marks)

Roux plc is preparing its accounts to the year ended 31 March 2019 and there are several issues on which the accounting department need some guidance.

## Issue 1

The accountant believes earnings per share is an important ratio which must be shown in the financial statements, but he is not sure how to calculate it.
The following information is available from the financial statements:

|  | 31 March 2018 | 31 March 2019 |
| :--- | :---: | :---: |
| 1 million ordinary $£ 2$ shares | $£$ | $£$ |
| 1.4 million ordinary $£ 2$ shares | $2,000,000$ |  |
| $10 \%$ redeemable preference shares | 300,000 | $2,800,000$ |
| 300,000 |  |  |

The issue of ordinary shares took place on 31 December 2018. The net profit after tax but before preference dividends for the year was $£ 450,000$.

## Issue 2

On 4 April 2019 (after the accounting year end) Roux discovered that a customer owing $£ 2,000$ had been declared bankrupt and was unable to pay. On the same day one of Roux's buildings was destroyed in a fire. The building had not been insured.

## Issue 3

On $26^{\text {th }}$ March 2019 Roux delivered goods to Wareing Ltd, an unrelated company, for $£ 38,000$ on a sale or return basis. Wareing Ltd was given 20 days to either buy the goods or return them. Roux had not heard from Wareing by 31 March 2019 and the transaction has been shown as a credit sale in the accounts of Roux. The goods cost Roux £20,000.

## Required

For each of the transactions outlined above identify the accounting issue, state the relevant accounting principles and rules and finally apply those principles to the issues raised to provide advice to the Roux about the appropriate accounting treatment.
The marks available for each issue are:
Issue 1
Issue 2
Issue 3

## END OF PAPER

## NBS 5002Y Financial Accounting Feedback 2018/19

Overall students performed to a high standard in the sections involving calculations. The written parts of questions were too often omitted altogether or answered poorly. The average score was 61\%.

## Q1 Statement of Financial Position and Income Statement

This question was answered well. Some students lost one or two easy marks by not heading up the statements and presenting them correctly. Common errors included omitting to add the doubtful debt provision to administrative expense, miscalculating the capitalised development costs and forgetting to include a revaluation reserve for the revaluation of land.

## Q2 Consolidated Financial Statements

There were many excellent answers to this question - students had clearly focused time on revision of this topic. Whilst a small minority did not know where to begin in preparing group accounts, for the majority the only common error was miscalculation of goodwill. In calculating the subsidiary's net assets on acquisition, the share premium needed to be included. Some students did the numbers and did not attempt part (b), which simply required an explanation of the removal of intra group transactions from the income statement.

## Q3 Leases

A popular optional question. The majority were very comfortable with the calculations around leases but far less so with the written sections (b) and (c). The calculations were done very well, with many students scoring full marks. It was disappointing that so few students were then able to describe what they had done in part (a) and compare it to the treatment of an exempt lease.

## Q4 Foreign Exchange

Again, a popular choice. Most managed to translate the statements accurately, with very few using incorrect rates. Several students omitted to show the calculation for the foreign exchange loss, although this was clearly required by the question. For the written section, students tended to fall into three groups: there were some excellent answers, some did not attempt the written parts at all, and others were very poor (often suggesting that the parent took depreciation out of its own accounts rather than putting it in to the subsidiary's statements).

## Q5 Cashflow Statement

A less popular choice and the quality of answer varied enormously. Some excellent scores were achieved but also some very poor ones. Presentation of the statement itself was of a high standard. Calculations around the disposal of fixed assets were weak. Several students didn't know where to place the warranty provision (operating activities). There were very
few good, full answers to part (b). Once again, not many attempted the discussion part of the question.

Q6 International Accounting Standards
Only a handful of students attempted this and answers were very poor, with scores around five marks from 25.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2010-11

## Management Accounting

NBS-2F1Y

Time allowed: 3 hours

Answer FOUR questions: at least one from section $A$ and $B$.

Candidates using a calculator are advised to include some working details in their answers.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## Section A - Answer at least one question from this section.

## 1. Decision making

Queenstown Removals Ltd is a household removals company operating five identical small vans. The managing director (MD) has been offered the opportunity to replace the vans that are currently in use with larger vans at a competitive price. This is expected to increase sales revenue substantially as jobs are currently being turned down due to no available capacity. He has provided you with the following information:

Purchase cost new
Estimated useful life remaining
Annual sales revenue
Annual operating costs
Sales and administrative expenses
Annual depreciation
Net book value
Trade-in value offered
Estimated scrap value at end of useful life

| Current vans (in <br> total) | New vans (in <br> total) |
| :---: | :---: |
| $£ 100,000$ | $£ 150,000$ |
| 2 | 5 |
| $£ 500,000$ | $£ 600,000$ |
| $£ 220,000$ | $£ 310,000$ |
| $£ 125,000$ | $£ 125,000$ |
| $£ 25,000$ | $£ 30,000$ |
| $£ 50,000$ | - |
| $£ 15,000$ | - |
| $£ 0$ | $£ 10,000$ |

## REQUIRED:

You are required to prepare a report to the MD covering the following issues:
a) Identify and discuss the costs that are relevant to the decision to purchase the new vans or keep the current vans (10 marks)
b) Report to the MD on the irrelevance of the "sunk" costs in making this decision
(7 marks)
c) Prepare a summary profit statement for the next two years assuming that:
i) The new vans are not purchased
ii) That new vans are purchased and the current vans traded in.
Comment on the results of this analysis (8 marks)

## 2. Activity Based Costing

Aikon Limited produces basic office furniture which is sold to offices throughout the United Kingdom. Currently the sales price of each order is calculated using a simple method based on only the number of items ordered by the customer. Each item within the order is priced at a standard cost of $£ 1.50$, and then a mark-up is applied of $20 \%$ to cover overheads.

The finance director (FD) has recently heard that the major competitor of Aikon Limited has moved to using Activity Based Costing to determine sales
prices. As the current method of costing has resulted in a number of jobs within the last month which have resulted in large losses, the FD has requested that you propose a suitable ABC system. The following data has been collected to date:

|  | Overhead Costs for <br> the year <br> $£ ' 000$ |
| :--- | :---: |
| Equipment depreciation | 275 |
| Wages and salaries | 310 |
| Insurance and taxes | 180 |
| Purchasing expenses | 230 |
| Sales expenses | 160 |
| Shipping expenses | 85 |
| Office expenses | 345 |
| Marketing expenses | 100 |
| Total cost | $\mathbf{1 , 6 8 5}$ |

## Activity cost pool

Size of job
Customer set-up
Customer orders
Selling
Other (idle capacity and organisation-sustaining)

Activity measure
Items in order New customers Number of customer orders Number of sales calls Not allocated to costs

## Activity for the year

3,500,000 items
110
750 orders
1,000 calls

Distribution of consumption of resources across activities:

|  | Size of <br> job | Customer <br> set-up | Customer <br> orders <br> $5 \%$ | Selling | Other |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Equipment <br> depreciation | $80 \%$ | - | $10 \%$ | $5 \%$ |  |
| Wages and salaries | $10 \%$ | $20 \%$ | $20 \%$ | $30 \%$ | $20 \%$ |
| Insurance and taxes | $20 \%$ | $15 \%$ | $20 \%$ | $20 \%$ | $25 \%$ |
| Purchasing expenses | $40 \%$ | $10 \%$ | $30 \%$ | $20 \%$ | - |
| Sales expenses | $10 \%$ | $5 \%$ | $10 \%$ | $75 \%$ | - |
| Shipping expenses | $10 \%$ | $25 \%$ | - | $35 \%$ | $30 \%$ |
| Office expenses | $15 \%$ | $15 \%$ | $10 \%$ | $10 \%$ | $50 \%$ |
| Marketing expenses | - | $30 \%$ | $5 \%$ | $35 \%$ | $30 \%$ |

## REQUIRED:

a) Perform the first-stage allocation of costs to the activity cost pools
b) Compute the activity rates for the activity cost pools (4 marks)
c) Using the activity rates computed in part b), determine the total sales price for each of the following jobs according to the activity-based costing system:
i) A customer order of 2,100 items, made to a current customer, involving 1 sales call
ii) A customer order of 3,000 items, made to a new customer, involving 3 sales calls
iii) A customer order of 200 items, made to a new customer, involving no sales calls (6 marks)
d) Critically interpret the results of your analysis in part c) in terms of whether the current method of pricing jobs appears suitable compared to the ABC system
(8 marks)

## 3. Absorption v Marginal

The following results are available for the year end $31 / 3 / 11$ for Yare Fenders plc.

| Years | $\mathbf{2 0 0 9 - 1 0}$ | $\mathbf{2 0 1 0 - 1 1}$ |
| :--- | :--- | :---: |
|  |  |  |
| Units of finished goods: | nil | 5000 |
| Opening stock | 15000 | 14000 |
| Production | 10000 | 15000 |
| Sales | 5000 | 4000 |

Standard unit costs of production for both years:
Direct Materials £20
Direct Labour £25
Variable Overheads £6
Fixed factory overheads were budgeted at $£ 120000$ with budgeted production volumes for both years at 12000 units

Budgeted selling price was $£ 85$ per unit
Selling and administration expenses were budgeted at $£ 7$ per unit sold for variable expenses and $£ 77000$ for fixed expenses.

## REQUIRED:

a) Prepare an income statement for the two years using:
i) A variable approach
ii) An absorption approach
b) Discuss the implications of the results from part (a) and the relative merits of absorption and variable costing

## 4. Variance Analysis

SPL limited produces a single standard product and utilises a standard costing system against a fixed budget. You are required to prepare the monthly operating statement highlighting the variance and explaining the likely causes. Data for the budget and the standard costs and actual data fro March 2011 are given below:

## Budget and Standard cost data:

Budgeted sales and production for month 10,000 units
Direct Materials A 10 kg at $£ 1$ per Kg
B $\quad 5 \mathrm{~kg}$ at $£ 5$ per Kg
Direct Wages 5 hours at $£ 6$ per hr
Fixed production overheads absorbed at $100 \%$ of direct wages Budget sales price is calculated to give profit of $20 \%$ of sales price.

## Actual Data for March 2011:

Production 9500 units sold at a price of $10 \%$ higher than budget
Direct materials: A 96000 kgs at 1.20 per Kg
B $\quad 48000 \mathrm{kgs}$ at 4.70 per kg
Wages 46000 hrs at $£ 640$ per hr
Fixed production overheads incurred £290000.

## REQUIRED:

You are required to:
a) Prepare an operating statement for month of March 2011 reconciling the budget profit with actual profit (5 marks)
b) Show the variances for materials, labour and overheads
(15marks)
c) Explain the likely causes of the variance

## Section $B$ - Answer at least one question from this section.

## 5. Process costing

In process industries a key factor in profitability is the maximising of yield.
a) Explain the concept of yield and the following concepts:
i) Normal loss
ii) Waste
iii)Scrap

Illustrate with examples
(15marks)
b) Many process industries produce by-products or joint products. Explain how costs are attributed to the respective outputs. (10 marks)

## 6. Limiting Factors

a) Explain what is meant by limiting or key factors in business and give examples of such factors
b) If production capacity is constrained then how might mangers decide the priorities in utilising this capacity? Discuss and illustrate your answer with examples?
(15 marks)

## 7. Risk Management

Decision making often involves the exploration of risk. Explain how risk and uncertainty may be accommodated into the decision process including attitudes to risk.
(25 marks)

## 8. Cost Estimation

'Cost estimating requires the analysis of historic data to identify patterns which enable prediction of future costs'.

Explain how you would analyse past data to develop a cost function $y=a+b x$, using three alternate methods. Critically comment on the limitations of the alternative methods.
(25 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2011-2012

## MANAGEMENT ACCOUNTING

NBS-2F1Y
Time allowed: THREE hours

Answer FOUR questions: at least ONE question from section A and at least ONE question section $B$.

All questions carry equal marks.

Candidates using a calculator are advised to include some working details in their answers.

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator.

## Page 2

Section A - Answer at least one question from this section

1. Job Costing

As a new trainee management accountant at Great Lever Manufacturing Ltd., you have been asked to calculate overhead costs for the manufacture of one unit of its product.

All jobs pass through both the company's departments. The following budgeted figures have been calculated.

Direct Material<br>Direct Labour<br>Factory Overheads<br>Labour Hours<br>Machine Hours

| Machining Dept. | Finishing Dept. |
| ---: | ---: |
| $£ 12,200$ | $£ 1,500$ |
| $£ 4,000$ | $£ 4,500$ |
| $£ 21,000$ | $£ 18,000$ |
| $15,000 \mathrm{hrs}$ | $6,000 \mathrm{hrs}$ |
| $7,000 \mathrm{hrs}$ | $3,000 \mathrm{hrs}$ |

The details of Job AKZY100 are as follows:

$$
\begin{array}{lr}
\text { Direct Material } & £ 240 \\
\text { Direct Labour } & £ 40 \\
\text { Direct Labour Hours } & 75 \\
\text { Machine Hours } \\
& \\
\text { a) You are required to calculate the overheads } \\
& \text { • Direct Labour Hour Rate } \\
& \text { - Machine Hour Rate } \\
& \text { - Prime Cost \% }
\end{array}
$$

Machining Dept.
£240
Finishing Dept.
£40
£35 £15
150
25
a) You are required to calculate the overheads using the following methods:
b) Calculate Total Cost for Job AKZY100 using each of the methods. (NB Remember to include the cost of Direct Labour and Direct Materials per unit.)
c) Price is estimated as being (Absorption) Cost Plus 50\%: calculate and discuss the projected selling price.
(30 marks)
d) Discuss whether Direct Labour Hours or Machine Hours be the best recovery method for each Department?
(20 marks)

## 2. Activity Based Costing

You decide to develop your company's management accounting systems by applying the principles of activity based costing ("ABC") to the four products currently made and sold by your company. Details of the four products and relevant information are given below for one period:

| Product | M | N | P | Q |
| :--- | :---: | :---: | :---: | :---: |
| Output in units | 120 | 100 | 80 | 120 |
| Costs per unit: | $£$ | $£$ | $£$ | $£$ |
| $\quad$Direct material | 40 | 50 | 30 | 60 |
| $\quad$ Direct labour | 28 | 21 | 14 | 21 |
| Machine hours (per unit) | 4 | 3 | 2 | 3 |

The production overhead is currently absorbed by using a machine hour rate, and the total of the production overhead for the period has been analysed as follows:
$£$
Machine department costs (rent, business rates, depreciation and supervision)
10,400
Set up costs
5,250
Stores receiving
3,600
Inspection and Quality control
2,100
Materials handling and dispatch
4,650
$\underline{\underline{26,000}}$

You have ascertained that the 'cost drivers' to be used are as listed below for the overhead costs shown:

COST
Machine department costs
Set up costs
Stores receiving
Inspection and Quality control
Materials handling and dispatch

COST DRIVER
Machine hours
Number of production runs
Requisitions raised
Number of production runs
Orders executed

- The number of requisitions raised on the stores was 20 for each product, with a total of 80
- The total number of purchase orders executed was 31 ; 16 for $\mathrm{M} ; 7$ for N ; 7 for $P$ and 1 for $Q$
- Each order is for a batch of 10 of a product
- Production runs are in batches of 20 , with a total of 21


## Page 4

## Required:

a) Calculate the total costs for each product if all overhead costs are absorbed on a machine hour basis.
(30 marks)
b) Calculate the total costs for each product, using activity based costing.
(40 marks)
c) Calculate and list the unit product costs from your figures in (a) and (b) above, to show the differences and comment briefly on any conclusions which may be drawn which could have pricing and profit implications.

## 3. Absorption vs Marginal

As the Management Accountant for Mediprod Limited you are in a debate with the Executive Director with regards to changing from absorption accounting to variable accounting.

The previous two years Income Statements prepared using absorption accounting, showed the following results:

|  | Yearly Income Statements |  |  |
| :--- | ---: | ---: | ---: |
|  | Year 1 | Year 2 |  |
| Sales revenue | $£ 80,000$ |  | $£ 100,000$ |
| Less: Cost of goods sold* | $£ 54,400$ | $£ 70,000$ |  |
| Gross margin | $£ 25,600$ |  | $£ 30,000$ |
| Less: Selling and administrative |  |  |  |
| $\quad$ expenses | $£ 12,200$ |  | $£ 15,000$ |
| Operating Income | $£ 13,400$ | $£ 15,000$ |  |

*Assumes a LIFO inventory flow.
The following operating data is available for the two years:

|  | Year 1 | Year 2 |
| :--- | ---: | ---: |
| Production | 10,000 | 9,000 |
| Sales (in units) | 8,000 | 10,000 |
| Stock at start of year | 0 | 2,000 |
| Stock at end of year | 2,000 | 1,000 |
| Unit selling price | $£ 10$ | $£ 10$ |
| Variable production unit costs: |  |  |
| Variable overhead | $£ 1.00$ | $£ 1.00$ |
| Direct material costs | $£ 1.00$ | $£ 2.00$ |
| Direct labor | $£ 1.00$ |  |
| Actual fixed overhead | $£ 9,000$ | $£ 27,000$ |
| $\quad$ Fixed overhead rate for year | $£ 2.90$ | $£ 3.00$ |
| Other admin costs (fixed) | $£ 9,000$ | $£ 10,000$ |
| Variable selling unit costs | $£ 0.40$ | $£ 0.50$ |

## Required:

a) Prepare a breakdown of the above yearly income statement, showing the numbers of units sold, produced and held in inventory at the start and end of each year and unit values.
b) Prepare variable-costing income statements for each of the two years.
(30 marks)
c) Reconcile and explain differences between the absorption-costing and variable costing incomes for both years.
(15 marks)
d) If you were the executive director of the company, which income statement (variable-costing or absorption-costing) would you prefer to use for evaluating performance, justify your answer.
(30 marks)

## 4. Decision Making

Meridian Ltd makes 30,000 units per year of part AS400 used in the range of electrical goods it manufactures. The unit costs of this part are as follows;

## £

## Direct Materials <br> 24.70

Direct Labour 16.30
Variable manufacturing 2.30 overhead
Fixed manufacturing overhead 13.40
Total 56.70

An outside supplier has offered to supply Meridian Ltd with as many of these parts as it needs, for $£ 44.50$ each.

If the part were purchased from the outside supplier, all direct labour costs associated with the product could be avoided, but in the short term, all fixed overhead costs would have to be reapportioned over the remaining product range.

## Required:

a) Calculate the relevant cost per unit of part AS400 in relation to the decision of whether to make or buy in the part.
b) If Meridian accepts the offer to purchase the part from the outside supplier, the production facilities now being used to make the part could instead be used to make 4,000 units of its best selling product, each of which generate a contribution of $£ 11$.

Taking into account this additional information, what is the total additional cost or saving of purchasing 30,000 units per year of AS400 rather than making it?
c) " The easiest way to distinguish between relevant \& non-relevant costs is by cost behaviour; variable costs are relevant costs \& fixed costs are not."

Explain briefly why you might agree or disagree with this statement.
(36 marks)

Section B - Answer at least ONE question from this section.
5. Budgeting
"One common factor in two recent financial crises has been the collapse of businesses that seemed to have thought that the practice of budgeting was obsolete or unimportant".

## Required:

a) Describe how a budgeting process works in practice. Explain how budgets are used for planning and control.
b) What are the advantages to a business of budgeting? If external circumstances substantially change from those present at the time of setting the budget, rending the budget obsolete mid-way through a planning period, what alternative courses of action are available to management?
(50 marks)
6. Process Costing
a) Under what conditions it would be appropriate to use a process costing system? What similarities exist between job-order and process costing?
b) Under process costing, it is often suggested that 'a product is like a rolling snowball as it moves from department to department'. Discuss whether you agree or not with this suggestion.
7. Pricing
a) Discuss the following statement: 'If a company applies 'full costing' policy then it will never operate at a loss'.
(40 marks)
b) Explain the difference between demand-based pricing and cost-based pricing. Outline the circumstances where each approach may be appropriate, and discuss the possible implications of using an inappropriate pricing method.
(60 marks)
8. Recent Developments in Management Accounting

Modern manufacturing is based upon an emphasis on quality of production, speed of product development and rapid response to market needs. Describe the advanced manufacturing technologies which have developed to accommodate these needs, and discuss how management accounting techniques have developed in response to these developments. (100 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
UG Main Series Examination 2012-13

## MANAGEMENT ACCOUNTING

NBS-2F1Y

Time allowed: 3 hours
Answer FOUR questions; THREE questions from Section A and ONE question from section B.

Candidates using a calculator are advised to include some working details in their answers.

All questions carry equal marks.

Notes are not permitted in this examination
Do not turn over until you are told to do so by the invigilator

## Section A

1. QPRZ provides a caravan holiday throughout the year. The fee charged to guests is inclusive of accommodation and all meals. Due to the competitive market environment, the company is only able to generate profit by maintaining a strict financial control of all its activities.

The company's restaurant is an area that requires constant monitoring of costs. Given below is the performance statement of the restaurant for the month of 31 May.

## QPRZ Restaurant Performance Statement for the month ended 31 May

|  | Actual | Budget | Variance <br> (over)/Under |
| :--- | :---: | :---: | :---: |
| Number of guests | 11,160 | $\mathbf{9 , 6 0 0}$ | $(1,560)$ |
|  | $\mathbf{£}$ | $\mathbf{£}$ | $\mathbf{£}$ |
| Food | 2,000 | 1,900 | $(1000)$ |
| Cleaning <br> materials | 2050 | 2400 | 350 |
| Heat, light, and <br> power | 8,800 | 7,200 | $(1,600)$ |
| Catering costs | 1860 | 1800 | $(60)$ |
| Rent, rates, <br> insurance and <br> depreciation | $\underline{39,710}$ | $\underline{36,300}$ | $\underline{(3410)}$ |

Assumptions:
i) The budget has been calculated on the basis of a 30-day calendar month with the cost of rents, rates, insurance and depreciation being an apportionment of the fixed annual charged.
ii) All other budgeted costs are variable costs based on the number of guests.

## Required:

a) You are required to prepare the revised performance statement using flexible budget.
b) Comment on the result of the revised performance statement in (a).
c) Discuss the implication of the performance result on the motivation of managers.
2. LKJ Property Limited values, advertises, and sells residential property on behalf of its customers. The company has been in the business for a short time and is preparing a cash budget for the first four months of 2013. Expected sales of residential properties are as follows:

|  | 2012 | 2013 | 2013 | 2013 | 2013 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Month | December | January | February | March | April |
| Units sold | 15 | 15 | 18 | 25 | 30 |

i) The average price of the property is $£ 250,000$ and the company charges a $3 \%$ fees for each property sold. The company receives $1 \%$ of its fees in the month of sales and the remaining $2 \%$ in the month after sale. The company has 9 employees who are paid on monthly basis. The average salary per employee is $£ 35,000$ per year. If more than 20 properties sold in a given month, each employee is paid a bonus of $£ 180$ for each additional property sold in that month.
ii) Variable expenses are incurred at the rate of $0.8 \%$ of the value of each property sold and these expenses are paid in the month of sale.
iii) Fixed overheads of $£ 4,500$ per month are paid in the month in which they arise. The company pays interest every three months on a loan of $£ 200,000$ at a rate of $6 \%$ per year. The last interest payment in each year is paid in December.
iv) The cash balance at the start of January is expected to be a deficit of $£ 53,000$.

## Required:

a) Prepare a monthly cash budget for the period from January to April 2013. Your budget must indicate each item of income and expenditure and the opening and closing monthly cash balances.
b) Explain the meaning of self-imposed budget, its major advantages and cautions that need to be exercised in its application.
3. YumYum is a chocolate factory that produces three main products, $\mathrm{M}, \mathrm{N}$, and O. Each product uses the same resources, with different quantities. The budgeted data for 2013 are shown below:

| Product | M | N | O |
| :--- | :---: | :---: | :---: |
| Budgeted <br> production | 3000 | 5000 | 8000 |
| Direct labour <br> hours per unit | 4 | 8 | 6 |
| Machine hours <br> per unit | 6 | 4 | 6 |
| Batch size | 100 | 200 | 1000 |
| Machine setups <br> per batch | 4 | 6 | 2 |
| Purchase orders <br> per batch | 8 | 8 | 12 |
| Material <br> movements per <br> batch | 20 | 10 | 8 |

YumYum budgeted production overhead costs for 2013 are $£ 800,000$ and current practice is to absorb these costs into product costs using the absorption rate based on direct labour hours. As a result, the production overhead cost attributed to each product unit is:

Product M: $£ 32 \quad$ Product $\mathrm{N}: £ 64 \quad$ Product 0: $£ 48$
The management team is considering changing to an activity based costing. It has identified the following cost drivers and related cost pools.

| Cost pool | $\mathbf{£}$ | Cost driver |
| :--- | :---: | :--- |
| Machine maintenance | 200,000 | Machine hours |
| Machine setups | 140,000 | Machine setups |
| Purchasing | 180,000 | Purchase orders |
| Material handling | 120,000 | Material movements |

The remaining $£ 160,000$ of overhead costs are caused by a number of different factors and activities that are mainly labour related and are to be attributed to products on the basis of labour hours.

## Required:

a) Calculate the production overhead cost attributed to each product unit using an activity based costing approach.
b) Traditional cost control focused on cost containment rather than cost reduction. Today, cost management focuses on process of improvements which could result in cost reductions. Discuss how activity based management differs from the traditional costing approach and how it seeks to achieve cost reduction.
(5 marks)
(Total 25 marks)
4. $L R$ is a bindery company that uses traditional absorption costing to report its monthly profits. It is seeking to expand its business and now has the opportunity to prepare a quotation for a large organisation that currently requires a new catalogue for its services. A report on the resource requirements for the catalogue has been completed at a cost of $£ 1,800$ and its details are summarised below:

Production period:
It is expected that the total time required to print and dispatch the catalogue will be one week.
Paper:
10,000 sheets of special paper will be required. This paper is regularly used by LR and the company has 3,400 sheets in inventory. These originally cost $£ 1.80$ per sheet but the current market price is $£ 2.10$ per sheet. The resale price of the sheets held in inventory is $£ 1.20$ per sheet.
Ink:
This is a special ink that LR needs to purchase at a cost of $£ 10.50$ per litre. 200 litres will be required for the catalogue but the supplier has a minimum order size of 250 litres. LR does not foresee any other use for the ink, but will hold the surplus in inventory. LR's policy is to review slow moving items regularly. The cost of any inventory item that has not been used for more than 6 months is accounted for as an expense of the period in which that review occurs.
Direct labour:
Sufficient staffs have already been employed by LR to print the catalogue, but some of the printing will require overtime due to the availability of a particular machine that is used on other work. The staff are paid $£ 8.50$ per hour, the order will require 200 hours of work and 50 of these hours will be in excess of the staff's normal working week. A rate of $£ 15$ per hour is paid for these overtime hours. Staffs are paid using an hourly rate with guaranteed minimum wage for their normal working week.
Supervision:
An existing supervisor will be responsible for the catalogue in addition to his existing duties. He is not fully employed and receives a salary of $£ 500$ per week.

PLEASE TURN OVER

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Machines:
2 different types of machines will be required:
Printing machine will print the catalogues. This is expected to take 20
hours of machine time. The running cost of the machine is £7 per hour.
There is currently }30\mathrm{ hours of unused time on the machine per week that
is being sold to other printers for £15 per hour.
Cutting machine will be used to cut and bind the catalogues. This
machine is being used to full capacity in the normal working week and
this is why there is a need to work overtime. The catalogue will require
25 machine hours and these have a running cost of £8 per hour.
```


## Despatch:

```
There will be a delivery cost of \(£ 500\) to transport the catalogues to the customer.
Fixed overhead costs:
LR uses a traditional absorption costing system to attribute fixed overhead costs to its work. The absorption rate that it uses is \(£ 20\) per direct labour hour.
Profit mark-up:
The selling price is determined based on \(30 \%\) mark-up to its costs.
```


## Required:

a) In assisting the LR management in preparing its quotation, prepare a schedule showing the relevant costs for the production of the catalogues. State clearly the reasons for including or excluding each value that has been provided above.
(20 marks)
b) Explain how the use of relevant costs as the basis of setting a selling price may be appropriate for short term pricing decisions but may be inappropriate for long term pricing decisions.
(5 marks)
(Total 25 marks)

## Section B

5. You are responsible for managing the preparation of all revenue and cost budgets for a motor component manufacturer. You are aware that the external environment has a significant impact on the business activity and financial performance of your company and that the current information systems are underdeveloped and ineffective in this respect.

## Required:

i) Identify which aspect of the external environment you are likely to consider and give reasons for your choice.
ii) Identify where you might find the relevant sources of information.
6. A major source of information within many businesses is a system of standard costing and variance analysis.

## Required:

i) Describe briefly four purposes of standard costing system.
(8 marks)
ii) Explain the different levels of performance which may be incorporated into a system of standard costing and comment on how they relate to the purposes set out in (i) above.
(12 marks)
iii) Comment whether the standard costing applies in both manufacturing and service businesses and how it may be affected by modern initiatives of continuous performance improvement and cost reduction.
7. Just in Time (JIT) has its roots since 1920s in the Ford car manufacturing company and has been well established and developed by Toyota in Japan.

## Required:

i) Explain the meaning of JIT.
ii) Discuss four key elements of JIT.
iii) Explain the benefits of JIT and how it can improve the overall production systems.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2015-16

## MANAGEMENT ACCOUNTING

NBS-5007Y

Time allowed: 3 hours

Answer FOUR questions: THREE from Section $A$ and ONE from Section B All questions carry EQUAL marks


Notes are not permitted in this examination
Do not turn over until you are told to do so by the Invigilator

## SECTION A:

Answer THREE questions from this section

## Question 1: CVP

Payne Ltd manufactures three products, all of which use the same machine. Only 50,000 machine hours are available per period. The variable costs for each product are shown below and the fixed costs are $£ 300,000$ per period.

Product A Product B Product C

|  | $£$ | $£$ | $£$ |
| :--- | :--- | :--- | :---: |
| Direct materials 70 40 <br> Direct Labour:  80 <br> Machinists (£8 per hour) 48 32 <br> Assemblers (£6 per hour) 36 40 <br> Total variable cost 154 112 <br> Selling price per unit $£ 200$ $£ 158$ <br> Maximum demand in units 3000 2500 | 5224 |  |  |

Payne Ltd could buy in similar products at the following unit prices.
A £175

B £140
C $£ 200$

## Required:

a) Calculate the deficiency in machine hours for the next period.
b) Determine the priority ranking for internal manufacture.
c) Determine which products and quantities should be bought externally.
(8 marks)
d) Explain the other factors that Payne Ltd should consider when deciding how to proceed.

Total: 25 marks

## Question 2: Variable costing and absorption costing

Details of a company's first two years of operations are shown:

|  | Year 1 | Year 2 |
| :--- | :---: | :---: |
|  |  |  |
| Sales @ £30 | $£ 1,200,000$ | $£ 1,500,000$ |
| Opening stock in units | 0 | 5000 |
| Units produced | 45000 | 45000 |
| Units sold | $£ 0000$ | 50000 |
|  | $£ 110,000$ | $£ 110,000$ |
| Fixed selling and <br> administrative expenses |  |  |

The company's unit product cost is computed as follows:

|  | $£$ |
| :--- | :---: |
| Direct materials | 4 |
| Direct labour | 7 |
| Variable manufacturing overhead | 1 |
| Fixed manufacturing overhead <br> (£180,000/45,000 units) | 4 |
| Unit product cost | 16 |

## Required:

a) Prepare a profit and loss account for each year using Absorption costing.
b) Prepare a profit and loss account for each year using marginal costing.
c) Explain the difference in profit between the two costing methods.

Total: 25 marks
TURN OVER

## Page 4

## Question 3: Target costing

Fry Ltd are developing a new type of umbrella for cyclists. Market research has indicated that customers would be willing to pay £80 for the product. The company usually expect a profit margin of $12 \%$ on products.

Fixed costs for enhancements to production machinery are expected to be $£ 250,000$ per year. The company currently has orders for 8000 units this year. Materials are expected to cost £25 per unit. Each product requires 45 minutes of specialist labour to manufacture.

The personnel department are having difficulty in recruiting these specialist staff and report that the expected rate of pay is $£ 20-£ 25$ per hour.

## Required:

a) Calculate the maximum hourly rate that Fry Ltd could pay to achieve the Target Cost.
b) A reduction in the fixed costs of $£ 45,000$ could be achieved but this would result in increased labour time to 1 hour per unit. Explain whether Fry Ltd should consider doing this?
c) Alternatively, cheaper materials costing only $£ 22$ could be used but this would also result in each unit taking 1 hour to make. Should Fry consider this? Give reasons for your answer.
(5 marks)
d) Alternatively, each member of specialist staff could be provided with an apprentice to assist them. The apprentice will cost $£ 8$ per hour and this would enable the specialist staff to spend only half an hour on each unit of the product. Should Fry consider this?
(5 marks)
e) Suggest other possible actions that Fry could take to enable them to pay the expected rate of pay per hour.

## Page 5

## Question 4: Standard costing

Yarmouth Ltd uses variance analysis as a method of cost control. Information for the year ended 30 September 2015 is as follows;

| Budget | Production for the year | 12,000 units |
| :--- | :--- | :---: |
|  | Standard cost per unit: | $£$ |
|  | Direct materials $(3 \mathrm{Kg}$ at $£ 10 / \mathrm{Kg})$ | 30 |
|  | Direct Labour (4 hours at $£ 8 / \mathrm{hour})$ | 32 |
|  | Overheads (4 hours at $£ 2 / \mathrm{hour})$ | $\underline{8}$ |
|  |  | $\underline{70}$ |
| Actual | Production units for year | 11,500 units |
|  | Labour hours for year | 45,000 hours |
|  | Labour cost for year | $£ 370,000$ |
|  | Materials used in year | $37,250 \mathrm{Kg}$ |
|  | Materials cost for year | $£ 345,000$ |

## Required:

a) Calculate variances and prepare a reconciliation statement between the original budgeted and actual Prime costs.
b) Explain the variances and the possible interdependence between them.
(5 marks)
c) Advise Yarmouth Ltd whether they should continue with the current pay rates for Labour.
(5 marks)

TURN OVER

Page 6

## SECTION B: Answer ONE question from this section

## Question 5: Performance measurement

Brace Co is an electronics company specialising in the manufacture of home audio equipment. Historically, the company has used solely financial performance measures to assess the performance of the company as a whole.
The company's Managing Director has recently heard of the 'balanced scorecard approach' and is keen to learn more.

## Required:

Describe the balanced scorecard approach to performance measurement and suggest measurements that the company might consider including in all the four categories.
(25 marks)

## Question 6: Budgeting

Some commentators argue that: 'With continuing pressure to control costs and maintain efficiency, the time has come for all public sector organisations to embrace zero-based budgeting. There is no longer a place for incremental budgeting in any organisation, particularly public sector ones, where zero-based budgeting is far more suitable anyway.'

## Required:

a) Discuss the particular difficulties encountered when budgeting in public sector organisations compared with budgeting in private sector organisations, drawing comparisons between the two types of organisations.
(b) Explain the terms 'incremental budgeting' and 'zero-based budgeting'.
(c) Discuss the view that 'there is no longer a place for incremental budgeting in any organisation, particularly public sector ones,' highlighting any drawbacks of zerobased budgeting that need to be considered.

## Page 7

## Question 7: Beyond Budgeting

In the Beyond Budgeting report produced by CIMA (2007), it is argued that traditional budgeting is in need of serious revision. Why does the author say this? What improvements can be made to facilitate better planning and control.

Total: 25 marks

## END OF PAPER

## MANAGEMENT ACCOUNTING

NBS-5007Y

Time allowed: 3 hours

Answer FOUR questions: THREE from Section $A$ and ONE from Section B
All questions carry EQUAL marks

Notes are not permitted in this examination
Do not turn over until you are told to do so by the Invigilator

## SECTION A:

Answer THREE questions from this section

## Question 1: CVP

A company manufactures three products, all of which use the same rare material. The supplier has reported that they can only supply 6000 Kgs next month. The following shows the budget information about the three products:

|  | Product A | Product B | Product C |
| :--- | :---: | :---: | :---: |
|  | $£$ | $£$ | $£$ |
| Contribution | 26,400 | 34,600 | 48204 |
| Fixed costs allocated or apportioned | 7,430 | 9,750 | 13,600 |
| Profit | 18,970 | 24,850 | 34,604 |
| Number of items to be sold | 6600 | 6920 | 16068 |
| Kgs of material required | 2640 | 1730 | 8034 |

## Required:

a) Calculate the deficiency in materials for the month.
b) Determine the priority ranking for production.
c) Calculate the maximum profit that can be made next month
d) Calculate the loss of profit due to this limiting factor and state the maximum amount the company would be willing to pay, per Kg , for extra material from an alternative supplier.

## Page 3

## Question 2: Variable costing and absorption costing

Details of a company's first two years of operations are shown:

|  | Year 1 | Year 2 |
| :--- | :---: | :---: |
|  |  |  |
| Sales @ £25 | $£ 1,000,000$ | $£ 1,250,000$ |
| Opening stock in units | 0 | 5000 |
| Units produced | 45000 | 45000 |
| Units sold | 40000 | 50000 |
| Fixed selling and <br> administrative expenses | $£ 150,000$ | $£ 150,000$ |

The company's unit product cost is computed as follows:

|  | $£$ |
| :--- | :---: |
| Direct materials | 3 |
| Direct labour | 7 |
| Variable manufacturing overhead | 1 |
| Fixed manufacturing overhead <br> (£180,000/45,000 units) | 4 |
| Unit product cost | 15 |

## Required:

a) Prepare a profit and loss account for each year using Absorption costing only.
b) Without preparing a profit and loss account but using the profit under Absorption costing, calculate what the profit would be each year if the company used Marginal costing.
c) Why is Marginal costing which is used by Management accounting incompatible with Financial accounting principles?

## Question 3: Flexible Budgets

Spry Ltd makes and sells a single product. Annual sales in units for 2015 are expected to be 210,000 , and standard cost and selling price per unit is:

## £

Selling price $\quad 30$
Variable costs:
Materials 8
Labour 8
Overheads 2

Annual fixed overheads for 2015 are budgeted at:
Manufacturing: 528,000
Non-manufacturing 336,000
Actual production and sales for the first quarter was 48,000 units. The actual revenue and expenditure for the quarter was as follows:

Sales revenue
1,506,000
Expenditure:
Materials $\quad 355,500$
Labour $\quad 376,500$
Variable overhead 97,200
Fixed overheads
Manufacturing 120,000
Non-manufacturing 105,000

Spry Ltd divides the annual budget by 4 in order to produce quarterly variance analysis reports.

## Required:

a) Prepare the first quarter variance analysis report showing the fixed budget, flexible budget and flexible budget variances.
(16 marks)
b) Suggest how this report could be improved in terms of variable costs variance analysis, describing any extra information you would need in order to do so.

Total 25 marks

## Question 4: Life cycle costing

The production manager of a company is considering two mutually exclusive alternative proposals for investing in new machinery. They both involve an initial outlay of $£ 250,000$, but will yield different levels of savings over the life of the machinery, which is estimated at five years, after which they will have no residual value.

The savings will give rise to increased cash flows as follows:

| Year Machine | A | B |
| :---: | ---: | ---: |
|  | Cash flows | Cash flows |
| 1 | 80000 | 100000 |
| 2 | 80000 | 90000 |
| 3 | 80000 | 80000 |
| 4 | 100000 | 60000 |
| 5 | 100000 | 40000 |

## Page 6

## REQUIRED:

a) What is meant by Life Cycle costing? How does this differ from other costing methods?
b) Appraise each project, using Payback and Net present value, at the company's cost of capital of 6\%
c) Based on your results from (a), explain which machine the Manager is likely to choose and discuss the potential conflict between measures.
(9marks)
Total 25 marks

## Present value of $£ 1$

| Years hence | $\underline{\mathbf{6 \%}}$ | $\underline{8 \%}$ | $\underline{\mathbf{1 0 \%}}$ | $\underline{\mathbf{1 2 \%}}$ | $\mathbf{1 4 \%}$ |
| :---: | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 0943 | 0.926 | 0909 | 0.893 | 0.877 |
| 2 | 0.890 | 0857 | 0.826 | 0.797 | 0.769 |
| 3 | 0.840 | 0.794 | 0.751 | 0.712 | 0.675 |
| 4 | 0.792 | 0.735 | 0.683 | 0.636 | 0.592 |
| 5 | 0.747 | 0.681 | 0.621 | 0.567 | 0.519 |
| 6 | 0.705 | 0.630 | 0.564 | 0.507 | 0.456 |
| 7 | 0.665 | 0.583 | 0.513 | 0452 | 0.400 |
| 8 | 0.627 | 0.540 | 0.467 | 0.404 | 0.351 |
| 9 | 0.592 | 0.500 | 0.424 | 0.361 | 0.308 |

## Page 7

## SECTION B: Answer ONE question from this section

## Question 5: Stock Control

Explain the traditional methods of stock control and the calculations required for each control. How does this compare to the Just in Time principles of stock management? Discuss the reasons why Just in Time may not always produce the desired outcome.
(25 marks)

## Question 6: Budgeting

Critically evaluate budgeting as a management tool for planning and control.
(25 marks)

## Question 7: Beyond Budgeting

Why does the increase in influence of the service sector necessitate a rethink of budgeting principles?

END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2016-17

## MANAGEMENT ACCOUNTING

NBS-5007Y

Time allowed: 3 hours

Answer FOUR questions: THREE from Section A and ONE from Section B
ALL questions carry EQUAL marks

Notes are not permitted in this examination

Do not turn over until you are told to do so by the Invigilator

## Page 2

SECTION A: Answer THREE questions from this section

## Question 1: Target Costing

Anglia Designs have developed a new type of chair. Their market research indicates that it would sell at $£ 125$ and the company has set a target profit margin of $30 \%$ on the selling price.

The manufacturing costs are expected to be as follows;
Direct materials - Wood is bought in and costs $£ 20$ per item when purchased in batches of 1000 . Delivery costs are $£ 750$ per batch. Fabric costs $£ 200$ for a roll and 10 items can be cut from a roll. Other materials cost $£ 15$ per unit.

Direct Labour - It takes 3 hours to assemble one chair and labour costs $£ 12$ per hour.
Production overheads are £ 140,000 per year.
The company are planning for a sales volume of 50,000. Overheads are allocated on the basis of number of units produced.

## Required:

a) Explain the concept of target costing to Anglia Designs and describe how the use of this approach could help them
b) Calculate the expected cost per unit and identify any difference between the Target cost and the expected cost.
(12 marks)
c) Assuming a difference in costs identified in part (b), describe possible steps that the company could use to reduce to reduce the cost gap.

## Page 3

## Question 2: Variable costing and absorption costing

Details of a company's first two years of operations are shown:

|  | Year 1 | Year 2 |
| :--- | :---: | :---: |
|  |  |  |
| Sales @ £25 | $£ 1,000,000$ | $£ 1,250,000$ |
| Opening stock in units | 0 | 5000 |
| Units produced | 45000 | 45000 |
| Units sold |  | 50000 |
|  | $£ 110,000$ | $£ 110,000$ |
| Fixed selling and <br> administrative expenses |  |  |

The company's unit product cost is computed as follows:

|  | $£$ |
| :--- | :---: |
| Direct materials | 4 |
| Direct labour | 7 |
| Variable manufacturing overhead | 1 |
| Fixed manufacturing overhead <br> (£180,000/45,000 units) | 4 |
| Unit product cost | 16 |

## Required:

a) Prepare a profit and loss account for each year using Absorption costing.
b) Using the profit under Absorption costing, calculate what the profit would be each year if the company used Marginal costing.
(5 marks)
c) Why is Marginal costing which is used by Management accounting incompatible with Financial accounting?

Total: (25 marks)

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## Page 4

## Question 3: Activity Based Costing

Wright Ltd produces two products, Right and Left. The company currently absorbs overheads on the basis of units produced, but they have read about a method based on activities undertaken and have asked you to help them investigate the method.

The output is Right 16,000 and Left 13,000.
The company has provided the following information;
Overhead activity Annual costs Cost driver Amount of activity

| Production | $£ 129,800$ | Machine hours | 1260 | 1100 |
| :--- | ---: | :--- | :--- | :--- |
| Quality inspection | $£ 58,080$ | No. of production runs | 80 | 30 |
| Material purchased | $£ 71,820$ | Purchase orders | 30 | 12 |
| Deliveries to retailers $£ 18,080$ | Shipments | 20 | 12 |  |

## Required:

a) Produce a statement that shows the overhead split using the original method, and showing the amount per unit produced.
b) Produce a statement showing the overhead split using Activity Based Costing. Show the amount per unit produced.
(10 marks)
c) Explain the difference between the two methods and the difference in cost per unit.
d) Discuss the advantages and disadvantages of the two methods.
(5 marks)

Total: (25 marks)

## Question 4: Standard costing

Cromer Ltd uses variance analysis as a method of cost control. Information for the year ended 31 December 2016 is as follows;

| Budget | Production for the year | 1400 units |
| :--- | :--- | :--- |
|  |  | $£$ |
|  | Direct materials (Quantity 2800 at $£ 4$ ) | 11,200 |
|  | Direct Labour (700 hours at $£ 9.5 /$ hour) | 6,650 |
|  | Total | 17,850 |
| Actual |  |  |
|  |  |  |
|  | Production for the year | 1,200 units |
|  | Labour hours for year | 750 hours |
|  | Labour cost for year | $£ 7,200$ |
|  | Materials used in year | 2,700 |
|  | Materials cost for year | $£ 10,260$ |

## Required:

a) Calculate the standard costing variances for the materials and labour.
(15 marks)
b) Explain the variances and the possible interdependence between them.
(5 marks)
c) Explain the different types of standards which can be set and how the chosen one could affect the outcomes.

## Page 6

SECTION B: Answer ONE question from this section

## Question 5: Performance measurement

A manager is disappointed to learn that his performance review based on accounting ratios was poor. He had been measured against Earnings per share, market price of company shares and net profit margin. However, he has introduced new working practices this year improving customer reviews and invested in new equipment which should improve results in the future.
He mentions that the company are thinking of a new approach to measuring performance next year called the Balanced Scorecard and wonders if this would improve his review.

## Required:

Describe the balanced scorecard approach to performance measurement and the measures that the company might consider including in all the four categories.
(25 marks)

## Question 6: Pricing

Discuss the various methods that an accountant might consider when setting a selling price for a new product.

What is meant by the term Transfer pricing? And how may Taxation policies affect this?
(25 marks)

## Question 7: Beyond Budgeting

In the Beyond Budgeting report produced by CIMA (2007), it is argued that traditional budgeting is in need of serious revision. Why does the author say this? What improvements can be made to facilitate better planning and control.
(25 marks)

## END OF PAPER

## NBS5007Y Management Accounting Feedback

The questions in section A were attempted equally with no question in particular avoided. In section B, questions 5 and 7 were the most popular, question 6 was not answered by many students.

The average mark was $61.58 \%$ with a Standard deviation of 21.05 . Over $40 \%$ of students achieved a mark of $70 \%$ or above.

Almost 60\% of students achieved a mark of 60\% or above.
Student still performed better on the numerical parts of the questions in section $A$, sometimes avoiding the written explanations entirely, and thereby limiting their marks achievable.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2017-18

## MANAGEMENT ACCOUNTING

NBS-5007Y

Time allowed: 3 hours

Answer FOUR questions: THREE from Section $A$ and ONE from Section B All questions carry equal marks

Notes are not permitted in this examination
Do not turn over until you are told to do so by the Invigilator

## SECTION A: Answer THREE questions from this section

## Question 1: Target costing

Enterprise Ltd are developing a new type of raincoat for cyclists. Market research has indicated that customers would be willing to pay $£ 100$ for the product. The company usually expect a profit margin of $15 \%$ on products.

Fixed costs for enhancements to production machinery are expected to be £200,000 per year. The company currently has orders for 8000 units this year. Materials are expected to cost $£ 45$ per unit. Each product requires 45 minutes of specialist labour to manufacture.

The personnel department are having difficulty in recruiting these specialist staff and report that the expected rate of pay is $£ 22-£ 25$ per hour.

## Required:

a) Calculate the maximum hourly rate that Enterprise Ltd could pay to achieve the Target Cost.
b) A reduction in the fixed costs of $£ 50,000$ could be achieved but this would result in increased labour time to 1 hour per unit. Explain whether Enterprise Ltd should consider doing this?
(5 marks)
c) Alternatively, cheaper materials costing only $£ 42$ could be used but this would also result in each unit taking 1 hour to make. Should Enterprise consider this? Give reasons for your answer.
(5 marks)
d) Alternatively, each member of specialist staff could be provided with an apprentice to assist them. The apprentice will cost £8 per hour and this would enable the specialist staff to spend only half an hour on each unit of the product. Should Enterprise consider this?
(5 marks)
e) Suggest other possible actions that Enterprise could take to enable them to pay the expected rate of pay per hour.

Total: 25 marks

## Page 3

## Question 2: Variable costing and absorption costing

Details of a company's first two years of operations are shown:

|  | Year 1 | Year 2 |
| :--- | :---: | :---: |
|  | $£ 1,000,000$ | $£ 1,250,000$ |
| Sales @ £25 | 0 | 5000 |
| Opening stock in units | 45000 | 45000 |
| Units produced | 40000 | 50000 |
| Units sold | $£ 110,000$ | $£ 110,000$ |
| Fixed selling and <br> administrative expenses |  |  |

The company's unit product cost is computed as follows:

|  | $\mathbf{£}$ |
| :--- | :---: |
| Direct materials | 4 |
| Direct labour | 7 |
| Variable manufacturing overhead | 1 |
| Fixed manufacturing overhead <br> (£180,000/45,000 units) | 4 |
| Unit product cost | 16 |

## Required:

a) Prepare a profit and loss account for each year using Absorption costing.
(15 marks)
b) Using the profit under Absorption costing, calculate what the profit would be each year if the company used Marginal costing.
c) Why is Marginal costing which is used by Management accounting incompatible with Financial accounting?

## Page 4

## Question 3: Flexible Budgets

Paine Ltd makes and sells a single product. Annual sales in units for 2017 are expected to be 200,000, and standard cost and selling price per unit is:

## £

Selling price 35
Variable costs:
Materials 8
Labour 8
Overheads 2
Annual fixed overheads for 2015 are budgeted at:
Manufacturing: 600,000
Non-manufacturing 250,000
Actual production and sales for the first quarter was 45,000 units. The actual revenue and expenditure for the quarter was as follows:

Sales revenue
1,720,000
Expenditure:
Materials 365,500
Labour 375,500
Variable overhead 97,200
Fixed overheads
Manufacturing 135,000
Non-manufacturing $\quad 75,000$

Paine Ltd divides the annual budget by 4 in order to produce quarterly variance analysis reports.

## Page 5

## Required:

a) Prepare the first quarter variance analysis report showing the fixed budget, flexible budget and flexible budget variances.
b) Suggest how this report could be improved in terms of variable costs variance analysis, describing any extra information you would need in order to do so.

Total 25 marks

## Question 4: Life cycle costing

The production manager of a company is considering two mutually exclusive alternative proposals for investing in new machinery. They both involve an initial outlay of $£ 275,000$, but will yield different levels of savings over the life of the machinery, which is estimated at five years, after which they will have no residual value.

The savings will give rise to increased cash flows as follows:

| Year | Machine | A |
| :---: | ---: | ---: |
|  | Cash flows | B |
| 1 | 80000 | 100000 |
| 2 | 80000 | 90000 |
| 3 | 80000 | 80000 |
| 4 | 100000 | 60000 |
| 5 | 100000 | 40000 |

## Page 6

## REQUIRED:

a) What is meant by Life Cycle costing? How does this differ from other costing methods?
b) Appraise each project, using Payback and Net present value, at the company's cost of capital of $10 \%$
c) Based on your results from (a), explain which machine the Manager is likely to choose and discuss the potential conflict between measures.

## Present value of $£ 1$

| Years hence | $\underline{\mathbf{6 \%}}$ | $\mathbf{8 \%}$ | $\mathbf{1 0 \%}$ | $\mathbf{1 2 \%}$ | $\mathbf{1 4 \%}$ |
| :---: | :--- | :--- | :--- | :--- | :--- | :--- |
|  | 0943 | 0.926 | 0909 | 0.893 | 0.877 |
| 1 | 0.890 | 0857 | 0.826 | 0.797 | 0.769 |
| 2 | 0.840 | 0.794 | 0.751 | 0.712 | 0.675 |
| 3 | 0.792 | 0.735 | 0.683 | 0.636 | 0.592 |
| 4 | 0.747 | 0.681 | 0.621 | 0.567 | 0.519 |
| 5 | 0.705 | 0.630 | 0.564 | 0.507 | 0.456 |
| 6 | 0.665 | 0.583 | 0.513 | 0452 | 0.400 |
| 7 | 0.627 | 0.540 | 0.467 | 0.404 | 0.351 |
| 8 | 0.592 | 0.500 | 0.424 | 0.361 | 0.308 |

## Page 7

## SECTION B: Answer ONE question from this section

## Question 5: Stock Control

Explain the traditional methods of stock control and the calculations required for each control. How does this compare to the Just in Time principles of stock management. Discuss the reasons why Just in Time may not always produce the desired outcome.
(25 marks)

## Question 6: Budgeting

Critically evaluate budgeting as a management tool for planning and control.
(25 marks)

## Question 7: Standard Costing

Does the increase in influence of the service sector mean that Standard Costing is now irrelevant to Management Accountants?

## END OF PAPER

## Exam Feedback NBS 5007Y 2017/18

227 students sat this exam on June $5^{\text {th }} 2018$ and the average mark was $63.5 \%$.
This is slightly better than last year where the average was $61.5 \%$. However, there was a huge spread of marks ranging from 10 to $97 \%$.
$93 \%$ of students passed the exam achieving a mark of at least $40 \%$, but sadly $7 \%$ failed. $65 \%$ of students were awarded a mark consistent with a first or upper second degree.

The questions were fairly equally popular in section $A$ but in section $B$ most students answered the budgeting question.

The main issue with those gaining low marks was the failure to practice similar questions and the inability to interpret the answers.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2018-19
Version 1

## MANAGEMENT ACCOUNTING

NBS-5007Y

Time allowed: 3 hours

Answer FOUR questions: THREE from Section A and ONE from Section B All questions carry equal marks

Notes are not permitted in this examination
Do not turn over until you are told to do so by the Invigilator

## SECTION A Answer THREE questions from this section

## Question 1:

## CVP

Paine Limited manufactures three products, the selling price and details of costs are given below;

|  | No 1 | No 2 | No 3 |
| :--- | :--- | :--- | :--- |
|  | $£$ | $£$ | $£$ |
| Selling price per unit | 85 | 105 | 120 |
| Direct materials $(£ 5 / \mathrm{Kg})$ | 10 | 5 | 15 |
| Direct labour $(£ 10 / \mathrm{hr})$ | 10 | 20 | 20 |
| Variable overhead | 9 | 13 | 15 |
| Maximum demand (units) | 5000 | 6000 | 6000 |

Fixed Costs are $£ 140,000$ in total

## Required:

a) If the business were to make only No 3, how many units would it need to sell to break-even?
(3 marks)
b) If the direct materials are in short supply, calculate the contribution per limiting factor and rank the products in order.
(9 marks)
c) If the business can obtain a maximum of $25,000 \mathrm{Kgs}$ of materials, show the most profitable production mix.
(5 marks)
d) Calculate the demand that cannot be produced as a result of the material shortage and the contribution lost.
(5 marks)
e) What steps could the business take to improve profitability given the shortage of material?

## Question 2:

## Variable costing and absorption costing

Details of a company's first two years of operations are shown:

|  | Year 1 | Year 2 |
| :--- | :---: | :---: |
|  | $£ 1,200,000$ | $£ 1,500,000$ |
| Sales @ $£ 30$ | 0 | 5000 |
| Opening stock in units | 45000 | 45000 |
| Units produced | 40000 | 50000 |
| Units sold | 5000 | 0 |
| Closing stock in units | $£ 150,000$ | $£ 150,000$ |
| Fixed selling and <br> administrative expenses |  |  |

The company's unit product cost is computed as follows:

|  | $\mathbf{£}$ |
| :--- | :---: |
| Direct materials | 4 |
| Direct labour | 8 |
| Variable manufacturing overhead | 1 |
| Fixed manufacturing overhead <br> (£225,000/45,000 units) | 5 |
| Unit product cost | 18 |

## Required:

a) Prepare a profit and loss account for each year using Absorption costing.
(8 marks)
b) Prepare a profit and loss account for each year using marginal costing.
(8 marks)
c) Prepare and explain a statement that reconciles the difference in profit between the two costing methods.
d) Identify and explain three situations where the use of marginal costing may prove more useful than absorption costing to the managers of the company.
(6 marks)
(Total: 25 marks)

## Question 3:

## Target costing

Enterprise Ltd are developing a new type of floor cleaner. Market research has indicated that customers would be willing to pay $£ 130$ for the product.

The company usually expect a profit margin of $30 \%$ on products. Fixed costs for enhancements to production machinery are expected to be $£ 150,000$ per year and Quality assurance $£ 50,000$.

The company is estimating an annual production volume of 50,000 and allocates overheads on the basis of number of units produced.

Materials are expected to cost $£ 56.45$ per unit. Each product requires 2 and a half hours of specialist labour to manufacture and the average cost of labour is $£ 14$.

## Required:

a) Explain the benefits of adopting a target costing approach at an early stage in the development process.
b) Calculate the expected cost per unit of the new product and identify any cost gap that might exist.
(13 marks)
c) Assuming a cost gap was identified in the process, outline possible steps that could be taken to reduce this gap.

## Question 4:

Standard costing

Thomas Ltd makes a standard product, which sells at $£ 5$ a unit. It's budget and actual figures for a month are as follows;

| Budget | Production for the month | 5000 units |
| :--- | :--- | ---: |
|  | Direct materials $(0.5 \mathrm{~kg}$ at $£ 3)$ | $£ 7,500$ |
|  | Direct Labour (15 minutes at $£ 5 / \mathrm{hour})$ | $£ 6,250$ |
|  | Fixed overheads | $£ 6,000$ |
| Actual | Production for the month | 5400 units |
|  | Labour hours for month | 1300 hours |
|  | Labour cost for month | $£ 6,885$ |
|  | Materials used in month | $2,830 \mathrm{~kg}$ |
|  | Materials cost for month | $£ 8,770$ |
|  | Fixed overheads | $£ 6,350$ |
|  | Actual Operating Profit | $£ 4,455$ |

There was no existing stock at the start of the month.

## Required:

a) Prepare a flexed budget for the month, showing expected profit.
b) Calculate standard costing variances for the month and reconcile the budgeted and actual profit figures.

## SECTION B Answer ONE question from this section

## Question 5:

## Activity Based Costing

What is meant by Activity Based Costing? How does it differ from Absorption costing?

## Question 6:

## Balanced Scorecard

Explain the term Balanced Scorecard. Suggest suitable measures, under the four perspectives for use in a transport company.

## (25 marks)

## Question 7:

## Beyond Budgeting

What are the factors that necessitate a rethink of budgeting principles?
(25 marks)

## Feedback on NBS-5007Y Exam 2018/19

This exam was taken by 230 students. The average mark was approximately $60 \%$ with a standard deviation of $21 \%$. $52 \%$ of candidates achieved a first or upper second degree score and $12 \%$ failed.

The highest mark was $97 \%$ and the lowest was $2 \%$ showing the huge range of outcomes. Many students achieved full marks on individual questions and many could not gain a single mark on a question.

There were some queries about question 4 during the exam and I can reassure students that there were no errors in the question. Many candidates scored full marks on question 4, reconciling all the variances to the actual operating profit given.

Feedback on each question

1. About $50 \%$ answered this question some scored highly and some mistook the question for something else, demonstrating the need to read the question carefully.
2. Almost everyone answered this question, it was mostly well answered although part d was usually not attempted.
3. Generally well answered although some students did not write enough to score highly.
4. This question was popular with the more able students and some achieved full marks. However, not many students did this question.
5. A small number answered this and it was generally not well answered.
6. Most students chose this question and answered it well.
7. This question was generally not well answered and it was evident that many had not read the research paper.

The results once again demonstrate the importance of practicing seminar and lecture questions before the exam and of attending teaching sessions.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2015-16

## ADVANCED FINANCIAL ACCOUNTING

NBS-6001Y

Time allowed: 3 hours
Answer FOUR questions.
Answer QUESTION ONE from Section A
Answer TWO questions from Section B and ONE question from Section C.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A

1. Patronus bought 400,000 shares in Secondus on 1 April 2015. At the same time Patronus bought 300,000 shares in Additionus. Patronus prepares its financial statements to 31 March each year and at 31 March 2016 the balance sheets of the three companies are as shown.

|  | $\begin{gathered} \text { Patronus } \\ £^{\prime} 000 \end{gathered}$ | Secondus $£^{\prime} 000$ | Additionus £'000 |
| :---: | :---: | :---: | :---: |
| ASSETS |  |  |  |
| Non-current assets |  |  |  |
| Property plant and equipment | 12,690 | 4,124 | 3,491 |
| Investment in Secondus | 2,412 |  |  |
| Investment in Additionus | 1,713 |  |  |
|  | 16,815 | 4,124 | 3,491 |
| Current assets |  |  |  |
| Inventory | 783 | 124 | 203 |
| Receivables | 3,113 | 164 | 200 |
| Cash and cash equivalents | 19,459 | - | - |
|  | 23,355 | 288 | 403 |
| Total Assets | 40,170 | 4,412 | 3,894 |
| EQUITY AND LIABILITIES |  |  |  |
| Equity |  |  |  |
| Ordinary shares, £1 each | 1,657 | 500 | 800 |
| Share premium | 8,876 | - | - |
| Revaluation surplus | 2,937 | - | - |
| Retained earnings | 15,168 | 704 | 1,720 |
|  | 28,638 | 1,204 | 2,520 |
| Non-current liabilities |  |  |  |
| Borrowings | 6,772 | 2,956 | 634 |
| Current liabilities |  |  |  |
| Bank overdraft | - | 90 | 491 |
| Payables | 4,760 | 162 | 249 |
|  | 4,760 | 252 | 740 |
| Total Liabilities | 11,532 | 3,208 | 1,374 |
| Total Equity and Liabilities | 40,170 | 4,412 | 3,894 |

The following notes are relevant:
i. On 1 April 2015 the retained earnings of Secondus were $£ 650,000$. At that date the fair value of the net assets of Secondus was $£ 1$ million higher than their book value. The difference related to the land on which the firm's factory and office are built, which was purchased many years ago.
ii. On 1 April 2015 the retained earnings of Additionus were $£ 1,500,000$.
iii. On 1 January 2016 Secondus sold goods to Patronus for $£ 400,000$. Secondus normally has a profit margin of $10 \%$. At the end of the year Patronus owed Secondus $£ 100,000$ in respect of this transaction and half the inventory was still unsold.
iv. Patronus carried an impairment review for goodwill. Goodwill in Secondus had been impaired by $£ 250,000$. Goodwill in Additionus was unimpaired.
v. Patronus policy is to value non-controlling interest at percentage share of net assets.

Required
a. Prepare the consolidated balance sheet of the Patronus Group as at 31 March 2016.
(20 marks)
b. The fair value adjustment for Secondus related to land. Discuss what the impact would be on the consolidated financial statements (ie the consolidated balance sheet and the consolidated statement of profit or loss and other comprehensive income) if the fair value adjustment had related to an asset with a useful life of 10 years as at the date of acquisition.
(Total 25 marks)

## SECTION B

2. Balyards plc are a UK based online publishing company who are considering expanding their operations. They have identified a company, Clairfount Ltd which has complimentary activities to their own. They have yet to approach the directors and shareholders of Clairfount and are currently considering whether they want to have some sort of joint venture with Clairfount or whether they would like to purchase shares in Clairfount and have direct influence or control over its operations.

Required
a. Assuming that Balyard undertakes a joint arrangement with Clairfount, discuss the two different ways in which joint arrangements can be structured and how these would be accounted for in Balyards individual financial statements and their consolidated financial statements.
(10 marks)
b. Assuming that Balyard purchases shares in Clairfount, discuss how Balyard should treat the investment in its individual financial statements, how it will determine the whether to treat Clairfount as an associate or a subsidiary and, the impact on the group financial statements of identifying Clairfount as either a subsidiary or an associate.
(15 marks)
(Total 25 marks)
3. Dramford plc is a company which build and rents out student accommodation around the UK. It has decided to raise some investment funds by issuing a 10 year bond. Dramford need to raise around $£ 20$ million pounds and have decided to issue bonds with a face value of $£ 25$ million at a $10 \%$ discount. The coupon rate on the bonds is $4 \%$ and they will be redeemed at par. The incidental costs of issuing the bonds are $£ 62,353$. The effective rate on the bond is $5.35 \%$.

Envest Ltd has decided to purchase some of the bonds from Dramford with a face value of $£ 5$ million. Envest intend to hold these for the full ten years. They pay incidental costs of purchase of $£ 5,320$ and Envest's effective rate of interest on these bonds is $5.30 \%$.

After 2 years Dramford notify their investors that due to financial problems they will be defaulting on the bonds and the coupon rate will be dropping to $1 \%$ while the redemption remains at par.

Required
a. Discuss with supporting calculations how the bonds will be accounted for in the books of Dramford on initial issue and the in the first year of issue. (9 marks)
b. Discuss with supporting calculations how the bonds will be accounted for in the books of Envest on initial issue and in the first year of ownership.
(9 marks)
c. Discuss, with supporting calculations the impact of the announcement at the end of year 2 and how this will be reflected in the books of Envest. (7 marks)
(Total 25 marks)

## Page 5

4. Fontinasi plc are considering the best way to get a fleet of cars for their sales force. They have two options: the first is to acquire the cars on a finance lease for 5 years at an annual cost of $£ 250,000$; the second option is to acquire the cars on an operating lease for 1 year at an annual cost of $£ 300,000$.

The market price of purchasing the fleet of cars outright is $£ 1,250,000$. The present value of the minimum lease payments under the finance lease option is $£ 1,136,488$ and under the operating lease option is $£ 300,000$. The interest rate implicit in the lease is $5 \%$ in both cases. The useful life of the cars is 6 years.

Required
a. Describe the factors which are taken into account to determine whether a lease is a finance lease or an operating lease.
b. Discuss the concept of substance over form and describe how it applies to finance leases and operating leases.
c. Discuss what impact the choice of lease will have on the company's following ratios
i. Net Profitability
ii Asset turnover
iii Return on capital employed
iv Gearing

## Page 6

5. Gercek A.S. is a foreign subsidiary owned by a UK parent company. It started trading on 1 April 2014, taking out a loan of Lh 30 million and acquiring a 10 year lease on the same day. The closing inventory was acquired and paid for on 1 January 2015 and interest and tax was paid on 31 March 2015. Gercek A.S. prepared its first set of accounts for the year ended 31 March 2015. The following financial statements for Gercek A.S. have been translated from Lirrah (Lh) to Pound Sterling using the closing rate method and the temporal rate method.

| Statement of profit or loss and other comprehensive income | Lh'000 | $\begin{aligned} & £^{\prime} 000 \\ & \text { (Closing } \\ & \text { rate } \\ & \text { method) } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: |
| Revenue | 12,000 | 750 | 750 |
| Opening inventory | 0 | 0 | 0 |
| Purchases | $(9,450)$ | (591) | (591) |
| Closing inventory | 6,000 | 375 | 462 |
| Cost of sales | $(3,450)$ | (216) | (129) |
| Gross profit | 8,550 | 354 | 621 |
| Depreciation | $(3,600)$ | (225) | (180) |
| Interest | $(2,250)$ | (141) | (141) |
| Profit before tax | 2,700 | 169 | 300 |
| Taxation | $(1,350)$ | 84 | (113) |
| Profit after tax | 1,350 | 85 | 187 |
| Foreign exchange gain/(loss) |  | 1,028 | (192) |
| Total income for the year |  | 1,113 | (5) |
| Balance sheet | Lh'000 | $\begin{aligned} & £^{\prime} 000 \\ & \text { (Closing } \\ & \text { rate } \\ & \text { method) } \end{aligned}$ | $\begin{gathered} £^{\prime} 000 \\ \text { (Temporal } \\ \text { rate } \\ \text { method) } \end{gathered}$ |
| ASSETS |  |  |  |
| Non-current assets |  |  |  |
| Property (10 year lease) | 36,000 | 3,000 | 1,800 |
| Depreciation | $(3,600)$ | 300 | 180 |
| Carrying amount | 32,400 | 2,700 | 1,620 |
| Current assets |  |  |  |
| Inventory | 6,000 | 500 | 462 |
| Receivables | 5,000 | 417 | 417 |
| Cash | 2,950 | 246 | 246 |
|  | 13,950 | 1,163 | 1,125 |
| Total Assets | 46,350 | 3,863 | 2,745 |
| EQUITY AND LIABILITIES Equity |  |  |  |
| Share capital (300,000 |  |  |  |
| shares of 100 Lh each) | 30,000 | 1,500 | 1,500 |
| Retained profit | 1,350 | 1,113 | (5) |
| Total Equity | 31,350 | 2,613 | 1,495 |
| Non-current liabilities |  |  |  |
| Long term loan | 15,000 | 1,250 | 1,250 |
| Total equity and liabilities | 46,350 | 3,863 | 2,745 |

## Page 7

During the year exchange rates were as follows:

|  | Lh to $£$ |
| :--- | :---: |
| 1 April 2015 | 20 |
| Average for the year | 16 |
| At 1 January 2016 | 13 |
| At 31 March 2016 | 12 |

## Required

a. Using the financial statements of Gercek to illustrate your answer discuss how the closing rate method and the temporal method differ from each other and what the advantages and disadvantages of each method are.
b. Gercek has just purchased some steel from company based in Aztralia (which uses the Az\$). The steel cost Az\$10,000,000 and was acquired on 1 January 2016, in inventory at Gercek's year end of 31 March 2016. Gercek paid the supplier the full amount on 31 May 2016. Describe how the transaction would appear in the Lirrah accounts of Gercek.
(8 marks)

|  | Az\$ to Lh |
| :--- | :---: |
| Average for the year | 11 |
| At 1 January 2016 | 9 |
| At 31 March 2016 | 8 |
| At 31 May 2016 | 10 |

(Total 25 marks)

## Page 8

## SECTION C

6. Discuss the extent to which environmental costs should be recognised in company accounts.
7. Discuss how assets should be measured in company accounts. (25 marks)
8. Describe the significance of the conceptual framework for financial reporting in the context of the international harmonisation of corporate reporting. (25 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
UG Reassessment /Delayed First Sit Examination 2015-16

## ADVANCED FINANCIAL ACCOUNTING

NBS-6001Y

Time allowed: 3 hours
Answer FOUR questions
Answer QUESTION ONE from Section A
Answer TWO questions from Section B and ONE question from Section C.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A

1. Prime Events bought 5,400,000 shares in Superb Parties on 1 July 2015, paying $£ 15,824,000$. At the same time Prime Events bought $1,500,000$ shares in Awesome Productions paying $£ 4,950,000$. Prime prepares its financial statements to 30 June each year and at 30 June 2016 the balance sheets of the three companies are as shown.

|  | $\begin{aligned} & \text { Prime } \\ & \text { £'000 } \end{aligned}$ | Superb £'000 | Awesome $£^{\prime} 000$ |
| :---: | :---: | :---: | :---: |
| ASSETS |  |  |  |
| Non-current assets |  |  |  |
| Property plant and equipment | 18,311 | 15,956 | 30,627 |
| Investment in Superb | 15,824 |  |  |
| Investment in Awesome | 4,950 |  |  |
|  | 39,085 | 15,956 | 30,627 |
| Current assets |  |  |  |
| Inventory | 1,831 | 743 | 1,261 |
| Receivables | 1,771 | 568 | 821 |
| Cash and cash equivalents | 507 | 2,739 | 653 |
|  | 4,109 | 4,050 | 2,735 |
| Total Assets | 43,194 | 20,006 | 33,362 |
| EQUITY AND LIABILITIES |  |  |  |
| Equity |  |  |  |
| Ordinary shares, £1 each | 6,000 | 6,000 | 6,000 |
| Retained earnings | 6,895 | 7,360 | 6,352 |
|  | 12,895 | 13,360 | 12,352 |
| Non-current liabilities |  |  |  |
| Borrowings | 27,815 | 5,038 | 19,570 |
| Current liabilities |  |  |  |
| Payables | 2,484 | 1,608 | 1,440 |
| Total Liabilities | 30,299 | 6,646 | 21,010 |
| Total Equity and Liabilities | 43,194 | 20,006 | 33,362 |

The following notes are relevant:
i. On 1 July 2015 the retained earnings of Superb were $£ 7,800,000$. At that date the fair value of the net assets of Superb was $£ 3$ million higher than their book value. The difference related an item of PPE (a sound system) which at 1 July 2015 had a remaining useful life of 10 years.
ii. On 1 July 2015 the retained earnings of Awesome were $£ 5$ million.
iii. On 1 January 2016 Prime sold goods to Superb for $£ 500,000$. Prime had originally paid $£ 400,000$ for this inventory. At the end of the year Superb owed Prime $£ 500,000$ in respect of this transaction and three-quarters of the inventory was still unsold.

## Page 3

v. Prime's policy is to value non-controlling interest at percentage share of net assets.

## Required

a. Prepare the consolidated balance sheet of the Prime Group as at 30 June 2016.
b. Explain, providing illustrative calculations, the effect (if any) on the consolidated statement of profit or loss of the Prime Group for the year ended 30 June 2016 of items i) and iii) detailed above.

Note: You are not expected to prepare a consolidated statement of profit or loss.

## Page 4

## SECTION B

2. Bytheway plc is the parent company within a conglomerate of fairly diverse companies. It owns 90\% of the shares in Caper Ltd a company which produces websites. Caper Ltd has in turn recently purchased a $55 \%$ holding in another company Prettypooch Ltd which makes pet cosmetics. Bytheway is within the scope of IFRS 8 Segmental Reporting.

Required
a. Outline the basic principles of group accounting, consolidation and equity accounting.
b. Discuss how the principles of group accounting might be applied to a collection of companies like Bytheway, Caper and Prettypooches. Your discussion should consider the impact on calculations such as goodwill, retained earnings and noncontrolling interest.
c. Describe the sort of disclosure required under IFRS 8 by a group such as the Bytheway group and discuss the reasons that disaggregated results are required.
(10 marks)
(Total 25 marks)
3. Discover plc have a number of arrangements which involves leases. The first arrangement (lease 1 ) involves them using a piece of specialist plant and machinery which they have acquired for a period of five years. They make annual payments of $£ 299,500$ payable in advance. The normal purchase price of the machine is $£ 1,250,000$. The present value of the minimum lease payments is also $£ 1,250,000$.

In the second arrangement rather than sell a spare item of plant and machinery not currently being used by the company, Discover have managed to lease it out to a third party (lease 2). The lease is for four years with annual payments of $£ 950,000$ due to be received in advance. The asset has a useful life of 5 years and a fair value of $£ 3,650,000$. The initial cost of setting up the lease was $£ 30,000$ and at the end of the lease the asset is expected to have a residual value of $£ 538,000$.

Finally Discover have decided to lease out another spare item of plant and machinery for 2 years with annual payments of $£ 45,000$ due to be received in advance (lease 3). The asset has a useful life of 7 years and a fair value of $£ 300,000$. At the end of the lease the asset is expected to have a residual value of $£ 259,000$. The asset had a carrying amount in the books of Discover at $£ 210,000$ at the start of their financial year.

In all cases the interest rate implicit in the lease is 10\%.

## Page 5

Required
For each lease, discuss, with supporting calculations how the lease should be accounted for in the financial statements of Discover plc.

| Lease 1 | (9 marks) |
| :--- | :--- |
| Lease 2 | (9 marks) |
| Lease 3 | (7 marks) |

(Total 25 marks)
4. Elverdale Pharmaceuticals plc (Elverdale) is listed on the London Stock Exchange. It was founded about 30 years ago by Bill Williams and Ed Edwards, its chairman and managing director respectively, to develop and sell drug therapies for weight loss. In its first five years of trading the company developed, licensed and started selling a drug, Lipimelt, which has been extremely successful.

Elverdale is currently researching several promising new drug treatments. To finance further research Elverdale has requested a long-term loan of $£ 15$ million from Investobank, although current borrowings are from another commercial lender. You are a chartered accountant, working as an analyst in Investobank's commercial lending department. You have been asked by your manager to conduct an initial review of Elverdale's loan application, together with some relevant financial accounting information.

The company's Strategic Review for the year ended 30 April 2016 includes the following information:

- After successful licensing of a drug, a period of exclusivity follows during which only the developer of the drug is permitted to sell it. When the exclusivity period expires, competitors are permitted to develop and sell generic versions of the drug. Elverdale's period of exclusivity in respect of Lipimelt will expire in April 2017.
- Sales of Lipimelt account for $60 \%$ of Elverdale's revenue and gross profit.
- Total revenue was $£ 75.2$ million (2015: $£ 74.9$ million). Net operating loss was $£ 5.9$ million (2015: operating profit of $£ 7.4$ million). Net loss for the period was $£ 4.4$ million (2015: net profit of $£ 4.9 \mathrm{~m}$ ). Administrative expenses included $£ 9.7$ million research costs (2015: £1.3 million).

Bill Williams and Ed Edwards each held 5\% of Elverdale's issued share capital on 30 April 2016. In May 2016, Bill Williams sold 300,000 shares.

## Page 6

Elverdale Pharmaceuticals plc statement of cash flows for the year ended 30 April

|  | 2016 |  | 2015 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | £m | £m | £m | £m |
| Cash flows from operating activities |  |  |  |  |
| (Loss) / profit before taxation | (6.4) |  | 7.0 |  |
| Interest expense | 0.5 |  | 0.4 |  |
| Depreciation | 4.3 |  | 4.0 |  |
| Amortisation | 2.0 |  | 2.0 |  |
| (Increase) / decrease in trade |  |  |  |  |
| receivables | (1.9) |  | 0.4 |  |
| Increase / (decrease) in trade |  |  |  |  |
| payables | 3.2 |  | (0.5) |  |
| (Increase) in inventories | (0.2) |  | (0.3) |  |
| Cash generated from operations |  | 1.5 |  | 13.0 |
| Taxation paid |  | (2.1) |  | (2.4) |
| Interest paid |  | (0.5) |  | (0.4) |
| Net cash flows from operating activities |  | (1.1) |  | 10.2 |
| Cash flows from investing activities |  |  |  |  |
| Purchase of non-current assets | (0.3) |  | (3.5) |  |
| Net cash flows from investing activities |  | (0.3) |  | (3.5) |
| Cash flows from financing activities |  |  |  |  |
| Equity dividend paid | (0.6) |  | (0.6) |  |
| Repayment of borrowings | - |  | (3.0) |  |
| Net cash flows from financing activities |  | (0.6) |  | (3.6) |
| Net (decrease) / increase in cash and cash equivalents |  | (2.0) |  | 3.1 |
| Opening cash and cash equivalents |  | 1.3 |  | (1.8) |
| Closing cash and cash equivalents |  | (0.7) |  | 1.3 |

## Page 7

Elverdale Pharmaceuticals plc statement of financial position at 30 April

|  | 2016 |  | 2015 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | £m | £m | £m | £m |
| ASSETS |  |  |  |  |
| Non-current assets |  |  |  |  |
| Property, plant and equipment |  | 20.7 |  | 24.7 |
| Intangible assets - development |  |  |  |  |
|  |  | 27.9 |  | 33.9 |
| Current assets |  |  |  |  |
| Inventories | 9.9 |  | 9.7 |  |
| Trade receivables | 9.7 |  | 7.8 |  |
| Tax asset | 2.0 |  | - |  |
| Cash and cash equivalents | - |  | 1.3 |  |
|  |  | 21.6 |  | 18.8 |
| Total assets |  | 49.5 |  | 52.7 |
| EQUITY AND LIABILITIES |  |  |  |  |
| Equity |  |  |  |  |
| Issued capital - £1 ordinary shares |  | 10.0 |  | 10.0 |
| Share premium |  | 7.5 |  | 7.5 |
| Retained earnings |  | 10.7 |  | 15.7 |
|  |  | 28.2 |  | 33.2 |
| Non-current liabilities |  |  |  |  |
| Long term borrowings |  | 7.0 |  | 7.0 |
| Current liabilities |  |  |  |  |
| Trade and other payables | 13.6 |  | 10.4 |  |
| Tax payable | - |  | 2.1 |  |
| Overdraft | 0.7 |  | - |  |
|  |  | 14.3 |  | 12.5 |
| Total equity and liabilities |  | 49.5 |  | 52.7 |
| Additional information |  | 2016 | 2015 |  |
| Share price at 30 April |  | 772p | 1062p |  |
| Gross profit margin |  | 59.3\% | 59.4\% |  |
| Net (loss) / profit margin |  | (5.9\%) | 6.5\% |  |
| Interest cover |  | (11.8) | 18.5 |  |
|  |  | times | times |  |
| Trade payables payment period |  | 83.8 | 64.8 |  |
|  |  | days | days |  |

## TURN OVER

## Page 8

The following ratios have already been calculated and you are not required to calculate any further ratios.

|  | 2016 | 2015 |
| :--- | :---: | :---: |
| Gearing | $27 \%$ | $17 \%$ |
| Current ratio | $1.51: 1$ | $1.5: 1$ |
| Quick ratio | $0.82: 1$ | $0.73: 1$ |
| Trade receivables payment period | 47.1 | 38.0 |
|  | days | days |
| Price earnings ratio | - | 21.7 |
| Operating (loss)/profit margin | $(7.8 \%)$ | $9.9 \%$ |
| Return on capital employed | $(16.4 \%)$ | $19.0 \%$ |
| Cash return on capital employed | $4.2 \%$ | $33.4 \%$ |
| Cash from operations/profit from operations | $(0.25)$ | 1.76 |
| Cash flow per ordinary share | $(1.10)$ | 10.20 |
| Non-current asset turnover | 2.7 | 2.2 |
| Net asset turnover | 2.09 | 1.93 |
| Dividend yield | $0.8 \%$ | $0.6 \%$ |

Required
Analyse the financial performance, cash flows and financial position of Elverdale. Your analysis should include investor issues

You are not required to calculate any ratios and the calculation of ratios will not attract any marks.

## Page 9

5. Flavoura has an overseas subsidiary company Gustova whose financial statements are expressed in dollars. Both companies are involved in import and export of coffee beans.

Flavoura is preparing to consolidate its subsidiary company at its year end 31
December 2015.
Flavoura acquired the Gustova in 2015 when the exchange rate was $\$ 1.43=£ 1$, the average exchange rate during 2015 was $\$ 1.54=£ 1$ and the exchange rate at 31
December 2015 was $\$ 1.67=£ 1$. At the date of acquisition the net assets of Gustova were $\$ 175,000$.

The summary statement of financial position for Gustova at 31 December 2015 was as follows:

|  | $\$$ |
| :--- | ---: |
| Assets | 800,000 |
| Ordinary share capital | 100,000 |
| Retained earnings | 200,000 |
| Liabilities | 500,000 |
| Total equity and liabilities | 800,000 |

During the year Flavoura purchases inventories of coffee beans from Gustova. The price is $\$ 750,000$. The invoice is still outstanding at the year end. The exchange rate at the purchase date was $\$ 1.50: £ 1$, at Flavouras's reporting date it was $\$ 1.67: £ 1$ and when the invoice was settled in the new financial year the exchange rate had moved to $\$ 1.60: £ 1$.
Required
a. Translate the summary statement of financial position of Gustova into sterling for the purpose of consolidation by Flavoura using the closing rate method and analyse the foreign exchange difference.
b. Discuss the advantages and disadvantages of the method you used to translate Gustova's financial statements.
c. Explain what foreign exchange gains and losses Flavoura has to account for on the purchase of coffee beans from Gusto and in which accounting period they fall.

## SECTION C

6. Narrative disclosure can be used to overcome the shortcomings of financial disclosures. Using examples from intangibles, risk reporting, or corporate social responsibility reporting discuss the extent to which narrative reporting can overcome problems in financial reporting and the specific problems associated with narrative reporting.
(25 marks)
7. The conceptual framework for financial reporting identifies four measurement bases for use in financial reporting; historical cost, current cost, realisable (settlement) value and present value. Discuss the use of these and alternative bases in contemporary financial reporting.
(25 marks)
8. Discuss the proposition that harmonisation of accounting standards is ineffective without harmonisation of accounting regulation.
(25 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2016-17

## ADVANCED FINANCIAL ACCOUNTING

NBS-6001Y

Time allowed 3 Hours

Answer FOUR questions, ONE from Section A, TWO questions from Section B and
ONE question from Section C

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the invigilator.

## SECTION A

## Answer Section A IN FULL

1. On 1 July 2016 Penstemon plc purchased 2 million shares in Sedum Ltd for $£ 7$ million. Sedum Ltd had previously acquired a $28 \%$ holding in Amarylis Ltd.

The amounts shown in equity for the three companies at Penstemon's reporting date of 31 January 2017 are:

|  | Penstemon <br> $£ ' 000$ | Sedum <br> ',000 | Amarylis <br> $£, 000$ |  |
| :--- | ---: | ---: | ---: | ---: |
| Equity |  |  |  |  |
| $\quad$ Ordinary share capital | 10,000 |  | 3,000 | 1,000 |
| $\quad$ Retained earnings | 5,000 |  | 7,000 | 4,000 |
| Total equity | 15,000 | 10,000 | 5,000 |  |

The profits reports for each company for the year ended 31 January 2017 were as follows:

|  | Penstemon | Sedum | Amarylis |
| :---: | :---: | :---: | :---: |
|  | £'000 | £'000 | £'000 |
| Profit for the year | 2,000 | 3,600 | 2,400 |

You can assume that profits accrue evenly throughout the year.
When Penstemon purchased Sedum it conducted a review of the assets and liabilities it was acquiring and assessed that there was a £200,000 difference between the carrying amount of net assets and their fair value.

Part of this arose from some plant and equipment which had a fair value $£ 250,000$ higher than its carrying amount at the acquisition date. The plant and equipment had a useful life of 5 years at that date and it was anticipated that the residual value would be zero.

There was a contingent liability with a fair value of $£ 50,000$ that was disclosed but not recognised in the accounts of Sedum. However by 31 January 2017 the court case giving rise to the contingent liability had been successfully settled in Sedum's favour.

In January 2017 Sedum sold goods to Penstemon. The goods had originally cost Sedum $£ 100,000$ and Sedum normally applies a mark-up of $40 \%$. At the year-end $60 \%$ of these goods remained unsold in Penstemon's warehouse.

At the year-end Penstemon reviewed both investments for impairment. There was no impairment of the investment in Amarylis, however the recoverable amount for the goodwill in Sedum was calculated to be $£ 1,000,000$.

## Page 3

## Required

a) Calculate the figure for retained earnings for the Penstemon Group for the year ended 31 January 2017. As well as your workings for retained earnings you should show goodwill, fair value adjustment and provision for unrealised profit workings.
b) Discuss the impact of the intercompany trading between Sedum and Penstemon on the group statement of total comprehensive income for the year ended 31 January 2017.

## Page 4

## SECTION B

## Answer TWO questions from Section B

2. Begonia plc is planning to issue some convertible loan stock. It will issue loan stock with a face value of $£ 10$ million at par. Incidental costs of $£ 29,401$ are incurred on issue. The loan stock will receive an annual payment of $2 \%$ of par value and be redeemed at a premium of $5 \%$ after 5 years. The market return for similar loan stock without any conversion rights is $4 \%$.

As an alternative to redemption the loan stock holders may choose to convert their loan stock into 5 million $£ 1$ ordinary shares at the end of year 5 .

## Required

a) Describe how the issue of convertible loan stock should be dealt with in the financial statements of Begonia plc. You should provide supporting calculations.
b) Discuss how financial assets should be measured at initial recognition and in subsequent accounting periods

## Page 5

3. Calendula plc needs advising over the following matters which have arisen in the year ended 31 March 2017.
a) Calendula runs a defined benefit pension scheme for its employees. At the start of the year the scheme asset were valued at $£ 10$ million and the scheme obligations at $£ 9.8$ million. Calendula has paid contributions of $£ 90,000$ into the scheme. No benefits have been paid out from the scheme during the year. The scheme actuaries have provided the following information for the scheme as at 31 March 2017. The current service cost for the year is $£ 120,000$, the scheme assets are valued at $£ 10.5$ million, the scheme obligations are valued at $£ 11$ million and the return on high quality corporate bonds at the start of the year was $5 \%$.
b) Calendula has had its main brand "MarryGold", which is used to market a range of designer bridal wear, valued at $£ 5$ million and is planning to recognise this as an asset on the balance sheet from 1 April 2016.

## Required

For each of the items described above identify the accounting issue raised, state the relevant accounting principles and apply those principles to the available information. If appropriate conclude on whether the proposals are appropriate.
(Total 25 marks)

## Page 6

4. Daffodil plc is based in the UK and owns a subsidiary based in Germany, Erika GmbH, which it acquired on 1 January 2014.

The Balance Sheet and Statement of Profit or Loss for Erika GmbH for the year ended 31 December 2016 are as follows:

| Balance Sheet | Euro |
| :---: | :---: |
| ASSETS |  |
| Non-current assets | 2,000,000 |
| Current assets |  |
| Inventory | 500,000 |
| Receivables | 400,000 |
| Cash | 100,000 |
|  | 1,000,000 |
| Total Assets | 3,000,000 |
| EQUITY AND LIABILITIES |  |
| Equity |  |
| Share capital | 1,000,000 |
| Retained earnings | 500,000 |
|  | 1,500,000 |
| Non-current liabilities | 1,000,000 |
| Current liabilities | 500,000 |
| Total Equity and liabilities | 3,000,000 |
| Statement of profit or loss | Euro |
| Revenue | 1,500,000 |
| Cost of sales | $(1,000,000)$ |
| Gross profit | 500,000 |
| Expenses | $(200,000)$ |
| Profit before tax | 300,000 |
| Taxation | $(60,000)$ |
| Profit | 240,000 |
| Exchange rates | $€$ to £1 |
| At 1 January 2014 | 1.20 |
| At 31 Dec 2014/1 January 2015 | 1.30 |
| At 31 Dec 2015/1 January 2016 | 1.40 |
| At 31 Dec 2016/1 January 2017 | 1.15 |
| Average rate for 2016 | 1.35 |

Erika GmbH had retained earnings at 1 January 2016 of $€ 450,000$ and paid a dividend of $€ 190,000$ on 31 May 2016 when the exchange rate was $€ 1.35$ to $£ 1$.

## Page 7

## Required

a) Translate the balance sheet and the statement of profit or loss from Euro into Pound Sterling ready for consolidation into the Daffodil Group accounts, using the method required by IFRS.
b) Analyse the foreign exchange gain or loss for the year that will be reported through other comprehensive income.
c) Explain the terms functional currency and presentation currency and discuss the factors that would determine the function currency used by a subsidiary company.
d) Explain when it is appropriate to use an average rate and when it is appropriate to use a spot rate to translate transactions taking place in the year.
5. Frampton Bicycles Ltd makes folding bicycles in a factory in London. It is proposing to double its UK manufacturing facilities to help meet increased demand for its product. Demand for its product in export markets in particular are growing rapidly. Its results for the two most recent years are:

| Consolidated Statement of Profit or | 2017 | 2016 |
| :---: | :---: | :---: |
| Loss for the year ended 31 March | £'000 | £'000 |
| Sales | 27,198 | 21,261 |
| Cost of Sales | $(17,146)$ | $(14,060)$ |
| Gross Profit | 10,052 | 7,201 |
| Administrative Expenses | $(6,594)$ | $(4,761)$ |
| Operating Profit | 3,458 | 2,440 |
| Finance income | 7 | 2 |
| Finance costs | (2) | 0 |
| Profit before taxation | 3,463 | 2,442 |
| Tax | (527) | (572) |
| Profit for the year | 2,936 | 1,870 |
| Attributable to: |  |  |
| Owners of the parent | 3,009 | 1,948 |
| Non-controlling interests | (73) | (78) |
|  | 2,936 | 1,870 |

TURN OVER

The balance sheets at 31 March 2016 and 31 March 2017:

| Consolidated Balance Sheet as at 31 | 2017 | 2016 |
| :---: | :---: | :---: |
| March   <br> ASSETS £'000  |  |  |
|  |  |  |
| Non-current assets |  |  |
| Intangible assets | 52 | 58 |
| Property, plant and equipment | 1,672 | 1,286 |
| Investments | 35 | 35 |
|  | 1,759 | 1,379 |
| Current assets |  |  |
| Inventories | 3,807 | 3,627 |
| Receivables | 3,316 | 2,372 |
| Cash and cash equivalents | 4,426 | 3,131 |
|  | 11,549 | 9,130 |
| Total Assets | 13,308 | 10,509 |
| EQUITY AND LIABILITIES |  |  |
| Equity |  |  |
| Ordinary share capital | 84 | 78 |
| Share premium | 1,179 | 753 |
| Retained earnings | 8,955 | 6,368 |
|  | 10,218 | 7,199 |
| Non-controlling interests | 62 | (107) |
| Total Equity | 10,280 | 7,092 |
| Non-current liabilities |  |  |
| Long term borrowings | 18 | 23 |
| Total non-current liabilities | 18 | 23 |
| Current liabilities |  |  |
| Payables | 1,589 | 1,930 |
| Current portion of long term borrowings | 4 | 4 |
| Current tax payable | 122 | 320 |
| Short term provisions | 1,295 | 1,140 |
| Total current liabilities | 3,010 | 3,394 |
| Total Liabilities | 3,028 | 3,417 |
| Total equity and liabilities | 13,308 | 10,509 |

## Required

Analyse the financial position and financial performance of Frampton from the perspective of a bank considering lending the company up to $£ 5$ million to help fund their expansion. No more than 10 marks will be awarded for the calculation of relevant ratios.

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## SECTION C

## Answer ONE question from Section C

6. Accounting harmonization thus played a role in ... US-led efforts to shape the world economy in the image of Anglo-American, finance led capitalism.
(Arnold, 2012)

## Required

Discuss the extent to which the global harmonisation of financial reporting is shaped by Anglo-American accounting traditions.
7. Problems with revenue recognition were considered by the IASB in a meeting in January 2001. A discussion paper on the topic was published in 2008. IFRS 15 Revenue from Contracts with Customers was issued in May 2014 and will come into effect for reporting period beginning on or after 1 January 2018.

## Required

Discuss the proposition that the development of new International Financial Reporting Standards is too cumbersome and takes too long.

## 8. Extracts from Exposure Draft ED/2015/3 Conceptual Framework for Financial Reporting:

An asset is a present economic resource controlled by the entity as a result of past events.

A liability is a present obligation of the entity to transfer an economic resource as a result of past events.

Failure to recognise items which meet the definition of an element makes the [financial statements] less complete and can exclude useful information.

## Required

Discuss the proposition that all transactions that meet the above definitions of asset or liability should be recognised on the balance sheet of an entity at their fair value.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School.
Main Series UG Examination 2017-18

## ADVANCED FINANCIAL ACCOUNTING

NBS-6001Y

Time allowed: 2 Hours

Answer TWO questions

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the invigilator.

1. Muffin is the chief accountant of a small business. Inventory is an important asset of the business. The amount of inventory, and specific and general price levels, have changed over the year. Muffin has assembled the following information.

| Basis of valuation | Price per unit | Closing total | Price per unit | Opening total |
| :---: | :---: | :---: | :---: | :---: |
|  | £ | $\begin{gathered} £(x 250 \\ \text { units of } \\ \text { inventory }) \end{gathered}$ | £ | $\begin{gathered} £(x 200 \\ \text { units of } \\ \text { inventory }) \end{gathered}$ |
| Historic cost (HC) | 14 | 3,500 | 9 | 1,800 |
| Replacement cost (RC) | 16 | 4,000 | 10 | 2,000 |
| Net realisable value (NRV) | 15 | 3,750 | 8 | 1,600 |

In addition the general price index (or Retail Price Index, RPI) has changed as follows:

Index
Beginning of the year, and date on which opening inventory was purchased 100
Date on which closing inventory was purchased 115
End of year 120
Muffin is puzzled as to how this information could be used to calculate profits on inventory.
a) Discuss the limitation of historical cost accounting (HCA) in times of rising prices?
(10 marks)
b) Advise Muffin about possible methods for calculating 'profit' on inventory from the data she has collected, showing your calculations.
( 25 marks)
c) Muffin argues: 'Specific price changes are always happening, and general inflation affects everyone equally. The accountancy profession should stick to historic cost accounting which has stood the test of time and everyone understands.' Critically evaluate whether Muffin right?

## Page 3

2. 

a) Discuss the role of capital market research?
(10 marks)
b) Evaluate what is meant by the efficient market hypothesis (EMH)?
c) With reference to empirical studies, critically evaluate the extent to which earnings and other accounting disclosures convey information to capital markets.
(25 marks)
(Total 50 marks)
3.
a) Explain why firms voluntary adopt corporate social responsibility reporting or other forms of "extended" reporting?
(15 marks)
b) Critically appraise the extent to which the following theories explain corporate social responsibility reporting?

- Legitimacy theory
- Stakeholder theory
- Institutional Theory
(15 marks)
c) Evaluate which of these theories better explains actual corporate behaviours? Please provide examples from the "real world".


## Page 4

4. "The virtual prohibition on the recognition of many internally generated intangibles outside a business combination is a tacit admission of our inability to deal with such items (...) the challenge will be to find acceptable, logically consistent method that can value all intangibles that have worth, without arbitrarily scoping out those that present too many difficulties"
(Ernst \& Young, International GAAP 2010, p1135)
a) Discuss and evaluate the limitation(s) of current accounting standards in recognising the value of "intangibles" such as brands and other intangible goods;
(20 marks)
b) Critically evaluate whether and how Integrated Reporting could be used to recognise intangibles and, more generally, to improve the quality of corporate reporting.
(30 marks)
(Total 50 marks)

## END OF PAPER

## Exam Feedback

## NBS-6001Y

This year's exam was two hours long and required students to answer two from a choice of four questions. The lecturers for the final two-thirds of the module each write two questions and so students could adopt the tactic of tackling one or other topic area or getting a good grounding in both.
$41 \%$ of the group chose to tackle just the questions on measurement, $26 \%$ chose to answer just the questions on integrated reporting and related topics, while the remaining $33 \%$ chose to tackle questions in both topic areas. Sticking to one or other topic seems to have been the most successful approach with those who chose just integrated reporting scoring an average of $73 \%$, those who tackled just measurement topics scoring 68\% on average while those who answered from both topic areas scored $62 \%$ on average. However, there is slightly more to this than meets the eye; there were two distinct populations answering across both topics, those who were very confident in both topic areas and the weakest students.

The most popular question Q1 was also the most successfully answered, with an average score of $75 \%$. However, the next most successfully answered question, Q4 with an average score of $70 \%$ was also the least popular. Overall, I would recommend that weaker students would have been better concentrating on one topic area and preparing thoroughly for it while stronger students were well advised to prepare across all the topic areas.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2015-16

## ADVANCED MANAGEMENT ACCOUNTING

NBS-6006Y

Time allowed: 2 hours<br>Answer ONE question from Section $A$ and TWO questions from Section B<br>SECTION A carries a weight of $40 \%$<br>SECTION B carries a weight of $60 \%$

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A

Answer ONE out of two questions in this section.

## Question 1

Cherry Company produces two products: the Deluxe and the Standard. The Deluxe sells for $£ 40$, and the Standard sells for $£ 10$. The Sales Director has provided the following unit sales projections for the two models for the coming three months.

|  | Deluxe <br> Units | Standard <br> Units |
| :--- | :--- | :--- |
| Month one | 12,000 | 90,000 |
| Month two | 14,300 | 88,400 |
| Month three | 16,600 | 92,000 |

In the factory, the production supervisor has received the projected sales figures and gathered information needed to compile production budgets. He found that 1,300 units of Deluxe and 1,170 units of Standard were in inventory at the start of month one. Company policy dictates that ending inventory should equal 20 percent of the next month's sales for Deluxe and 10 percent of next month's sales for Standard.

In the process of collecting the information for the above budgets, you discover that the Sales Director and production supervisor have included budgetary slack in their estimates. Despite this you continue to produce the budgets based on the details provided by the Sales Director and production supervisor.

## Required:

(a) Prepare a sales budget for each month and for the quarter in total. Show the value of sales by product and in total for each time period.
(10 marks)
(b) What factors might Cherry Company have considered in preparing the sales budget?
(c) Prepare a separate production budget showing the number of units produced for each product for month one and month two.
(8 marks)

## Page 3

(d) What factors might Cherry Company have considered in deciding the inventory levels?
(e) Discuss the issues that arise from the inclusion of slack in budgets.
(12 marks)
(Total 40 marks)

## Question 2

Threeways plc is a manufacturing company supplying advanced equipment to the car manufacturing industry worldwide. The robotics manufacturing division has the following balance sheet and income statements relating to its last two financial years ended 31 March:

| Year | $\mathbf{2 0 1 5}$ | $\mathbf{2 0 1 6}$ |
| :--- | ---: | ---: |
| Balance sheet extract |  |  |
|  | $\mathbf{£}^{\prime} \mathbf{m}$ | $\mathbf{£}^{\prime} \mathbf{m}$ |
| Non-current assets | 25.0 | 30.0 |
| Current assets | 37.5 | 20.0 |
| Total assets | $\mathbf{6 2 . 5}$ | $\mathbf{5 0 . 0}$ |
| Liabilities | 7.5 | 10.0 |
| Net assets | $\mathbf{5 5 . 0}$ | $\mathbf{4 0 . 0}$ |


| Year | $\mathbf{2 0 1 5}$ | $\mathbf{2 0 1 6}$ |
| :--- | ---: | ---: |
| Summary income statement |  |  |
|  | $\mathbf{£} \mathbf{m}$ | $\mathbf{£}$ 'm |
| Total revenue | 50.0 | 80.0 |
| Cost of sales | 15.5 | 25.0 |
| Trading profit | $\mathbf{3 4 . 5}$ | $\mathbf{5 5 . 0}$ |
| Overheads | $\mathbf{2 2 . 5}$ | 45.0 |
| Operating profit | $\mathbf{1 2 . 0}$ | $\mathbf{1 0 . 0}$ |

## Required:

(a) Using the above information calculate performance measurements for the robotics manufacturing division using the following measurements of financial performance:
(i) a cost centre
(ii) a profit centre
(iii) an investment centre.
(b) Comment on the performance of the robotics manufacturing division expressed in each of the calculations above, stating whether you consider the overall performance of the division has improved, giving your reasons for your answer.
(8 marks)
(c) Threeways plc would like to improve the return on investment (ROI) of the robotics manufacturing division to $30 \%$. Using the data provided in the 2016 balance sheet and income statement make calculations to show how this could be achieved financially using the Dupont Method to show how:
(i) revenue could be increased (whilst keeping margin constant)
(ii) overheads could be reduced
(iii) net assets could be reduced.
(d) Discuss the practical implications of reduce assets to improve ROI highlighting how this might be achieved in the short term and the long term.
(6 marks)
(Total 40 marks)

TURN OVER

## SECTION B

Answer TWO out of four questions in this section

## Question 3

You are the management accountant for Mixup plc a medium sized engineering company. You report to the Financial Controller who reports to the Financial Director of the main board of directors. The company's reporting year is January to December. It is October 2015 and you are under pressure to prepare the cost budgets for the manufacturing division.

In a conversation with the production manager of Mixup plc, the manager makes a statement that she always includes some slack in her budgets, just in case anything goes wrong with the actual performance. She argues that having contingencies included in the budget benefits the whole organisation.

You reply by saying that you will discuss the situation with the Financial Controller and check his opinion and to confirm company policy with regards to the matter. She suggests to you that if you report the suggestion to the Financial Controller you would be breaking confidentiality between the two of you. She also implies that your intended discussion with the Financial Controller could make the working relationship between you and the production department difficult.

## Required:

(a) Identify the ethical issues involved in the above situation, reviewing the situation in the context of the main headings of the CIMA ethical framework, i.e. competence, integrity, objectivity, confidentiality and professionalism
(b) Identify the stakeholders impacted by this situation; discuss how they might be impacted by it?
(12 Marks)
(c) Suggest an appropriate course of action to address the above situation.

## Page 7

## Question 4

Kaplan and Norton (1996) link the Balanced Score Card to strategy.

## Required:

(a) Provide a drawing of the Balanced Score Card, giving a brief explanation of the purpose of each section
(b) Discuss the main component parts that make up a Balanced Score Card as set out by Kaplan and Norton (1996), illustrate your answer with examples of measurements used in each section.
(c) Discuss how the non-financial elements of the balanced score card can be used to assist in implementing strategy.
(Total 30 marks)

## Question 5

Malmi and Brown (2008) develop a topology for management control systems, in which they set out management control systems as a package. They include the following headings for controls: cultural, planning, cybernetic, rewards and administrative.

## Required:

(a) Draw the diagram used by Malmi and Brown (2008) to illustrate the package of management controls that they propose.
(b) Provide a brief explanation of the terms: "management control systems", "cultural controls", "planning controls", "cybernetic controls", "reward controls" and "administration controls".

## TURN OVER

(c) Discuss the argument put forward by Malmi and Brown (2008) that a package of controls constructed to consistently target the improvement of an organisation's goals is an effective method for increasing shareholder value.
(Total 30 marks)

## Question 6.

Both Bent (2008) and Hubbard (2006) argue that understanding sustainability in a business context is becoming more critical for business.
(a) Discuss the social argument put forward by Hubbard (2006) for why he believes that management accountants should report on environmental and social issues for the benefit of all stakeholders.
(12 marks)
(b) Bent's (2008) case for why management accountants should focus on sustainability issues is more financially focused, discuss why he considers that sustainability issues are becoming more of an issue for share value performance
(12 marks)
(c) Outline the suggestion made by Hubbard (2006) to extend the balanced score card to include new measurements.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Reassessment/Delayed First Sit UG Examination 2015-16

## ADVANCED MANAGEMENT ACCOUNTING

NBS-6006Y

Time allowed: 2 hours

Answer ONE question from Section A and TWO questions from Section B.
SECTION A carries a weight of $40 \%$
SECTION B carries a weight of $60 \%$

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A

Answer ONE out of two questions in this section.
1.

Fabco Ltd is a steel fabrication company that manufactures steel components for large construction projects. The company comprises of many departments all of which specialise in different stages of the process. Fabco Ltd prepared its budgets for the year ending 31st March 2015 using incremental budgeting systems.

The following report shows the budgeted and actual performance of the machining department for January 2015

|  | Budget | Actual | Variance | Adv / Fav |
| :--- | ---: | ---: | ---: | :---: |
| Number of machine hours | 18,000 | 22,500 | 4,500 | Adv |
|  |  | $\mathbf{£}$ | $\boldsymbol{£}$ |  |
| Cleaning materials | 1,350 | 1,740 | 390 | Adv |
| Steel | 45,000 | 56,000 | 11,000 | Adv |
| Other direct materials | 450 | 700 | 250 | Adv |
| Direct labour | 29,000 | 32,400 | 3,400 | Adv |
| Production overhead | 30,000 | 30,000 | - |  |
| Total | $\mathbf{1 0 5 , 8 0 0}$ | $\mathbf{1 2 0 , 8 4 0}$ | $\mathbf{1 5 , 0 4 0}$ | Adv |

The manager of the machining department received an email from the financial controller expressing concerns regarding the overspend of his department. After initial meetings with the manager the following additional information is obtained:
(1) The cleaning materials, steel and other direct materials vary in proportion to the number of machine hours.
(2) Direct labour costs include fixed salary costs of $£ 4,250$, the balance is variable in proportion to machine hours.
(3) Production Overheads are fixed.

## Required:

(a) Prepare a revised budgetary control statement using the additional information that you have obtained from the manager of the general machining department.
(b) Comment on your findings from part (a), focusing on the implications of the introduction of the flexed budget and the response of the financial controller.
(c) Discuss the benefits of flexible based budgeting with regard to employee reward systems.
(d) Explain the differences between zero based budgeting and incremental budgeting and how each might complement a flexible budgeting system.
(10 marks)
(Total 40 marks)

## 2.

Group Limited, producing a range of minerals, is organised into two trading divisions: one handles wholesale business and the other sales to retailers.

One of its products is moulding clay. The wholesale division extracts the clay and sells it to external wholesale customers as well as to the retail group. The production capacity is 2,000 tonnes per month but at present sales are limited to 1,000 tonnes wholesale and 600 tonnes retail. The retail division purchases all of the moulding clay that it uses from the wholesale division.

The transfer price was agreed at $£ 200$ per tonne in line with the external wholesale trade price at the 1st of July, the start of the budget year. As from the 1st of December, however, competitive pressure has forced the wholesale trade price down to $£ 180$ per tonne. The members of the retail division argue that the transfer price to them should be the same as for outside customers. The wholesale division disagree on the basis that the original budget established the price for the whole budget year.

The retail division produces 100 bags of refined clay from each tonne of moulding clay, which it sells at $£ 4.00$ a bag.

Other information regarding costs is also available: (see next page)

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|  | Wholesale <br> Group | Retail Group |
| :--- | :---: | :---: |
|  | $£$ | $£$ |
| Variable cost per tonne | 70 | 60 |
| Fixed cost per month | 100,000 | 40,000 |

## Required:

a) Calculate the estimated profit for the month of December for the wholesale division and the retail division and Group Limited as a whole based on transfer prices of $£ 200$ per tonne (to the retail division) and of $£ 180$ per tonne (to other wholesale customers).
(16 marks)
b) Using your answer from part (a) calculate the profit for the wholesale division, retail division and for Group Limited, based on the transfer price to the retail group fell to $£ 180$ ?
c) Based on your results from (a) and (b) above, comment on the effects of the change in transfer price for the wholesale division, the retail division and Group Limited.
(6 marks)
d) Discuss the different ways in which an appropriate transfer price might be decided.
(10 marks)
(Total 40 marks)

## SECTION B

Answer TWO out of four questions in this section
3.

Kaplan and Norton (1996) link the Balanced Score Card to strategy.

## Required:

(a) Provide a table representing the Balanced Score Card and explain the main component parts that make up a Balanced Score Card as set out by Kaplan and Norton.
(15 marks)
(b) Discuss how two of the components of the balanced score card can be used to assist in implementing strategy.
4.

Hubbard (2006) argues that accounting for decision-making should incorporate environmental and other matters that are of concern to society as a whole.
(a) Discuss the reasons why writers such as Hubbard (2006) argue that it is important for management accountants to understand environmental and social concerns.
(b) Discuss the suggestions that Hubbard makes to develop the Balanced Score Card to include environmental and other concerns.
(15 marks)
(Total 30 Marks)

TURN OVER

## Page 6

5. 

You are the management accountant for Speedy Engines Limited an engineering company. After work on a Friday evening the Manager of the general machining department invites you for a drink in the local wine bar. After a few drinks the Manager tells you that he has a scheme set up with a local company whereby he sells them the faulty outputs from his department.

He tells you that he makes $£ 1,000$ per month from this scheme and that you are inevitably going to discover it as his local accountant and that he is willing to give you £300 per month cash in hand, if you come into partnership with him and keep the scheme secret. He explains that it is just scrap materials which were being disposed of previously, that this disposal process was costing the company in expenses and that the company was now gaining as a consequence. A win win scenario in which you could also win.

He also tells you that if you decide not to be involved, he will be able to hide the scheme and that it will become his word against yours. As he has worked for the company for 20 years and is related to the Chairman and Managing Director, he explains that as a new and young accountant, you will never be believed, if you were to tell other people about the scheme and not go into partnership with him. If you come into partnership with him, he will also put in a good word for you with the people running the business.

## Required:

(a) Explain how the above is affected by the ethical framework for accountants.
(b) Discuss options that are available to you in acting on the above circumstances.
(c) Make a recommendation for your course of action, explaining your recommendation in the context of the ethical framework for accountants.

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6. 

Malmi and Brown (2008) develop a topology for management control systems, in which they include the following headings for controls: cultural, planning, cybernetic, rewards and administrative.

## Required:

(a) Provide a table representing Malmi and Brown's topology for management control systems
(b) Discuss two of the following terms used by Malmi and Brown: "management control systems", "cultural controls", "planning controls", "cybernetic controls", "reward controls" and "administration controls".
(12 marks)
(c) Provide examples of how a management accountant might typically assist an organisation with the day to day running of its management control systems.
(10 marks)
(Total 30 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2016-17

## ADVANCED MANAGEMENT ACCOUNTING

NBS-6006Y

Time allowed: 2 hours

Answer THREE questions in total: ONE from Section A and TWO from Section B.

## Section A carries a weight of $40 \%$

Section B carries a weight of $60 \%$

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator.

SECTION A (Weight 40\%): Answer ONE out of two questions in this section.

## Question 1.

A nursing home, which is linked to a large hospital, had been examining its budgetary control procedures, with particular reference to overhead costs.

The level of activity in the facility is measured by the number of patients treated in the budget period. For the current year, the budget stands at 60,000 patients treated for the whole year.

For months 1 to 6 (1st half year) 27,000 patients were actually treated. The actual variable overhead costs incurred during this six-months period were as follows:

| Actual variable overheads <br> months $\mathbf{1}$ to $\mathbf{6}$ ( $\mathbf{1}^{\text {st }}$ half year) | $\mathbf{£ ' m i l l i o n ~}$ |
| :--- | :---: |
| Staffing | 5.94 |
| Power and utilities | 2.7 |
| Supplies | 5.4 |
| Other variable costs | 0.81 |
| Total | $\mathbf{1 4 . 8 5}$ |

The hospital senior management accountant believes that the variable overhead costs will be incurred at the same rate during months 7 to 12 of the year ( $2^{\text {nd }}$ half year).

The fixed overhead budget for the whole year (expected to be incurred evenly throughout the period) is set out in the table below. The fixed overhead budget has a capacity of between 55,000 and 80,000 patients and is therefore unchanged between these output volumes.

| Budgeted Fixed overheads <br> months 1 to 12 (Whole year) | £'million |
| :--- | :---: |
| Building costs | 12.0 |
| Depreciation / financing | 18.72 |
| Other fixed costs | 6.48 |
| Total | $\mathbf{3 7 . 2}$ |

## Required:

a. Calculate the actual variable unit costs per patient treated for the first half of the year (months 1 to 6 ).
b. Present a revised budget for the whole year (note: total budgeted patients treated are unaltered at 60,000). Include actual costs to date for $1^{\text {st }}$ half year plus a projection for the $2^{\text {nd }}$ half of the year (months 7 to 12)
(You are required to show cost categories, but you are not required to present each month).
(5 marks)
c. Prepare a flexed budget for the whole year using the above information, showing budgets for a range of patient number treated of 60,000, 65,000, 70,000.
(5 marks)
d. At the end of the year, it is reported that the care home actually treated 38,000 patients during the $2^{\text {nd }}$ half (giving a total number of patients treated for the whole year at 65,000 ). The actual total variable overheads for this period were $£ 20.3$ million and the actual fixed overheads for the whole year were $£ 38$ million.

Prepare a variance analysis comparing actual performance for the whole year to the revised budget prepared in (b).
(5 marks)
e. Prepare a variance analysis comparing actual performance for the year to an appropriate flexed budget that you prepared in section (c) above.
(5 marks)
f. Provide a commentary on the financial performance of the nursing home based on your results in (d) and (e).
(7 marks)
g. Discuss the advantages of flexed budgets for organisations such as the nursing home in this example.

## Question 2.

Delicious plc makes and sells fruit juices nationally in the UK. One of its products Strawberry Delight could benefit from the use of a juicer for pulping fruit. The costs of the new juicer is $£ 25,000$, it is anticipated that as a consequence of the new juicer cost of sales will decrease from $£ 1.40$ to $£ 1.30$, fixed overhead costs will increase by $£ 6,000$ and that sales will increase by $20 \%$.

The following figures are relevant to Strawberry Delight prior to investing in the juicer.

|  | Units | Unit Price <br> I Cost | Total <br> $£$ |
| :--- | ---: | ---: | ---: |
| Sales | 25,000 | $£ 3.20$ | 80,000 |
| Cost of sales | 25,000 | $£ 1.40$ | 35,000 |
| Variable overheads | 25,000 | $£ 0.40$ | 10,000 |
| Fixed overheads |  |  | 3,000 |
| Net profit |  |  | $\mathbf{3 2 , 0 0 0}$ |
|  |  |  |  |
| Net assets attributed to product |  |  | 200,000 |

Delicious plc targets all of its products to provide a return on investment (ROI) of 20\%.

## Required:

a. Calculate the revised Net profit and Net assets attributable to Strawberry Delight
(5 marks)
b. Compare the performance of Strawberry Delight before and after the purchase of the new juicer using the following measurements of financial performance:
i. A cost centre
ii. A profit centre
iii. An investment centre.
c. Using the initial Net profit and Net assets before the purchase of the new juicer demonstrate using the Dupont method how the return on investment (ROI) for Strawberry Delight could be increased to meet the target return on investment (ROI) required by Delicious plc.

Note: You are required to demonstrate how the ROI can be increased by:
i. Sales revenue (whilst keeping net profit constant).
ii. Overheads.
iii. Net assets.
d. Discuss the practical implications of increasing sales whilst keeping net profits constant or decreasing costs to improve ROI highlighting how these changes might be achieved.

SECTION B (Weight 60\%): Answer TWO out of four questions in this section

## Question 3.

According to empirical research by Ittner and Larcker (2005), there is a positive correlation between a private firm's stock market performance and their performance in non-financial indicators.

## Required:

a. Explain what Ittner and Larcker (2005) are referring to in the term "non-financial indicator".
(10 marks)
b. Discuss how non-financial performance measures can be successfully incorporated into the performance management practices of large organisations.
(10 marks)
c. Discuss how the UK insurance and banking sector has attempted to use nonfinancial performance management (e.g. benchmarking, BSC) with particular reference to use of management accounting data.
(Total 30 Marks)

## Question 4.

David Bent (2008) argues that whilst sustainability is a growing issue it is not well understood.

## Required:

a. According to Bent (2008), some businesses consider that tackling sustainability issues may be a distraction from the real social responsibility of business which is to make a profit. Explain the arguments that he puts forward as to why businesses should address sustainability issues?
b. Discuss how a management accountant might assist a business to address sustainability issues.

## Question 5.

Hope and Fraser (2003) suggest that budgets should be abolished, whereas AbdelKader and Luther (2006) found that, in the UK's Food and Drinks Industry, conventional budgeting remained as the main management accounting tool.

## Required:

a. Discuss the case set out by Hope and Fraser (2003) against the budgets.
(8 marks)
b. Discuss the alternative management tools recommended by Hope and Fraser (2003).
(8 marks)
c. Discuss the reasons put forward by Abdel-Kadar and Luther (2006) for why traditional budgets are a significant feature in management accounting for the UK's Food and Drinks Industry.
(Total 30 marks)

## Question 6.

Over the last few decades a divorce between research and practice in management accounting has been consistently observed by a series of commentators. This issue is described as the 'research/practice gap' in management accounting.

## Required:

a. Define the research practice gap in management accounting.
b. Explain the main causes of research/practice gap in management accounting.
(10 marks)
c. Discuss possible ways that some academic scholars suggested to narrow the research/practice gap in management accounting.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2017-18

## ADVANCED MANAGEMENT ACCOUNTING

NBS-6006Y

Time allowed: 2 hours

Answer THREE questions in total: ONE from Section A and TWO from Section B.

## Section A carries a weight of 40\%; Section B carries a weight of 60\%

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

SECTION A (Weight 40\%): Answer ONE out of two questions in this section.

## Question 1

Big Engineering plc is a manufacturing company that makes high-tech equipment for the aviation industry. You have just joined the machining division as management accountant and have been given the following budgeted information for 2018.

|  | £m |
| :--- | ---: |
| Sales | 42.0 |
| Cost of sales | 27.5 |
| Gross Profit | $\mathbf{1 4 . 5}$ |
| Controllable variable overheads | 13.5 |
| Net profit | $\mathbf{1 . 0}$ |

Extracts from the Balance Sheet relative to the machining division are as follows:

|  | $\mathbf{£ m}$ | $\mathbf{\text { £m }}$ |
| :--- | ---: | ---: |
| Fixed assets |  |  |
| Buildings and fittings |  | 12.0 |
| Plant and machinery |  | 25.0 |
| Computing equipment |  | 5.0 |
| Total fixed assets |  | $\mathbf{4 2 . 0}$ |
|  | 10.0 |  |
| Current Assets | 15.0 |  |
| Inventories of raw materials | 5.0 |  |
| Work in progress | 12.5 |  |
| Inventories of finished goods | $\mathbf{4 2 . 5}$ |  |
| Debtors | 14.5 |  |
| Total current assets |  |  |
| Less: creditors | $\mathbf{2 8 . 0}$ |  |
| Net current assets |  | $\mathbf{7 0 . 0}$ |
| Total net assets under management |  |  |

## Required:

(a) Calculate the following performance measures for the division and compare them to the industry averages (shown in brackets) stating whether they are favourable or adverse.
(i) a cost centre (overheads only 25\%)
(ii) a profit centre (7.5\%)
(iii) an investment centre. (7\%)
(b) Discuss the performance of the division compared to the industry averages.
(c) Using the Dupont method demonstrate how the return on investment (ROI) for the division could be increased to meet the average return on investment (ROI) of $7 \%$.

Note: You are required to calculate how the ROI can be increased by:
(i) Increasing revenue (while keeping net profit relationship constant),
(ii) Reducing overheads, and
(iii) Reducing net assets.
(d) Discuss the practical implications of increasing return on investment (ROI) to meet the average return on investment (ROI) using the three methods calculated in (c).

## Question 2

Electronics Worldwide is a divisionalised organisation with Microchips Division and Gadgets Division. Divisions have full profit responsibility and therefore their performance is measured on divisional profits.

Microchips Division manufactures microchips that are used in the production of various electronic goods. Revenue and costs associated with microchips are as follows:

Selling price per unit 70p
Variable cost per unit 42p
Fixed cost (based on capacity of 5,000,000 units) 18p

Gadgets Division has recently been acquired by Electronics Worldwide. Gadgets division purchases 500,000 units of microchips every year, from a local producer at a cost of 70 p per unit less a $10 \%$ quantity discount. Managing director of Electronics Worldwide is anxious for the Gadgets Division to begin purchasing its microchips internally from the Microchips Division.

## Required:

(a) Assume that Microchips can sell all of their output to outside customers at the normal price of 70p. Are the managers of the two divisions likely to agree to a transfer price? Why or why not?
(5 marks)
(b) Assume that Microchips Division agrees to sell 500,000 units of microchips to Gadgets Division at a price 1 p less than the price that the Gadgets Division is currently paying to its supplier. What will be the effect of this on the profits of the Gadgets Division, Microchips Division and the company as a whole? Would the transfer take place internally? Why or why not?
(10 marks)

For below questions (c, d and e) assume that the Microchip Division can sell only $4,500,000$ units to outside customers at 70 p per unit.
(c) Are the managers of the two divisions likely to agree to a transfer price for 500,000 units? Why or why not? What is the range of transfer price they would be likely to consider?
(5 marks)

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(d) Suppose that the Gadgets Division's outside supplier drops the price to 59p per unit. Should the Microchip Division meet this price? Explain how the profits of the divisions and the Electronics Worldwide would be affected as a result of your recommendation.
(e) Assume that the two divisions are based in different countries and consequently pay taxes at different rates. Microchips Division pays corporate tax at $40 \%$ and Gadgets Division at $25 \%$. The Managing Director of Electronics Worldwide suggests that full cost plus a $5 \%$ markup would be a good transfer pricing strategy. Discuss this possibility and advise whether or not this would be to the benefit of the two divisions and Electronics Worldwide Company as a whole.

## Page 6

SECTION B (Weight 60\%): Answer TWO out of four questions in this section

## Question 3

In 2013 CIMA published a paper entitled Management Control Systems as a package. In this paper they discuss eight areas: Short-term planning, Performance measures and evaluation, Management Processes, Values and organizational culture, Rules and procedures, Organizational design, Rewards and compensation, and Strategic planning.

## Required:

(a) Provide an explanation for four of the areas reported in the CIMA paper.
(16 marks)
(b) Discuss, with examples, how the areas discussed in (a) could be combined to work together in a package.

## Question 4

According to Ittner and Larcker (2005), there is a direct link between introducing nonfinancial measures and improved profitability.

## Required:

(a) Explain with examples what Ittner and Larcker (2005) are referring to by the term "non-financial measure".
(8 marks)
(b) Discuss how non-financial performance measures can be linked to a company strategy
(c) Ittner and Larcker (2005) suggested that there are a number of common mistakes that companies make when trying to measure nonfinancial performance. Discuss three of these common mistakes and how they might be avoided.

## Question 5

According to Adams and Frost (2008), considerable doubt has been cast on the extent to which many sustainability reports accurately and completely portray corporate social and environmental impacts.
(a) Describe the term sustainability reporting and the type of information that sustainability reports contain.
(12 marks)
(b) Explain how organisations develop and refine performance measures to manage sustainability performance with tools such as Balanced Score Card?
(10 marks)
(c) Discuss the reasons why incorporating strategic management accounting tools into sustainability reporting process is a difficult task for companies. (8 marks)
(Total 30 Marks)

## Question 6

According to Mitchell (2002 \& 2017) "Influencing and informing practice should be viewed as a major strength of academic work rather than something which casts doubt on its academic credibility"

## Required

(a) Explain the main reasons of the distancing between management accounting research and practice?
(b) Describe how management accounting research can contribute to improve management accounting practice?
(c) Suggest possible ways for practitioners and academics to work more closely for advancement of management accounting knowledge.
(8 marks)
(Total 30 Marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2018-19
Version 1

## ADVANCED MANAGEMENT ACCOUNTING

NBS-6006Y

Time allowed: 2 hours

Answer THREE questions in total: ONE from Section A and TWO from Section B.
Section A carries a weight of $40 \%$; Section B carries a weight of $60 \%$

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

SECTION A (Weight 40\%): Answer ONE out of two questions in this section.

## Question 1

Getitback Ltd produces electronic equipment for consumer markets. The following income statement and balance sheet relate to the year ended 30 April 2019 and the prior year ended 30 April 2018:

| Year | $\mathbf{2 0 1 9}$ | $\mathbf{2 0 1 8}$ |
| :--- | ---: | ---: |
| Summary income statement |  |  |
|  | $\mathbf{£ ' m}^{\prime}$ | $\mathbf{£}^{\prime} \mathbf{m}$ |
| Total revenue | 400.0 | 450.0 |
| Total operating costs | 374.0 | 419.4 |
| Operating profit | $\mathbf{2 6 . 0}$ | $\mathbf{3 0 . 6}$ |


|  | $\mathbf{3 0 . 4 . 1 9}$ | $\mathbf{3 0 . 4 . 1 8}$ |
| :--- | ---: | ---: |
| Balance sheet extract |  |  |
|  | $£^{\prime} \mathbf{m}$ | $£^{\prime} \mathbf{m}$ |
| Non-current assets | 420 | 430 |
| Current assets | 298 | 300 |
| Total assets | $\mathbf{7 1 8}$ | $\mathbf{7 3 0}$ |
| Current liabilities | 68 | 50 |
| Net assets | $\mathbf{6 5 0}$ | $\mathbf{6 8 0}$ |

In the financial year 2018/19 the Managing Director of Getitback Ltd has been driving an initiative to reduce net assets. This has resulted in the reduction in net assets from $£ 680$ million to $£ 650$ million. The objective of the initiative was to improve return on investment.

## Required:

(a) Using the above information calculate performance measurements for the company for both years using the following measurements of financial performance:
(i) a cost centre
(ii) a profit centre
(iii) an investment centre.
(b) By reference to the information in the above Income Statement and Balance Sheet discuss whether the Managing Director's initiative to improve return on investment has been successful.
(c) Getitback Ltd would like to improve the return on investment (ROI) to obtain an improvement of $1 \%$ from the 2019 results. Using the data provided the 2019 balance sheet and income statement make calculations to show how this could be achieved financially using the Dupont Method showing the amount of change required in each of the following discrete areas to achieve the required increase.
(i) Revenue (while keeping profit margins constant)
(ii) Total operating costs
(iii) Net Assets
(d) Make suggestions to the Managing Director on how a return on investment (ROI) initiative for the forthcoming year could be structured, in a way that might lead to more success than the previous year's initiative.
(6 marks)
(e) Discuss the possible contradictions of increasing revenues whilst reducing operating costs.

## Question 2

Cool Electronics Ltd is an online divisionalised company of cutting-edge electronic components and devices. They sell well-known brands alongside their own range of products. They are an innovative company and are continuing to push frontiers with drone innovations.

Components Division of the company manufactures easy-assembling parts for producing modular and programmable drones. Some of the output is sold externally whilst the remainder is transferred to Modular Division where it is used in the manufacture of Aircraft Drones to be sold to external customers.

The unit costs of Components Division are as follows:

|  | $(£)$ |
| :--- | ---: |
| Direct material | 4 |
| Direct labour | 2 |
| Direct expenses | 2 |
| Variable manufacturing overheads | 2 |
| Fixed manufacturing overheads | 4 |
| Selling and packing expenses | 1 |

These components are sold externally at the standard price of $£ 30$.
In addition to external sales, 5,000 units are transferred annually to Modular Division at an internal transfer price of $£ 29$ per unit. This transfer price is obtained by deducting variable selling and packing expenses from the price to external customers since this expense is not incurred for internal transfers.

The unit costs of Modular Division are currently as follows:
(£)
Transferred in item (at the existing transfer price). 29
Direct material and components 23
Direct labour 3
Variable overheads 12
Fixed overheads 12
Selling and packing expenses-variable $\frac{1}{\square \underline{80}}$

Manager of Modular Division disagrees with the basis used to set the transfer price. He argues that the transfer should be made at variable cost plus an agreed minimal mark up since he claims his division is taking output that Components Division would be unable to sell at the price of $£ 30$.

Partly because of the disagreement, a study of the relationship between selling price and demand has recently been made for each division by the company's sales director. The resulting report contains the following table:

Customer demand at various selling prices:

| Components Division |  |  |  |
| :--- | :--- | :--- | :--- |
| Selling price | $£ 20$ | $£ 30$ | $£ 40$ |
| Demand | 15,000 | 10,000 | 5,000 |
|  |  |  |  |
| Modular Division |  | $£ 90$ | $£ 100$ |
| Selling price | $£ 80$ | 5,000 | 2,800 |
| Demand | 7,200 |  |  |

Manager of Modular Division claims that this study supports his case. He suggests that a transfer price of $£ 12$ would give Components Division a reasonable contribution to its fixed overheads while allowing Modular Division to earn a reasonable profit. He also believes that it would lead to increase of output and an improvement in the overall level of company profits.

## Required:

(a) Calculate the optimal output quantity and contribution for Components Division when they sell the parts to external customers.
(5 marks)
(b) Calculate the optimal output quantity and contribution for Modular Division from the perspective of the Cool Electronics Ltd.
(5 marks)
(c) Calculate the optimal output quantity and contribution for Modular Division and for the company at the current transfer price of $£ 29$ per unit and comment on whether this price is optimum for Cool Electronics Ltd as a whole.
(10 marks)
(d) Calculate the optimal output quantity and contribution for Modular Division at the suggested transfer price of $£ 12$ per unit and comment on whether this price is optimum for Cool Electronics Ltd as a whole.
(10 marks)
(e) Discuss your calculations above in relation to the contribution for each division and the company as a whole.

SECTION B (Weight 60\%): Answer TWO out of four questions in this section

## Question 3

Abdel-Kader and Luther (2006) found that, in the UK's Food and Drinks Industry, conventional budgeting remains as the main management accounting tool.
(a) Explain why organisations prepare budgets despite its costs and limitations of the budgeting process.
(8 marks)
(b) Provide details of how some organisations use non-financial performance information to complement their budgeting processes.
(8 marks)
(c) Discuss the findings by Abdel-Kadar and Luther (2006) that companies in the UK Food and Drinks industry were interesting in distinguishing costs between fixed and variable.
(14 marks)
(Total 30 marks)

## Question 4

Malmi and Brown (2008) develop a topology for management control systems, in which they include the following headings for controls: cultural, planning, cybernetic, rewards and administrative.

## Required:

(a) Provide a table representing Malmi and Brown's topology for management control systems
(b) Provide a brief explanation of the terms: "management control systems", "cultural controls", "planning controls", "cybernetic controls", "reward controls" and "administration controls".
(14 marks)
(c) Discuss the argument put forward by Malmi and Brown (2008) that a package of controls constructed to consistently target the improvement of an organisation's goals is an effective method for increasing shareholder value.

## Question 5

" Increasing attention and concern over the social and environmental impact of business and the impact of social and environmental issues on business has led a number of companies to actively account for and manage their sustainability footprint " (Adams and Frost, 2008)

## Required:

(a) Explain the concept of 'sustainability reporting' by referring to its integration into planning, performance management and risk management operations of organisations.
(12 marks)
(b) By referring to above mentioned paper, describe how key performance indicators (KPIs) could be part of sustainability reporting and benchmarking.
(10 marks)
(c) Discuss to what extent sustainability KPIs could be used by managers for strategic decision making.

## Question 6

Recent initiatives in higher education have pressured academics and universities to deliver more relevant outcomes in their external engagement by linking research to practice.

## Required:

(a) By referring to academics such as Mitchell $(2002,2017)$ explain the nature of above mentioned engagement for management accounting and whether they believe this is a long standing or a recent concern.
(10 marks)
(b) What do academics such as Mitchell suggest to do in order to make management accounting research more relevant for practitioners?
(12 marks)
(c) Discuss the alternative view to above, which argue that the gap between theory and practice of management accounting is inevitable and useful for advancement of critical thinking and accounting education.

## END OF PAPER

Part A - Question 1 - Was chosen by most students, who generally answered it very well in all parts. Question 2 was not so popular, students did not score as high on this question compared to question 2.

Part B - Question 3 - budgets, students who attempted this question did well if they focused on answering the specific question that was set. Some students decided that they would write what they remembered about the academic paper referred to in the question, rather than answering the question. The students who did this did not score as high as the students who addressed the question.

Part B - Question 4 - the Malmi and Brown question on control systems was very popular. Section (a) required students to draw the table and (b) required an explanation - students did very well on (a) and (b) and wrote comprehensive answers. section (c) required students to discuss whether the implementation of management control systems improved shareholder value. This required students to firstly explain how shareholder value is created (through sustained long term profits) and then to discuss whether a package of management controls are likely to achieve this. Very few students applied their answer to addressing the question in this way. Some argued against control systems adding to shareholder value, but received marks as they gave a comprehensive argument supporting their view.

## Part B - Question 5 - Sustainability Reports

This question was generally well answered by students attempting it. This indicates that they had read the relevant papers on the topic.

The better papers identified sustainability reports as producing reports iaw the triple bottom line accounting principles. They also indicated some knowledge about CSR and IIRC reporting. The main points to draw out was that by acting in sustainable ways could not only enhance profitability but also reputation and attract customers, many of whom are much more selective about who they will buy goods and services from.

The section on KPIs was quite well answered on that most students were able to describe the point of KPIs and their place in the corporate strategy for measuring progress to achieving corporate goals as well as providing benchmarking information. The better students discussed how sustainability KPIs were developed and how they fitted in with strategy and performance management frameworks such as the Balanced Scorecard.

The section on sustainability on the strategy was the least well answered with many students missing the point that in order to be sustainable then the corporate strategy had to incorporate sustainability goals and to state that sustainability was a duty for all employees to engage with, if the company was to succeed.

## Part B - Question 6 - Research- Practice Gap

This question was generally well done by the students who attempted it. There was clear evidence of not only reading of Mitchell's papers but a much broader study had been undertaken.

Most students identified that there was currently a gap, which had been in place for over 40 years, between practitioners and academics. Students correctly suggested that much of this was due to the different career paths that these parties went down. They also understood that academics were under constant pressure to publish in high quality journals resulting in inaccessible papers that were designed to impress other academics but not perhaps the audience who could implement any ideas the practitioners. Why was this? It was due to career enhancement being dependent on publication records. On the other hand, practitioners tended to undertake professional training which focused more on techniques than the academic socio-technical explanations.

The students were generally able to identify some solutions, which included academics and practitioners collaborating, journal editors encouraging a section specifically aimed at practitioner in every publication, and invitations to both communities to attend conferences on Management Accounting. Finally, good solutions advocated action research and constructive interventionist research as a means of achieving a closing of the gap.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2010-11

## BUSINESS FINANCE

NBS-2F2Y

Time allowed: 3 hours

Candidates should answer ALL FOUR questions.

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator.

1. A five-year corporate bond makes annual coupon payments of $£ 90$ and has a yield to maturity of $6 \%$ :
a. Compute the price of the bond.
(10 marks)
b. Compute the coupon rate and the current yield for the bond. (5 marks)
c. What would happen to the bond price, if the yield to maturity increases to $7 \%$ ? Discuss the relation between bond prices and interest rates.
(10 marks)
(25 marks)
2. The following two projects are mutually exclusive and are expected to produce the following cash flows (in million £):

|  | Project A | Project B |
| :---: | :---: | :---: |
| Initial Cost | 100 | 120 |
| Year 1 | 40 | 50 |
| Year 2 | 40 | 40 |
| Year 3 | 20 | 30 |
| Year 4 | 10 | 20 |
| Year 5 | 5 | 10 |

a. Use both the payback rule and the net present value (NPV) criterion to choose between the two projects. You may assume that the opportunity cost of capital is $9 \%$.
(15 marks)
b. Discuss the advantages and disadvantages of the aforementioned investment valuation methods. How do these methods differ and which one would you recommend?
(10 marks)
(25 marks)
3.
a. Are the following true or false? Explain or qualify as necessary:
i. Investors demand higher expected rates of return on stocks with more variable rates of return.
(1 mark)
ii. The capital asset pricing model (CAPM) predicts that a security with a beta of zero will provide an expected return of zero.
(2 marks)
iii. Investors demand higher expected rates of return from stocks with returns that are highly exposed to macroeconomic changes. (1 mark)
iv. The expected rate of return on an investment with a beta of 2.0 is twice as high as the expected rate of return of the market portfolio.
(2 marks)
v. A diversified portfolio with a beta of 2.0 is twice as volatile as the market portfolio.
(2 marks)
vi. An undiversified portfolio with a beta of 2.0 is twice as volatile as the market portfolio.
(2 marks)
b. Stock $A$ has a beta of 0.5 , and investors expect it to return $5 \%$. Stock B has a beta of 1.5, and investors expect it to return $13 \%$. Use the CAPM to find the market risk premium and the expected rate of return of the market.
(15 marks)
4.
a. "The buyer of a call stock option and the seller of a put stock option both hope that the price of the underlying stock will rise. Therefore, the two positions are identical." Is the speaker correct? Illustrate with a simple example or diagram.
b. Suppose that you hold a share of stock and a put option on that share with an exercise price of $£ 100$. What is the value of the portfolio when the option expires if the stock price is below $£ 100$ ? What is value if the stock price is above $£ 100$ ?
c. "The farmer does not avoid risk by selling wheat futures. If wheat prices stay above $\$ 9.40$ a bushel, then he will actually have lost by selling wheat futures at $\$ 9.40$ a bushel." Is this a fair comment? (5 marks)

## END OF PAPER

## BUSINESS FINANCE

NBS-2F2Y

Time allowed: 3 hours
Answer ALL FOUR questions
Answer questions 1, 2 and 3 in the answer booklet provided.
Answer question 4 on this exam paper and submit it at the end of the exam.
Write your candidate number in the box provided on this page.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the invigilator.
1.
a) You are a consultant to a firm evaluating an expansion of its current business. The cash flow forecasts for the project (in million £) are as follows:

| Years | Cash flows |
| :---: | :---: |
| 0 | -100 |
| $1-10$ | +15 |

On the basis of the behaviour of the firm's stock, you believe that the beta of the firm is 1.4 . Assuming that the rate of return available on riskfree investments is $4 \%$ and that the expected rate of return on the market portfolio is $12 \%$, what is the Net Present Value (NPV) of the project? Would you advise the firm to pursue it?
(15 marks)
b) A project has a life of 10 years and a Payback Period of 10 years. Based solely on this information, what can you infer with respect to the project's NPV?
c) Show that the Internal Rate of Return (IRR) for a project that has a life of only one year is given by: $I R R=\frac{C F_{1}-C F_{0}}{C F_{0}}$ where $C F_{1}$ is the forecasted cash flow that will be generated by the project at the end of year 1 and $\mathrm{CF}_{0}$ is the initial investment.
(5 marks)
2. A company will pay a £2 per share dividend in 1 year. The dividend in year 2 will be $£ 4$ per share, and it is expected that dividends will grow at $5 \%$ per year thereafter. The expected rate of return on the stock is $12 \%$.
a) What is the current price of the stock?
(10 marks)
b) What is the expected price of the stock in a year?
c) Show that the expected rate of return, $12 \%$, equals dividend yield plus capital appreciation.
(5 marks)

## Page 3

3. 

a) A mutual fund manager expects her portfolio to earn a rate of return of $11 \%$ this year. The beta of her portfolio is $0.8 \%$. If the rate of return available on risk-free assets is $4 \%$ and you expect the rate of return on the market portfolio to be $14 \%$, should you invest in this mutual fund?
b) A stock will provide a rate of return of either $-20 \%$ or $+28 \%$.
i. If both possibilities are equally likely, calculate the expected return and standard deviation of returns.
ii. If Treasury Bills (T-bills) yield 4\% and investors believe that the stock offers a satisfactory expected return, what must the market risk of the stock be?
c) Reactive Industries has the following capital structure. What is its Weighted Average Cost of Capital (WACC)? You may assume that the corporate tax is $35 \%$.

| Security | Market Value | Required Rate of Return |
| :---: | :---: | :---: |
| Debt | $£ 20$ million | $6 \%$ |
| Preferred stock | $£ 10$ million | $8 \%$ |
| Common Stock | $£ 50$ million | $12 \%$ |

4. 

a) Supply the missing words from the following list:

- fundamental
- semi-strong
- strong
- technical
- weak
'There are three forms of the efficient market theory. Tests that have found there are no patterns in share price changes provide evidence for the $\qquad$ form of the theory. Evidence for the form of the theory is provided by tests that look at how rapidly markets respond to new public information, and evidence for the $\qquad$ form of the theory is provided by tests that look at the performance of professionally managed portfolios. Market efficiency results from competition between investors. Many investors search for information about the company's business that would help them to value the stock more accurately. This is known as
$\qquad$ analysis. Such research helps to ensure that prices reflect all available information. Other investors study past stock prices for recurrent patterns that would allow them to make superior profits. This is known as $\qquad$ analysis. Such research helps to eliminate any patterns.'

For each question below circle the answer you think is correct.
b) Which of the following risks would be classified as a unique risk for an auto manufacturer?
i. Interest rates
ii. Steel prices
iii. Business cycles
iv. Foreign exchange rates
c) What is the most logical explanation for a $+2.0 \%$ return on a stock with a beta of 1.0 in a month where the market returned $+1.0 \%$ ?
i. The stock is aggressive
ii. The market is undervalued
iii. Favourable firm-specific news was reported
iv. The beta is incorrect
d) What would you recommend to an investor who is considering an investment which, according to its beta, plots below the security market line (SML)?
i. Invest; return is high relative to risk
ii. Don't invest; risk is high relative to return
iii. Invest; stocks revert to the SML over time
iv. Don't invest; stocks below the SML have too much unique risk
(2 marks)
e) Why might shareholders of an acquiring firm prefer to finance mergers with stock rather than with cash?
i. Stock financing is always less costly due to tax consequences
ii. Earnings per share fall when mergers are financed with cash
iii. Target-firm shareholders will bear part of the cost if merger benefits were over-estimated
iv. All merger gains go to the acquirer when financed with stock
(2 marks)
f) The most-likely interpretation of headlines that read, 'ABC Corp. adopts shark repellent' is that:
i. ABC wants to increase the difficulty of a takeover
ii. ABC has made a tender offer for the shares of another firm
iii. ABC will only merge with small-sized partners
iv. $A B C$ desires to reduce the costs of being acquired
(2 marks)
g) If the owner of a call option with a strike price of $£ 35$ finds the underlying stock to be trading for $£ 42$ at expiration, then the option:
i. Expires worthless
ii. Will not be exercised
iii. Is worth $£ 7$ per share
iv. Cost too much initially
h) Why is the value of a call option said to increase as the interest rate increases?
i. The stock seller must pay the call owner more interest
ii. The present value of the strike price is reduced
iii. As interest rates increase, stock prices increase
iv. Interest rate increases reduce the option premium (2 marks)

## Page 6

i) If the market for corn futures has more prospective sellers than buyers, then one would expect:
i. The price of corn futures to decrease
ii. The price of corn futures to increase
iii. Some traders to change from seller to buyer
iv. The market to cease operations until demand is rebalanced
(2 marks)
j) What form of hedging would you suggest for a producer that wishes to be protected from future price decreases but wants to benefit from any future price increases?
i. Buy a call option on the asset
ii. Sell a call option on the asset
iii. Buy a put option on the asset
iv. Sell a put option on the asset
(2 marks)
k) If you feel strongly that a stock price will move, but are unsure of the direction, you could buy the stock and:
i. Buy both a put and a call
ii. Sell both a put and a call
iii. Buy a put and sell a call
iv. Buy two puts

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
UG Main Series Examination 2012-13

## BUSINESS FINANCE

NBS-2F2Y

Time allowed: 3 hours

Answer ALL four questions.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

1. Better Mousetraps has come out with an improved product, and the world is beating a path to its door. As a result, the firm projects growth of $20 \%$ per year for 4 years. By then, other firms will have copycat technology, competition will drive down profit margins, and the sustainable growth rate will fall to $5 \%$. The most recent annual dividend was DIV $_{0}=£ 1$ per share.
a) What are the expected values of $\mathrm{DIV}_{1}, \mathrm{DIV}_{2}, \mathrm{DIV}_{3}$, and $\mathrm{DIV}_{4}$ ? (5 marks)
b) What is the expected stock price 4 years from now? The discount rate is $10 \%$.
c) What is the stock price today?
d) What will next year's stock price $P_{1}$ be?
e) What is the expected rate of return to an investor who buys the stock now and sells it in 1 year? Briefly comment on your result. (5 marks)
(Total 25 marks)
2. The common stock of Build-well Conservation \& Construction Inc. (BCCI) has a beta of 0.9. The rate of return for the risk free asset is $4 \%$, and the market risk premium is estimated at $8 \%$. The firm's capital structure is $30 \%$ debt, paying a $5 \%$ interest rate, and $70 \%$ equity. BCCl pays taxes at $40 \%$.
a) What is the firm's cost of equity capital?
b) What is its weighted-average cost of capital (WACC)?
c) BCCI is evaluating a project with an internal rate of return (IRR) of $12 \%$. Should it accept the project?
(5 marks)
d) If the project will generate a cash flow of $£ 100,000$ a year for 8 years, what is the most BCCl should be willing to pay to initiate the project?
(10 marks)
(Total 25 marks)
3. Good Values Inc. is all-equity financed. The total market value of the firm currently is $£ 100,000$, and there are 2,000 shares outstanding.
a) The firm has declared $£ 5$ per share dividend. The stock will go ex-dividend tomorrow. At what price will the stock sell today? Tomorrow? Ignore taxes.
(5 marks)

## Page 3

b) Now assume that the tax rate on dividend income is $30 \%$, and the tax rate on capital gains is zero. Taking account of the taxation of the dividends, at what price will the stock sell today?
(5 marks)
Now suppose that instead of paying a dividend, Good Values Inc. plans to repurchase $£ 10,000$ worth of stock.
c) What will be the stock price before and after the repurchase?
(5 marks)
d) Suppose an investor who holds 200 shares sells 20 of her shares back to the firm. If there are no taxes on dividends or capital gains show that she would be indifferent between the repurchase and the dividend.
(5 marks)
e) Show that if dividends are taxed at $30 \%$ and capital gains are not taxed, the value of the firm is higher if it pursues the share repurchase instead of the dividend.
(5 marks)
(Total 25 marks)
4. Velcro Saddles is contemplating the acquisition of Pogo Ski Sticks Inc. The values of the two companies as separate entities are $£ 20$ million and $£ 10$ million, respectively. Velcro Saddles estimates that by combining the two companies, it will reduce marketing and administrative costs by $£ 500,000$ in perpetuity. Velcro Saddles is willing to pay $£ 14$ million in cash for Pogo. The opportunity cost of capital is $8 \%$.
a) What is the gain from the merger?
(4 marks)
b) What is the cost of the cash offer?
c) What is the net present value (NPV) of the acquisition under the cash offer?

Now suppose that instead of making a cash offer, Velcro Saddles considers offering Pogo shareholders a 50\% holding in Velcro Saddles.
d) What is the value of the stock in the merged company held by the original Pogo shareholders?
e) What is the cost of the stock alternative?
f) What is the NPV under the stock offer?

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2016-17

## BUSINESS FINANCE

NBS-5008Y

Time allowed: 3 hours

Answer FOUR questions out of six
ALL questions carry EQUAL marks

- Tables of discount factors and annuity factors are provided in the appendix at the end of the paper.
- In each exercise attempted, you should explicitly state all formulas used in your calculations and also present your workings.

Notes are not permitted in this examination

Do not turn over until you are told to do so by the Invigilator

## Page 2

1. 

a) You can buy a property today for $£ 3$ million and sell it in 5 years for $£ 4$ million.
i) If the interest rate is $8 \%$, what is the present value of the sales price?
ii) If you earn no rental income on the property, is buying the property an attractive investment for you?
iii) Would your answer to (ii) change if you also could earn £200,000 per-year rent on the property? You may assume that rent is paid at the end of each year.
b) British Quince comes across an average risk investment project that offers a rate of return of $9.5 \%$. This is less than the company's normal rate of return, but one of Quince's directors notes that the company can easily borrow the required investment at 7\%. 'It's simple', she says. 'If the bank lends us money at $7 \%$, then our cost of capital must be $7 \%$. The project's return is higher than the cost of capital, so let's move ahead.' How would you respond?
c) Why are mutual funds called financial intermediaries? Why does it make sense for an individual to invest her savings in a mutual fund rather than directly in financial markets? Briefly explain.
(Total: 25 marks)

## Page 3

2. 

a) Consider projects A and B with the following cash flows:

| Project | Initial <br> investment | Cash flow at <br> end of year 1 | Cash flow at <br> end of year 2 | Cash flow at <br> end of year 3 |
| :--- | :--- | :--- | :--- | :--- |
| A | $-\$ 36$ | $+\$ 20$ | $+\$ 20$ | $+\$ 20$ |
| B | $-\$ 50$ | $+\$ 25$ | $+\$ 25$ | $+\$ 25$ |

i) Which project has the highest Net Present Value (NPV) if the discount rate is $10 \%$ ?
ii) Which project has the highest profitability index?
iii) Which project is most attractive to a firm that can raise an unlimited amount of funds to pay for its investment projects? What about in the case when the firm can only raise a limited amount of funds?
b) If you insulate your office for $£ 10,000$, you will save $£ 1,000$ a year in heating expenses. These annual savings will last forever.
i) What is the NPV of the investment when the cost of capital is $8 \%$ ? What about in the case when the cost of capital is $10 \%$ ?
ii) What is the Internal Rate of Return (IRR) of the investment?
iii) What is the payback period on this investment?

## Page 4

3. 

A firm considers launching a new product in the market that is expected to generate the following revenues:

| Year | Revenues |
| :---: | :---: |
| 1 | $£ 40,000$ |
| 2 | $£ 30,000$ |
| 3 | $£ 20,000$ |
| 4 | $£ 10,000$ |
| Thereafter | 0 |

Expenses are expected to be $40 \%$ of revenues, and working capital required in each year is expected to be $20 \%$ of revenues in the following year. The product requires an immediate investment of $£ 45,000$ in plant and equipment.
i) What is the initial investment in the product? (Hint: Remember working capital.)
ii) If the plant and equipment are depreciated over 4 years to a salvage value of zero using straight-line depreciation, and the firm's tax rate is $40 \%$, what are the project cash flows in each year?
iii) If the opportunity cost of capital is $12 \%$, what is the Net Present Value (NPV) of the project? Should the firm proceed with launching the product?
(5 marks)
b) A manager attempts to persuade her bank to provide additional funding for continuing the development of a new product by arguing that: 'It would be foolish to abandon a project on which nearly $£ 100$ million has already been spent.' Do you support this argument? Briefly explain.
(Total: 25 marks)

## Page 5

4. 

a) You need to estimate the value of Laputa Aviation. You have the following forecasts (in million $£$ ) of its profits and its future investments in new plant and working capital:

|  | Year |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | 1 | 2 | 3 | 4 |
| Earnings before interest, taxes, <br> depreciation and amortization | 80 | 100 | 115 | 120 |
| (EBITDA) | 20 | 30 | 35 | 40 |
| Depreciation | 60 | 70 | 80 | 80 |
| Pre-tax profit | 12 | 15 | 18 | 20 |
| Investment |  |  |  |  |

From year 5 onward, EBITDA, depreciation, and investment are expected to remain unchanged at year-4 levels. Laputa is financed $50 \%$ by equity and $50 \%$ by debt. Its cost of equity is $15 \%$, its debt yields $7 \%$, and it pays corporate tax at $40 \%$.
i) Estimate the company's total value.
(15 marks)
ii) What is the value of Laputa's equity?
b) Geothermal has a Weighted Average Cost of Capital (WACC) equal to $11.4 \%$. Executive Fruit's WACC is 12.3\%. Now Executive Fruit is considering an investment in geothermal power production, that is, what Geothermal is involved in. Should it discount project cash flows at $12.3 \%$ ? Why or why not?

## Page 6

5. 

a) Below is the market-value balance sheet of the United Frypan Company:

| Market-Value Balance Sheet |  |  |  |
| :--- | :---: | :---: | :---: |
| Net working <br> capital | $\$ 20$ | Debt | $\$ 40$ |
| Long-term <br> assets | $\$ 140$ | Equity | $\$ 120$ |
|  | $\mathbf{\$ 1 6 0}$ |  | $\mathbf{\$ 1 6 0}$ |

Assume that Modigliani and Miller's theory holds except for taxes. There is no growth, and the $\$ 40$ of debt is expected to be permanent. Assume a $35 \%$ corporate tax rate.
i) How much of the firm's value is accounted for by the debtgenerated tax shield?
ii) What is United Frypan's after-tax Weighted Average Cost of Capital (WACC)? The return on debt is $8 \%$ and on equity $15 \%$.
iii) Now suppose that a law is passed that eliminates the deductibility of interest for tax purposes after a grace period of 5 years. What will be the new value of the firm, other things equal? Assume an $8 \%$ borrowing rate.
b) What is the pecking order theory of optimal capital structure? If the theory is correct, what types of firms would you expect to operate at high debt levels? Briefly explain.
(Total: 25 marks)

## Page 7

6. 

a) Suppose that you own 1,000 shares of Nocash Corp. and the company is about to pay a $25 \%$ stock dividend. The stock currently sells at $\$ 100$ per share.
i) What will be the number of shares that you hold after the stock dividend is paid?
ii) What will be the total value of your equity position after the stock dividend is paid?
iii) What will be the number of shares that you hold if the firm splits five for four instead of paying the stock dividend?
b) Payout policy:
i) Why are dividend increases typically good news for investors and dividend cuts bad news? Briefly explain.
ii) Why would payout policy not affect firm value in an ideal world? Briefly explain.
(Total: 25 marks)

## Page 8

## APPENDIX

Discount factors: Present value of $£ 1$ to be received after $t$ years

| Years | $1 \%$ | $2 \%$ | $3 \%$ | $4 \%$ | $5 \%$ | $6 \%$ | $7 \%$ | $8 \%$ | $9 \%$ | $10 \%$ | $11 \%$ | $12 \%$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 0.990 | 0.980 | 0.971 | 0.961 | 0.952 | 0.943 | 0.935 | 0.926 | 0.917 | 0.909 | 0.901 | 0.893 |
| 2 | 0.980 | 0.961 | 0.943 | 0.925 | 0.907 | 0.89 | 0.873 | 0.857 | 0.842 | 0.826 | 0.812 | 0.797 |
| 3 | 0.971 | 0.942 | 0.915 | 0.889 | 0.864 | 0.84 | 0.816 | 0.794 | 0.772 | 0.751 | 0.731 | 0.712 |
| 4 | 0.961 | 0.924 | 0.888 | 0.855 | 0.823 | 0.792 | 0.763 | 0.735 | 0.708 | 0.683 | 0.659 | 0.636 |
| 5 | 0.951 | 0.906 | 0.863 | 0.822 | 0.784 | 0.747 | 0.713 | 0.681 | 0.65 | 0.621 | 0.593 | 0.567 |
| 6 | 0.942 | 0.888 | 0.837 | 0.790 | 0.746 | 0.705 | 0.666 | 0.630 | 0.596 | 0.564 | 0.535 | 0.507 |
| 7 | 0.933 | 0.871 | 0.813 | 0.760 | 0.711 | 0.665 | 0.623 | 0.583 | 0.547 | 0.513 | 0.482 | 0.452 |
| 8 | 0.923 | 0.853 | 0.790 | 0.731 | 0.677 | 0.627 | 0.582 | 0.540 | 0.502 | 0.467 | 0.434 | 0.404 |
| 9 | 0.914 | 0.837 | 0.766 | 0.703 | 0.645 | 0.592 | 0.544 | 0.500 | 0.46 | 0.424 | 0.391 | 0.361 |
| 10 | 0.905 | 0.820 | 0.744 | 0.676 | 0.614 | 0.558 | 0.508 | 0.463 | 0.422 | 0.386 | 0.352 | 0.322 |

Annuity factors: Present value of $£ 1$ per year for each of $t$ years

| Years | $1 \%$ | $2 \%$ | $3 \%$ | $4 \%$ | $5 \%$ | $6 \%$ | $7 \%$ | $8 \%$ | $9 \%$ | $10 \%$ | $11 \%$ | $12 \%$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 0.990 | 0.980 | 0.971 | 0.961 | 0.952 | 0.943 | 0.935 | 0.926 | 0.917 | 0.909 | 0.901 | 0.893 |
| 2 | 1.970 | 1.942 | 1.913 | 1.890 | 1.859 | 1.833 | 1.808 | 1.783 | 1.759 | 1.735 | 1.713 | 1.690 |
| 3 | 2.941 | 2.884 | 2.830 | 2.775 | 2.723 | 2.673 | 2.624 | 2.577 | 2.531 | 2.486 | 2.444 | 2.402 |
| 4 | 3.902 | 3.808 | 3.720 | 3.631 | 3.546 | 3.465 | 3.387 | 3.312 | 3.239 | 3.169 | 3.103 | 3.038 |
| 5 | 4.853 | 4.713 | 4.581 | 4.452 | 4.330 | 4.212 | 4.100 | 3.993 | 3.889 | 3.790 | 3.696 | 3.605 |
| 6 | 5.795 | 5.601 | 5.420 | 5.242 | 5.076 | 4.917 | 4.766 | 4.623 | 4.485 | 4.354 | 4.231 | 4.112 |
| 7 | 6.728 | 6.472 | 6.230 | 6.002 | 5.787 | 5.582 | 5.389 | 5.206 | 5.032 | 4.867 | 4.713 | 4.564 |
| 8 | 7.651 | 7.325 | 7.021 | 6.733 | 6.464 | 6.209 | 5.971 | 5.746 | 5.534 | 5.334 | 5.147 | 4.968 |
| 9 | 8.565 | 8.162 | 7.786 | 7.435 | 7.109 | 6.801 | 6.515 | 6.246 | 5.994 | 5.758 | 5.538 | 5.329 |
| 10 | 9.470 | 8.983 | 8.530 | 8.111 | 7.723 | 7.359 | 7.023 | 6.709 | 6.416 | 6.144 | 5.890 | 5.651 |

## END OF PAPER

## Examination Feedback

## NBS-5008Y Business Finance, 2016-17

## Structure of the exam

Students were required to address 4 out of 6 exercises. Each exercise was equally weighted.

## Marks distribution

Mean 62.0\%, Standard deviation 23.1\%

## General comments

The overall performance in the exam was very good, with the majority of the 235 students sitting the exam obtaining a mark of $60 \%$ or higher ( $57.87 \%$ ). The maximum mark awarded was $96 \%$ ( 2 students) while, 41 students failed ( $17.45 \%$ ). Almost all students attempted exercises 2, 3 and 4 (see Figure 1). Exercise 5 was the least popular with only 1 out of 8 students attempting it, followed by exercise 6 . Students performed particularly well in all exercises with the exception of 5 and 6, that is, the two least popular ones (see Figure 2).

Figure 1: Number of students attempting each exercise


Figure 2: Average mark obtained per exercise


Note: The maximum mark per exercise is 25 out of $100(25 \%)$.

## Feedback for each exercise

## Exercise 1

Most marks were missed in the second and third part of the exercise. In the former, a lot of students failed to recognise the fact that the investment decision should be made separately to the financing decision and incorrectly based their argument on how the firm's WACC will change when the investment is financed through debt. In the latter, most students failed to show an understanding of the key benefit of investing in mutual funds, that is, low cost diversification. Instead, they were incorrectly stating that mutual fund investments entail lower risk and higher return for investors relative to directly investing in financial markets.

## Exercise 2

A lot of students missed marks in the first part of the exercise as they failed to recognise the fact that when a firm is considering two positive NPV projects that are not mutually exclusive, then both should be pursued if there is no capital rationing. Most marks were missed, however, in the second part with students calculating the PV of the perpetuity but
failing to compute the NPV. Consequently, they were not able to use these insights for finding the IRR.

## Exercise 3

Most marks were missed in the calculation of the operating cash flows in the first part of the exercise due to students not dealing properly with the changes in working capital. A lot of students also failed to recognize in the second part that the capital already spent is a sunk cost and, therefore, irrelevant for the decision whether to continue funding an investment. Instead, these students were solely basing their argument on the validity of the statement on whether the NPV of the investment is positive or not.

## Exercise 4

Most marks were missed in the calculation of the firm's total value in the first part of the exercise. This was due to either not properly accounting for the value of the firm after year 4 or not correctly computing the firm's free cash flows. With respect to the former, a lot of students after calculating the PV of the perpetuity at year 4, forgot to discount this value to the present.

## Exercise 5

Only a small number of students was able to properly address the first part of the exercise and particularly its third sub-part. This was due to students not being able to properly compute the firm's tax shield for the first 5 years. In the second part of the exercise, a lot of students were discussing not the pecking order theory but rather the trade-off theory of optimal capital structure. Most importantly, many students forgot to answer what firms are expected to operate at high debt levels.

## Exercise 6

Most marks were missed in the second part of the exercise with only a very small number of students able to properly discuss why payout policy doesn't affect firm value in an ideal world (MM dividend-irrelevant proposition). However, even in the first part, most students failed to recognize that in the case of a stock dividend shareholders receive additional new stocks and not cash.

# UNIVERSITY OF EAST ANGLIA 

## BUSINESS FINANCE

NBS-5008Y

Time allowed: 3 hours

Answer FOUR questions out of six

All questions carry equal marks

- Tables of discount factors and annuity factors are provided in the appendix at the end of the paper.
- In each exercise attempted, you should explicitly state all formulas used in your calculations and also present your workings.


## Notes are not permitted in this examination

Do not turn over until you are told to do so by the Invigilator

## Page 2

1. 

a) You are a manager with an investment budget of $\$ 8$ million. You may invest in the following projects:

| Project | Discount <br> rate (\%) | Investment <br> (million \$) | Annual cash <br> flow (million \$) | Project life <br> (years) |
| :---: | :---: | :---: | :---: | :---: |
| A | 10 | 3 | 1 | 5 |
| B | 12 | 4 | 1 | 8 |
| C | 8 | 5 | 2 | 4 |
| D | 8 | 3 | 1.5 | 3 |
| E | 12 | 3 | 1 | 6 |

i) Why do these projects have different discount rates?
ii) Which projects should you choose?
iii) Which projects should you choose if there is no capital rationing?
(2 marks)
b) Internal Rate of Return (IRR):
i) What is the IRR for a project?
(2 marks)
ii) According to the IRR rule, when should one invest in a particular project?
(2 marks)
iii) In which cases is the use of the IRR rule for investment appraisal problematic? Briefly explain.
2.
a) Below are the expected cash flows for three projects (in \$):

| Project | Year: | 0 | 1 | 2 | 3 | 4 |
| :---: | ---: | :---: | ---: | :---: | :---: | :---: |
| A |  | $-5,000$ | $+1,000$ | $+1,000$ | $+3,000$ | 0 |
| B |  | $-1,000$ | 0 | $+1,000$ | $+2,000$ | $+3,000$ |
| C |  | $-5,000$ | $+1,000$ | $+1,000$ | $+3,000$ | $+5,000$ |

i) What is the payback period on each of the projects?
ii) Given that you wish to use the payback period rule with a cutoff period of 3 years, which project(s) would you accept?
(1 mark)
iii) If the opportunity cost of capital is $10 \%$, which project(s) would you accept according to the Net Present Value (NPV) criterion?
(5 marks)
iv) What are the disadvantages of the payback period rule as an investment appraisal method? Briefly explain using insights from a comparison of the results obtained in parts (ii) and (iii).
(5 marks)
b) A firm can lease a truck for 4 years at a cost of $\$ 30,000$ annually. It can instead buy a truck at a cost of $\$ 80,000$, with annual maintenance expenses of $\$ 10,000$. The truck will be sold at the end of 4 years for $\$ 20,000$. What is the equivalent annual cost of buying and maintaining the truck if the discount rate is $10 \%$ ? Which is the better option: leasing or buying?

## Page 4

3. 

a) Time Value of Money:
i) A local bank advertises the following deal: 'Pay us $\$ 100$ a year for 10 years and then we will pay you (or your beneficiaries) $\$ 100$ a year forever.' Is this a good deal if the interest rate available on other deposits is $6 \%$ ?
ii) You believe you will need to have saved $\$ 500,000$ by the time you retire in 40 years in order to live comfortably. You also believe that you will inherit $\$ 100,000$ in 10 years. If the interest is $6 \%$ per year, how much must you save each year to meet your retirement goal?
b) Agency Issues:
i) Many firms have devised defences that make it much more costly or difficult for other firms to take them over. How might such takeover defences affect the firm's agency problems? Are managers of firms with formidable takeover defences more or less likely to act in the firm's interest rather than their own? Briefly explain.
ii) Sometimes lawyers work on a contingency basis. They collect a percentage of their clients' settlements instead of receiving fixed fees. Why might clients prefer this arrangement? Would the arrangement mitigate an agency problem? Briefly explain.

## Page 5

4. Pandora Box Company Inc. makes a rights issue at a subscription price of $\$ 5 \mathrm{a}$ share. One new share can be purchased for every five shares held. Before the issue there were 10 million shares outstanding and the share price was $\$ 6$.
a) What is the total amount of new money raised?
b) What is the expected stock price after the rights are issued?
c) By what percentage would the total value of the company need to fall before shareholders would be unwilling to take up their rights?
d) Suppose that you initially own 100 shares plus $\$ 100$ in the bank. If you take up your rights issue, what will be your total wealth after the issue is completed?
e) Suppose that the company now decides to issue the new stock at $\$ 4$ instead of $\$ 5$ a share. How many new shares would it need to raise the same amount of money?
f) What is the expected stock price under this new arrangement after the rights are issued?
(3 marks)
g) If you take up your rights issue under this new arrangement, what will be your total wealth after the issue is completed?
h) Which arrangement makes you better off: the first, the second, or neither?
(2 marks)
(Total: 25 marks)

## Page 6

5. 

a) Reliable Gearing currently is all-equity financed. It has 10,000 shares of equity outstanding, selling at $\$ 100$ a share. The firm is considering a capital restructuring. The low-debt plan calls for a debt issue of $\$ 200,000$ with the proceeds used to buy back stock. The high-debt plan would exchange $\$ 400,000$ of debt for equity. The debt will pay an interest rate of $10 \%$. The firm pays no taxes.
i) What will be the debt-to-equity ratio if it borrows $\$ 200,000$ ?
ii) If earnings before interest and tax (EBIT) are \$110,000, what will be earnings per share (EPS) if Reliable borrows $\$ 200,000$ ?
(8 marks)
iii) What will EPS be if it borrows $\$ 400,000$ ?
(6 marks)
b) For which of the following firms would you expect the costs of financial distress to be highest? Briefly explain.

- A computer software company that depends on skilled programmers to produce new products
- A shipping company that operates a fleet of modern tankers.
(Total: 25 marks)


## Page 7

6. Castles in the Sand currently sells at a price-earnings (P/E) multiple of 10. The firm has 2 million shares outstanding and sells at a price per share of \$40. Firm Foundation has a P/E multiple of 8 , has 1 million shares outstanding, and sells at a price per share of $\$ 20$.
a) If Castles acquires the other firm by exchanging one of its shares for every two of Firm Foundation, what will be the earnings per share of the merged firm?
b) What will happen to Castles' price per share?
c) Show that shareholders of neither Castles nor Firm Foundation realize any change in wealth.
d) What should be the P/E of the new firm if the merger has no economic gains?
e) What will happen to Castles' price per share if the market does not realize that the P/E ratio of the merged firm ought to differ from Castles' premerger ratio?
f) How are the gains from the merger split between shareholders of the two firms if the market is fooled as in part (c)?

## Page 8

## APPENDIX

Discount factors: Present value of $£ 1$ to be received after $t$ years

| Years | $1 \%$ | $2 \%$ | $3 \%$ | $4 \%$ | $5 \%$ | $6 \%$ | $7 \%$ | $8 \%$ | $9 \%$ | $10 \%$ | $11 \%$ | $12 \%$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 0.990 | 0.980 | 0.971 | 0.961 | 0.952 | 0.943 | 0.935 | 0.926 | 0.917 | 0.909 | 0.901 | 0.893 |
| 2 | 0.980 | 0.961 | 0.943 | 0.925 | 0.907 | 0.89 | 0.873 | 0.857 | 0.842 | 0.826 | 0.812 | 0.797 |
| 3 | 0.971 | 0.942 | 0.915 | 0.889 | 0.864 | 0.84 | 0.816 | 0.794 | 0.772 | 0.751 | 0.731 | 0.712 |
| 4 | 0.961 | 0.924 | 0.888 | 0.855 | 0.823 | 0.792 | 0.763 | 0.735 | 0.708 | 0.683 | 0.659 | 0.636 |
| 5 | 0.951 | 0.906 | 0.863 | 0.822 | 0.784 | 0.747 | 0.713 | 0.681 | 0.65 | 0.621 | 0.593 | 0.567 |
| 6 | 0.942 | 0.888 | 0.837 | 0.790 | 0.746 | 0.705 | 0.666 | 0.630 | 0.596 | 0.564 | 0.535 | 0.507 |
| 7 | 0.933 | 0.871 | 0.813 | 0.760 | 0.711 | 0.665 | 0.623 | 0.583 | 0.547 | 0.513 | 0.482 | 0.452 |
| 8 | 0.923 | 0.853 | 0.790 | 0.731 | 0.677 | 0.627 | 0.582 | 0.540 | 0.502 | 0.467 | 0.434 | 0.404 |
| 9 | 0.914 | 0.837 | 0.766 | 0.703 | 0.645 | 0.592 | 0.544 | 0.500 | 0.46 | 0.424 | 0.391 | 0.361 |
| 10 | 0.905 | 0.820 | 0.744 | 0.676 | 0.614 | 0.558 | 0.508 | 0.463 | 0.422 | 0.386 | 0.352 | 0.322 |

Annuity factors: Present value of $£ 1$ per year for each of $t$ years

| Years | $1 \%$ | $2 \%$ | $3 \%$ | $4 \%$ | $5 \%$ | $6 \%$ | $7 \%$ | $8 \%$ | $9 \%$ | $10 \%$ | $11 \%$ | $12 \%$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 0.990 | 0.980 | 0.971 | 0.961 | 0.952 | 0.943 | 0.935 | 0.926 | 0.917 | 0.909 | 0.901 | 0.893 |
| 2 | 1.970 | 1.942 | 1.913 | 1.890 | 1.859 | 1.833 | 1.808 | 1.783 | 1.759 | 1.735 | 1.713 | 1.690 |
| 3 | 2.941 | 2.884 | 2.830 | 2.775 | 2.723 | 2.673 | 2.624 | 2.577 | 2.531 | 2.486 | 2.444 | 2.402 |
| 4 | 3.902 | 3.808 | 3.720 | 3.631 | 3.546 | 3.465 | 3.387 | 3.312 | 3.239 | 3.169 | 3.103 | 3.038 |
| 5 | 4.853 | 4.713 | 4.581 | 4.452 | 4.330 | 4.212 | 4.100 | 3.993 | 3.889 | 3.790 | 3.696 | 3.605 |
| 6 | 5.795 | 5.601 | 5.420 | 5.242 | 5.076 | 4.917 | 4.766 | 4.623 | 4.485 | 4.354 | 4.231 | 4.112 |
| 7 | 6.728 | 6.472 | 6.230 | 6.002 | 5.787 | 5.582 | 5.389 | 5.206 | 5.032 | 4.867 | 4.713 | 4.564 |
| 8 | 7.651 | 7.325 | 7.021 | 6.733 | 6.464 | 6.209 | 5.971 | 5.746 | 5.534 | 5.334 | 5.147 | 4.968 |
| 9 | 8.565 | 8.162 | 7.786 | 7.435 | 7.109 | 6.801 | 6.515 | 6.246 | 5.994 | 5.758 | 5.538 | 5.329 |
| 10 | 9.470 | 8.983 | 8.530 | 8.111 | 7.723 | 7.359 | 7.023 | 6.709 | 6.416 | 6.144 | 5.890 | 5.651 |

## END OF PAPER

## Examination Feedback

## NBS-5008Y Business Finance, 2017-18

## Structure of the exam

Students were required to address 4 out of 6 exercises. Each exercise was equally weighted.

## Marks distribution

Mean 54.7\%, Standard deviation 20.9\%

## General comments

The overall performance in the exam was good, with 103 out of the 243 students sitting the exam ( $42.39 \%$ ) obtaining a mark of $60 \%$ or higher. The maximum mark awarded was $99 \%$ ( 1 student) while, 58 students failed (23.87\%). Almost all students attempted exercises 2 and 3 (see Figure 1). Exercise 6 was the least popular with only 1 out of 4 students approximately attempting it, followed by exercise 5 .

Figure 1: Number of students attempting each exercise


Students performed well in all exercises with the exception of 3 and 4 (see Figure 2). In the former exercise, students lost most marks in the second 'theoretical' part while, in the latter exercise, the majority of students who attempted it were not able to properly consider the effect of the different rights issue arrangement on the wealth of the shareholders.

Figure 2: Average mark obtained per exercise


Note: The maximum mark per exercise is 25 out of $100(25 \%)$.

## BUSINESS FINANCE

NBS-5008Y

## Time allowed: 3 hours

Answer FOUR questions, TWO from each section

All questions carry equal marks

- Tables of discount factors and annuity factors are provided in the appendix at the end of the paper.
- In each exercise attempted, you should explicitly state all formulas used in your calculations and also present your workings.


## Notes are not permitted in this examination

Do not turn over until you are told to do so by the Invigilator

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## SECTION A

1. 

a) Consider a project with the following cash flows:

| Year | Cash flow |
| :---: | :---: |
| 0 | $+\$ 100$ |
| 1 | $-\$ 60$ |
| 2 | $-\$ 60$ |

The project has an Internal Rate of Return (IRR) of 13.1\%. Should you accept or reject the project if the discount rate is $12 \%$ ? What is the project's Net Present Value (NPV)? By comparing the IRR and NPV results briefly explain whether this project should be accepted or not.
(10 marks)
b) A project has a life of 10 years and a payback period of 10 years. Based solely on this information, what can you infer with respect to the project's NPV?
(5 marks)
c) Liquidity:
i) Securities traded in active financial markets are liquid assets. Briefly explain why liquidity is important to individual investors and to mutual funds.
(5 marks)
ii) Bank deposits are liquid; you can withdraw money on demand. How can the bank provide this liquidity and at the same time make illiquid loans to businesses? Briefly explain.
(5 marks)
(Total: 25 marks)
2.
a) Below are the expected cash flows for three projects (in \$):

| Project | Year: | 0 | 1 | 2 | 3 | 4 |
| :---: | :---: | :---: | ---: | :---: | :---: | :---: |
| A |  | $-10,000$ | $+2,000$ | $+2,000$ | $+6,000$ | 0 |
| B |  | $-2,000$ | 0 | $+2,000$ | $+4,000$ | $+6,000$ |
| C |  | $-10,000$ | $+2,000$ | $+2,000$ | $+6,000$ | $+10,000$ |

i) What is the payback period on each of the projects?
(2 marks)
ii) Given that you wish to use the payback period rule with a cutoff period of 3 years, which project(s) would you accept?
(1 marks)
iii) If the opportunity cost of capital is 10\%, which project(s) would you accept according to the Net Present Value (NPV) criterion?
(5 marks)
iv) What are the disadvantages of the payback period rule as an investment appraisal method? Briefly explain using insights from a comparison of the results obtained in parts (ii) and (iii).
(5 marks)
b) A firm can lease a truck for 4 years at a cost of $\$ 60,000$ annually. It can instead buy a truck at a cost of $\$ 160,000$, with annual maintenance expenses of $\$ 20,000$. The truck will be sold at the end of 4 years for $\$ 40,000$. What is the equivalent annual cost of buying and maintaining the truck if the discount rate is $10 \%$ ? Which is the better option: leasing or buying?
(Total: 25 marks)
3. Emperor's Clothes Fashions can invest $£ 5$ million in a new plant for producing invisible makeup. The plant has an expected life of 5 years, and expected sales are 6 million jars of makeup a year. Fixed costs are £2 million a year, and variable costs are $£ 1$ per jar. The product will be priced at $£ 2$ per jar. The plant will be depreciated straight-line over 5 years to a salvage value of zero. The opportunity cost of capital is $10 \%$, and the tax rate is $40 \%$.
a) What is the Net Present Value (NPV) of the project under these base-case assumptions?
(8 marks)
b) What is NPV if variable costs turn out to be $£ 1.20$ per jar?
(4 marks)
c) What is NPV if fixed costs turn out to be $£ 1.5$ million per year?
(4 marks)
d) At what price per jar would project NPV equal zero?
(Total: 25 marks)

## END OF SECTION A

## SECTION B

4. 

a) You need to estimate the value of Laputa Aviation. You have the following forecasts (in million $£$ ) of its profits and its future investments in new plant and working capital:

|  | Year |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | 1 | 2 | 3 | 4 |
| Earnings before interest, taxes, <br> depreciation and amortization <br> (EBITDA) | 80 | 100 | 115 | 120 |
| Depreciation | 20 | 30 | 35 | 40 |
| Pre-tax profit | 60 | 70 | 80 | 80 |
| Investment | 12 | 15 | 18 | 20 |

From year 5 onward, EBITDA, depreciation, and investment are expected to remain unchanged at year-4 levels. Laputa is financed $50 \%$ by equity and $50 \%$ by debt. Its cost of equity is $15 \%$, its debt yields $7 \%$, and it pays corporate tax at $40 \%$.
i) Estimate the company's total value.
(15 marks)
ii) What is the value of Laputa's equity?
(5 marks)
b) Geothermal has a Weighted Average Cost of Capital (WACC) equal to 11.4\%. Executive Fruit's WACC is $12.3 \%$. Now Executive Fruit is considering an investment in geothermal power production, that is, what Geothermal is involved in. Should it discount project cash flows at $12.3 \%$ ? Why or why not?
(Total: 25 marks)
5.
a) Universal Foods has a debt-to-value ratio of $40 \%$, its debt is currently selling on a yield of $6 \%$, and its cost of equity is $12 \%$. The corporate tax rate is $40 \%$. The company is now evaluating a new venture into home computer systems. The internal rate of return on this venture is estimated at $13.4 \%$. The Weighted Average Cost of Capital (WACC) of firms in the computer industry tend to average around $14 \%$.
i) What is Universal's WACC?
ii) Will Universal make the correct decision if it discounts cash flows on the proposed venture at the firm's WACC?
iii) Should the new project be pursued?
b) Financing choices:
i) Briefly explain the two key theories of optimal capital structure: the pecking order theory and the trade-off theory.
(10 marks)
ii) Alpha and Beta Corp. both produce car engines. Both companies' assets and operations are growing at the same rate, and their annual capital expenditures are about the same. However, Alpha Corp. is the more efficient producer and consistently more profitable. According to the pecking order theory, which company should have the higher debt ratio?
6. Sweet Cola Corp. (SCC) is bidding to take over Salty Dog Pretzels (SDP). SCC has 3,000 shares outstanding, selling at $\$ 50$ per share. SDP has 2,000 shares outstanding, selling at $\$ 17.50$ a share. SCC estimates the economic gain from the merger to be $\$ 15,000$.
a) If SDP can be acquired for $\$ 20$ a share, what is the Net Present Value (NPV) of the merger to SCC?
(5 marks)
b) What will SCC sell for when the market learns that it plans to acquire SDP for \$20 a share?
c) What will SDP sell for?
d) What are the percentage gains to the shareholders of each firm?
e) Now suppose that the merger takes place through an exchange of stock. On the basis of the premerger prices of the firms, SCC sells for \$50, so instead of paying $\$ 20$ cash, SCC issues 0.40 of its shares for every SDP share acquired. What will be the price of the merged firm?
(5 marks)
f) What is the NPV of the merger to SCC when it uses an exchange of stock? Why does your answer differ from part (a)?
(Total: 25 marks)

## END OF QUESTIONS

TURN OVER

## APPENDIX

Discount factors: Present value of $£ 1$ to be received after $t$ years

| Years | $1 \%$ | $2 \%$ | $3 \%$ | $4 \%$ | $5 \%$ | $6 \%$ | $7 \%$ | $8 \%$ | $9 \%$ | $10 \%$ | $11 \%$ | $12 \%$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 0.990 | 0.980 | 0.971 | 0.961 | 0.952 | 0.943 | 0.935 | 0.926 | 0.917 | 0.909 | 0.901 | 0.893 |
| 2 | 0.980 | 0.961 | 0.943 | 0.925 | 0.907 | 0.89 | 0.873 | 0.857 | 0.842 | 0.826 | 0.812 | 0.797 |
| 3 | 0.971 | 0.942 | 0.915 | 0.889 | 0.864 | 0.84 | 0.816 | 0.794 | 0.772 | 0.751 | 0.731 | 0.712 |
| 4 | 0.961 | 0.924 | 0.888 | 0.855 | 0.823 | 0.792 | 0.763 | 0.735 | 0.708 | 0.683 | 0.659 | 0.636 |
| 5 | 0.951 | 0.906 | 0.863 | 0.822 | 0.784 | 0.747 | 0.713 | 0.681 | 0.65 | 0.621 | 0.593 | 0.567 |
| 6 | 0.942 | 0.888 | 0.837 | 0.790 | 0.746 | 0.705 | 0.666 | 0.630 | 0.596 | 0.564 | 0.535 | 0.507 |
| 7 | 0.933 | 0.871 | 0.813 | 0.760 | 0.711 | 0.665 | 0.623 | 0.583 | 0.547 | 0.513 | 0.482 | 0.452 |
| 8 | 0.923 | 0.853 | 0.790 | 0.731 | 0.677 | 0.627 | 0.582 | 0.540 | 0.502 | 0.467 | 0.434 | 0.404 |
| 9 | 0.914 | 0.837 | 0.766 | 0.703 | 0.645 | 0.592 | 0.544 | 0.500 | 0.46 | 0.424 | 0.391 | 0.361 |
| 10 | 0.905 | 0.820 | 0.744 | 0.676 | 0.614 | 0.558 | 0.508 | 0.463 | 0.422 | 0.386 | 0.352 | 0.322 |

Annuity factors: Present value of $£ 1$ per year for each of $t$ years

| Years | $1 \%$ | $2 \%$ | $3 \%$ | $4 \%$ | $5 \%$ | $6 \%$ | $7 \%$ | $8 \%$ | $9 \%$ | $10 \%$ | $11 \%$ | $12 \%$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 0.990 | 0.980 | 0.971 | 0.961 | 0.952 | 0.943 | 0.935 | 0.926 | 0.917 | 0.909 | 0.901 | 0.893 |
| 2 | 1.970 | 1.942 | 1.913 | 1.890 | 1.859 | 1.833 | 1.808 | 1.783 | 1.759 | 1.735 | 1.713 | 1.690 |
| 3 | 2.941 | 2.884 | 2.830 | 2.775 | 2.723 | 2.673 | 2.624 | 2.577 | 2.531 | 2.486 | 2.444 | 2.402 |
| 4 | 3.902 | 3.808 | 3.720 | 3.631 | 3.546 | 3.465 | 3.387 | 3.312 | 3.239 | 3.169 | 3.103 | 3.038 |
| 5 | 4.853 | 4.713 | 4.581 | 4.452 | 4.330 | 4.212 | 4.100 | 3.993 | 3.889 | 3.790 | 3.696 | 3.605 |
| 6 | 5.795 | 5.601 | 5.420 | 5.242 | 5.076 | 4.917 | 4.766 | 4.623 | 4.485 | 4.354 | 4.231 | 4.112 |
| 7 | 6.728 | 6.472 | 6.230 | 6.002 | 5.787 | 5.582 | 5.389 | 5.206 | 5.032 | 4.867 | 4.713 | 4.564 |
| 8 | 7.651 | 7.325 | 7.021 | 6.733 | 6.464 | 6.209 | 5.971 | 5.746 | 5.534 | 5.334 | 5.147 | 4.968 |
| 9 | 8.565 | 8.162 | 7.786 | 7.435 | 7.109 | 6.801 | 6.515 | 6.246 | 5.994 | 5.758 | 5.538 | 5.329 |
| 10 | 9.470 | 8.983 | 8.530 | 8.111 | 7.723 | 7.359 | 7.023 | 6.709 | 6.416 | 6.144 | 5.890 | 5.651 |

## Examination Feedback

## NBS-5008Y Business Finance, 2018-19

Structure of the exam: Students were required to address 2 out of 3 exercises in each of the two sections (i.e., a total of 4 exercises). Each exercise was equally weighted (i.e., each section accounted for $50 \%$ of the total mark).

Marks distribution: Mean 52.3\%, Standard deviation 26.5\%

General comments: The overall performance in the exam was good, with 91 out of the 227 students sitting the exam $(40.09 \%)$ obtaining a mark of $60 \%$ or higher. The maximum mark awarded was $100 \%$ ( 3 students) while, 68 students failed (29.96\%). From section A (exercises $1-3$ ), almost all students attempted exercise 2 (219 students or 96.48\%) with exercises 2 and 3 attempted by about half of the students each. From section B (exercises 4 6), the vast majority of students attempted exercise 4 (199 students or $87.67 \%$ ), with exercises 5 and 6 again being attempted by about half of the students each.

Figure 1: Number of students attempting each exercise


Students performed well in all exercises with the exception of 1 and 5 (see Figure 2). In the former exercise, students lost most marks in the second 'theoretical' part while, in the latter exercise, the majority of students who attempted it were not able to properly compute the free cash flows required for estimating the value of a company.

Figure 2: Average mark obtained per exercise


Note: The maximum mark per exercise is 25 out of $100(25 \%)$.

## Reply to queries raised during the exam:

Query 1: Exercise (2b): ‘The lease cost paying in advance or in arrears?'
Reply: This exercise is similar to exercise 33 set in homework 2. The lease cost is normally (if not always) paid in advance. Nonetheless, during the marking process I considered correct answers that involved assuming that the lease cost was paid both in advance and in arrears.

Query 2: Exercise (2a), parts (i) and (ii): ‘[a cut off period of 3 years] is it related to question 2iii?'

Reply: This exercise is similar to exercise 29 set in homework 2. In part (a), I believe it is clear that (i), (ii) and (iii) are related and refer to the projects and cash flows provided in the table. Part (iv) is a theoretical question on the disadvantages of the payback period.

## INTERNATIONAL FINANCIAL SERVICES

NBS-6004Y

Time allowed: 3 hours

Answer any FOURTEEN Questions in Section A
Answer any THREE Questions in Section B

BOTH Section $A$ and $B$ should be answered in the SAME answer booklet Use of a calculator is PERMITTED

Notes are notprermitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A

There are 20 multiple choice questions and you are required to answer any 14 of these questions you prefer. Each one of the 14 questions you answer in this section is worth 5 marks. To answer the multiple choice questions, please clearly circle the letter at the left of the correct answer and also note down the answer on your answer booklet. You also need to offer a brief justification on your answer booklet for each one of your answers in this section.

1. Jarrod King, a private investor, purchases a Treasury bill with a $\$ 10,000$ par value for $\$ 9,645$. One hundred days later, Jarrod sells the T-bill for $\$ 9,719$. What is Jarrod's expected annualized yield from this transaction?
a. 13.43 percent
b. 2.78 percent
c. 10.55 percent
d. 2.80 percent
e. none of the above
2. Corporate bonds that receive a $\qquad$ rating from credit rating agencies are normally placed at $\qquad$ yields.
a. higher; lower
b. lower; lower
c. higher; higher
d. none of the above
3. Which of the following formulas best describes the value of a bond?
a. PV of bond $=\frac{P a r}{(1+k)^{1}}+\frac{C}{(1+k)^{2}}+\ldots+\frac{C}{(1+k)^{n}}$
b. PV of bond $=\frac{P a r}{(1+k)^{1}}+\frac{C}{(1+k)^{1}}+\ldots+\frac{C}{(1+k)^{n}}$
c. PV ofbond $=\frac{C}{(1+k)^{1}}+\frac{C}{(1+k)^{2}}+\ldots+\frac{C+P a r}{(1+k)^{n}}$
d. PV ofbond $=\frac{C+P a r}{(1+k)^{1}}+\frac{C}{(1+k)^{2}}+\ldots+\frac{C}{(1+k)^{n}}$
e. none of the above
4. If many investors quickly sell an IPO stock in the secondary market, there will be
$\qquad$ on the stock's price.
a. upward pressure
b. downward pressure
c. no additional pressure
d. none of the above
5. A firm is expected to generate earnings of $\$ 2.22$ per share next year. The mean ratio of share price to expected earnings of competitors in the same industry is 15. Based on this information, the valuation of the firm's shares based on the priceearnings (PE) method is
a. $\$ 2.22$.
b. $\$ 6.76$.
c. $\$ 33.30$.
d. none of the above
6. You purchase a stock with cash, and you earn a negative return on the stock. If you had purchased the stock with 60 percent cash and 40 percent borrowed funds, your return on your investment would have been
a. positive.
b. more negative than if you had covered the entire investment with cash.
c. negative, but more favorable than if you had covered the entire investment with cash.
d. zero.
7. The Sharpe Index measures the
a. average return on a stock.
b. variability of stock returns per unit of return
c. stock's beta adjusted for risk.
d. excess return above the risk-free rate per unit of risk.
8. $A(n)$ $\qquad$ is a standardized agreement to deliver or receive a specified amount of a specified financial instrument at a specified price and date.
a. option contract
b. brokerage contract
c. financial futures contract
d. margin call
9. The $\qquad$ , the higher the call option premium, other things being equal.
a. lower the existing price of the security relative to the exercise price
b. lower the variability of the security's market price
c. longer the maturity of the option
d. A and B
10. Swap transactions are only used to
a. hedge against upward interest rate movements.
b. hedge against downward interest rate movements.
c. speculate.
d. none of the above
11. A five-year security was purchased two years ago by an investor who plans to resell it. The security will be sold by the investor in the so-called
a. secondary market.
b. primary market.
c. deficit market.
d. surplus market.
12. The federal government demand for loanable funds is $\qquad$ . If the budget deficit was expected to increase, the federal government demand for loanable funds would
$\qquad$ .
a. interest elastic; decrease
b. interest elastic; increase
c. interest inelastic; increase
d. interest inelastic; decrease
13. According to the theory of rational expectations, $\qquad$ inflationary expectations encourage businesses and households to $\qquad$ their demand for loanable funds in order to borrow and make planned expenditures increase.
a. higher; reduce
b. higher; increase
c. lower; reduce
d. lower; increase
14. Assume investors are indifferent among security maturities. Today, the annualized 2-year interest rate is 12 percent, and the 1 -year interest rate is 9 percent. What is the forward rate according to the pure expectations theory?
a. 15.08 percent
b. 3.00 percent
c. 12.00 percent
d. 12.62 percent
e. 11.41 percent
15. All other things equal, when banks issue new stock, they
a. increase reported earnings per share.
b. decrease their ability to absorb operating losses.
c. dilute the ownership of the bank.
d. $A$ and $B$
16. Which of the following statements is incorrect?
a. Managers may be tempted to make decisions that are in their own best interests rather than shareholder interests.
b. Directors are responsible for making most of the bank's decisions regarding loans to customers, which encourages a loan department to extend loans with a very high concern for risk.
c. To prevent agency problems, some banks provide stock as compensation to managers.
d. The underlying goal behind the managerial policies of a bank is to maximize the wealth of the bank's shareholders.
17. Banks offering $\qquad$ nontraditional services will incur $\qquad$ noninterest expenses and $\qquad$ noninterest income.
a. fewer; higher; higher
b. more; lower; higher
c. more; higher; higher
d. fewer; lower; higher
e. none of the above
18. When savings institutions are unable to attract sufficient deposits, they can
a. borrow in the federal funds market.
b. borrow from the Federal Reserve.
c. borrow through a repurchase agreement.
d. all of the above
19. Which of the following is not a major function of the securities industry?
a. brokerage
b. raising new capital
c. underwriting
d. decisions regarding open market operations
20. Protective covenants impose conditions in which the bank must provide additional loans to a borrower to protect the borrower from going bankrupt.
a. True
b. False

## SECTION B

There are 5 questions and you are required to answer any 3 of these questions you prefer. Each one of the 3 questions you answer in this section is worth 10 marks.

1. Impact of Credit Crisis on financial markets.
(i) Explain how the credit crisis affected the default rates of junk bonds and the risk premiums offered on newly issued junk bonds.
(5 marks)
(ii) Explain the new guidelines for credit rating agencies resulting from the Financial Reform Act of 2010.
2. Impact of Interest Rates and inflation.
(i) How are the interest rate, the required rate of return on a stock, and the valuation of a stock related?
(ii) Assume that the expected inflation rate has just been revised upward by the market. Would the required return by investors who invest in the stocks be affected? Explain.
(5 marks)
3. Bond Investment Decision.
(i) Based on your forecast of interest rates, would you recommend that investors purchase bonds today? Explain.
(ii) You are interested in buying a $\$ 1,000$ par value bond with 10 years to maturity and an 8 percent coupon rate that is paid semiannually. How much should you be willing to pay for the bond if the investor's required rate of return is 10 percent?
4. Monetary Policy
(i) How does the Fed's monetary policy affect economic conditions?
(ii) Explain how a tight monetary policy could affect the amount of funds borrowed at financial institutions by deficit units such as Carson Company. How might it affect the credit risk of these deficit units? How might it affect the performance of financial institutions that provide credit to such deficit units as Carson Company?
5. Bank Use of Funds.
(i) Why do banks invest in securities, even though loans typically generate a higher return? How does a bank decide the appropriate percentage of funds that should be allocated to each type of asset? Explain.
(ii) Explain how some mortgage operations by some commercial banks (along with other financial institutions) played a major role in instigating the credit crisis.
(5 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
UG Reassessment/Delayed First Sit Examination 2015-16

## INTERNATIONAL FINANCIAL SERVICES

NBS-6004Y

Time allowed: 3 hours

Answer any FOURTEEN Questions in Section A
Answer any THREE Questions in Section B

BOTH Section A and B should be answered in the SAME answer booklet Use of a calculator is PERMITTED

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A

There are 20 multiple choice questions and you are required to answer any 14 of these questions you prefer. Each one of the 14 questions you answer in this section is worth 5 marks. To answer the multiple choice questions, please clearly circle the letter at the left of the correct answer and also note down the answer on your answer booklet. You also need to offer a brief justification on your answer booklet for each one of your answers in this section.

1. If an investor buys a T-bill with a 90 -day maturity and $\$ 50,000$ par value for $\$ 48,500$ and holds it to maturity, what is the annualized yield?
a. about 13.4 percent
b. about 12.5 percent
c. about 11.3 percent
d. about 11.6 percent
e. about 10.7 percent
2. Assume that you purchased corporate bonds one year ago that have no protective covenants. Today, it is announced that the firm that issued the bonds plans a leveraged buyout. The market value of your bonds will likely $\qquad$ as a result.
a. rise
b. decline
c. be zero
d. be unaffected
3. The bonds that are most sensitive to interest rate movements have
a. no coupon and a short-term maturity.
b. high coupons and a short-term maturity.
c. high coupons and a long-term maturity.
d. no coupon and a long-term maturity.
4. The transaction costs to the issuing firm in an IPO is usually $\qquad$ percent of the funds raised.
a. 1
b. 3
c. 7
d. 25
5. Bolwork Inc. is expected to pay a dividend of $\$ 5$ per share next year. Bolwork's dividends are expected to grow by 3 percent annually. The required rate of return for Bolwork stock is 15 percent. Based on the dividend discount model, a fair value for Bolwork stock is \$ $\qquad$ per share.
a. 33.33
b. 166.67
c. 41.67
d. 60.00
6. A short seller
a. anticipates that the price of the stock sold short will increase.
b. earns the difference between what they initially paid for the stock versus what they later sell the stock for.
c. makes a profit equal to the difference between the original sell price and the price paid for the stock, after subtracting any dividend payments made.
d. is essentially lending the stock to another investor and will ultimately receive that stock back from that investor.
e. none of the above
7. The $\qquad$ is commonly used to determine what a stock's price should have been.
a. Capital Asset Pṛicing Model
b. Treynor Index
c. Sharpe Index
d. B and C
8. Interest rate futures are not available on
a. Treasury bonds.
b. Treasury notes.
c. Eurodollar CDs.
d. the S\&P 500 index.
9. The sale of a call option on a stock the seller already owns is referred to as
a. a covered call.
b. a naked call.
c. call on futures.
d. futures on options.
10. The option on a callable swap would most likely be exercised if interest rates
a. rise.
b. fall.
c. remain constant.
d. remain somewhat stable.
11. There is a $\qquad$ relationship between the risk of a security and the expected return from investing in the security.
a. positive
b. negative
c. indeterminable
d. none of the above
12. Due to expectations of lower inflation in the future, we would typically expect the supply of loanable funds to $\qquad$ and the demand for loanable funds to $\qquad$ .
a. increase; decrease
b. increase; increase
c. decrease; increase
d. decrease; decrease
13. Assume an investor's tax rate is 25 percent. The before-tax yield on a security is 12 percent. What is the after-tax yield?
a. $\quad 16.00$ percent
b. 9.25 percent
c. 9.00 percent
d. 3.00 percent
e. none of the above
14. According to the theory of rational expectations, if the Fed uses open market operations in order to increase the supply of loanable funds, the ultimate effect on interest rates is definitely
a. a reduction in interest rates.
b. an increase in interest rates.
c. no effect on the interest rates.
d. the impact on interest rates cannot be determined.
15. From a bank manager's perspective, the differential in interest between a bank's loans and its deposits;
a. must not exceed the federal funds rate.
b. is called the primary credit lending rate.
c. must be sufficient to cover the bank's other expenses and generate a reasonable profit for the bank's owners.
d. must be sufficient to cover the bank's deposit insurance premiums and its reserve requirements at the Federal Reserve.
16. As the secondary market for loans has become active, banks are more able to satisfy their liquidity needs with a $\qquad$ proportion of loans while achieving $\qquad$ profitability.
a. higher; higher
b. lower; lower
c. higher; lower
d. lower; higher
17. During the credit crisis, the level of $\qquad$ was much higher than in other periods.
a. interest income
b. income expenses
c. noninterest expenses
d. loan loss provision
18. When a savings institution uses interest rate swaps to hedge interest rate risk, it would likely exchange $\qquad$ outflows for $\qquad$ inflows.
a. variable-rate; fixed-rate
b. variable-rate; variable-rate
c. fixed-rate; variable-rate
d. fixed-rate; fixed-rate
19. The price of newly issued stock should be $\qquad$ the market price of the firm's outstanding stock.
a. about the same as
b. much more than
c. much less than
d. B or C , depending on the amount of stock to be issued
20. Proprietary trading is generally less risky than a bank's lending operations.
a. True
b. False

## SECTION B

There are 5 questions and you are required to answer any 3 of these questions you prefer. Each one of the 3 questions you answer in this section is worth 10 marks. 1.
(i) Explain the conditions that led to the debt crisis in Greece.
(5 marks)
(ii) Explain how the downgrading of bonds for a particular corporation affects the prices of those bonds, the return to investors that currently hold these bonds, and the potential return to other investors who may invest in the bonds in the near future.
(5 marks)
2. Market Efficiency.
(i) Explain the difference between weak-form, semi-strong form, and strong-form efficiency. Which of these forms of efficiency is most difficult to test? Which is most likely to be refuted? Explain how to test weak-form efficiency in the stock market.
(5 marks)
(ii) A consulting firm was hired to determine whether a particular trading strategy could generate abnormal returns. The strategy involved taking positions based on recent historical movements in stock prices. The strategy did not achieve abnormal returns. Consequently, the consulting firm concluded that the stock market is weak-form efficient. Do you agree? Explain.
(5 marks)
3. Relevance of Bond Price Movements.
(i) Why is the relationship between interest rates and bond prices important to financial institutions?
(5 marks)
(ii) Assume that you require a 14 percent return on a zero-coupon bond with a par value of $\$ 1,000$ and six years to maturity. What is the price you should be willing to pay for this bond?
(5 marks)
4.
(i) In what two ways should a bank diversify its loans? Why? Is international diversification of loans a viable strategy for dealing with credit risk? Defend your answer.
(5 marks)
(ii) With regards to commercial borrowing do all commercial borrowers receive the same interest rate on loans?
5.
(i) Explain why interest rates tend to decrease during recessionary periods.
(ii) Should increasing money supply growth place upward or downward pressure on interest rates?

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2016-17

## INTERNATIONAL FINANCIAL SERVICES

NBS-6004Y

Time allowed: 3 hours

For 70\% Answer FOURTEEN Questions in Section A
For 30\% Answer THREE Questions in Section B

Both Section A and B should be answered in the same answer booklet

You are permitted to use a pocket calculator

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A (70 Marks)

There are 20 multiple choice questions and you are required to answer any 14 of these questions you prefer. Each one of the 14 questions you answer in this section is worth 5 marks.

To answer the multiple choice questions, please note down the answer on your answer booklet. You also need to offer a brief justification on your answer booklet for each one of your answers in this section.

1. If an investor buys a T-bill with a 90 -day maturity and $\$ 50,000$ par value for $\$ 48,500$ and holds it to maturity, what is the annualized yield?
a) about 13.4 percent
b) about 12.5 percent
c) about 11.3 percent
d) about 11.6 percent
e) about 10.7 percent
2. Assume that you purchased corporate bonds one year ago that have no protective covenants. Today, it is announced that the firm that issued the bonds plans a leveraged buyout. The market value of your bonds will likely $\qquad$ as a result.
a) rise
b) decline
c) be zero
d) be unaffected
3. The bonds that are most sensitive to interest rate movements have
a) no coupon and a short-term maturity.
b) high coupons and a short-term maturity.
c) high coupons and a long-term maturity.
d) no coupon and a long-term maturity.
4. The transaction costs to the issuing firm in an IPO is usually $\qquad$ percent of the funds raised.
a) 1
b) 3
c) 7
d) 25

## Page 3

5. Bolwork Inc. is expected to pay a dividend of $\$ 5$ per share next year. Bolwork's dividends are expected to grow by 3 percent annually. The required rate of return for Bolwork stock is 15 percent. Based on the dividend discount model, a fair value for Bolwork stock is $\$$ $\qquad$ per share.
a) 33.33
b) 166.67
c) 41.67
d) 60.00
6. A short seller
a) anticipates that the price of the stock sold short will increase.
b) earns the difference between what they initially paid for the stock versus what they later sell the stock for.
c) makes a profit equal to the difference between the original sell price and the price paid for the stock, after subtracting any dividend payments made.
d) is essentially lending the stock to another investor and will ultimately receive that stock back from that investor.
e) none of the above
7. The $\qquad$ is commonly used to determine what a stock's price should have been.
a) Capital Asset Pricing Model
b) Treynor Index
c) Sharpe Index
d) B and C
8. Interest rate futures are not available on
a) Treasury bonds.
b) Treasury notes.
c) Eurodollar CDs.
d) the S\&P 500 index.
9. The sale of a call option on a stock the seller already owns is referred to as
a) a covered call.
b) a naked call.
c) call on futures.
d) futures on options.
10. The option on a callable swap would most likely be exercised if interest rates
a) rise.
b) fall.
c) remain constant.
d) remain somewhat stable.
11. There is a $\qquad$ relationship between the risk of a security and the expected return from investing in the security.
a) positive
b) negative
c) indeterminable
d) none of the above
12. Due to expectations of lower inflation in the future, we would typically expect the supply of loanable funds to $\qquad$ and the demand for loanable funds to
$\qquad$ _.
a) increase; decrease
b) increase; increase
c) decrease; increase
d) decrease; decrease
13. Assume an investor's tax rate is 25 percent. The before-tax yield on a security is 12 percent. What is the after-tax yield?
a) 16.00 percent
b) 9.25 percent
c) 9.00 percent
d) 3.00 percent
e) none of the above
14. According to the theory of rational expectations, if the Fed uses open market operations in order to increase the supply of loanable funds, the ultimate effect on interest rates is definitely
a) a reduction in interest rates.
b) an increase in interest rates.
c) no effect on the interest rates.
d) the impact on interest rates cannot be determined.
15. From a bank manager's perspective, the differential in interest between a bank's loans and its deposits;
a) must not exceed the federal funds rate.
b) is called the primary credit lending rate.
c) must be sufficient to cover the bank's other expenses and generate a reasonable profit for the bank's owners.
d) must be sufficient to cover the bank's deposit insurance premiums and its reserve requirements at the Federal Reserve.

## Page 5

16. As the secondary market for loans has become active, banks are more able to satisfy their liquidity needs with a $\qquad$ proportion of loans while achieving
$\qquad$ profitability.
a) higher; higher
b) lower; lower
c) higher; lower
d) lower; higher
17. During the credit crisis, the level of $\qquad$ was much higher than in other periods.
a) interest income
b) income expenses
c) noninterest expenses
d) loan loss provision
18. When a savings institution uses interest rate swaps to hedge interest rate risk, it would likely exchange $\qquad$ outflows for $\qquad$ inflows.
a) variable-rate; fixed-rate
b) variable-rate; variable-rate
c) fixed-rate; variable-rate
d) fixed-rate; fixed-rate
19. The price of newly issued stock should be $\qquad$ the market price of the firm's outstanding stock.
a) about the same as
b) much more than
c) much less than
d) B or C , depending on the amount of stock to be issued
20. Proprietary trading is generally less risky than a bank's lending operations.
a) True
b) False

## SECTION B (30 Marks)

There are 5 questions and you are required to answer any 3 of these questions you prefer. Each one of the 3 questions you answer in this section is worth 10 marks.
21.
i) Explain the conditions that led to the debt crisis in Greece.
ii) Explain how the downgrading of bonds for a particular corporation affects the prices of those bonds, the return to investors that currently hold these bonds, and the potential return to other investors who may invest in the bonds in the near future.
22. Market Efficiency.
i) Explain the difference between weak-form, semistrong-form, and strongform efficiency. Which of these forms of efficiency is most difficult to test? Which is most likely to be refuted? Explain how to test weak-form efficiency in the stock market.
ii) A consulting firm was hired to determine whether a particular trading strategy could generate abnormal returns. The strategy involved taking positions based on recent historical movements in stock prices. The strategy did not achieve abnormal returns. Consequently, the consulting firm concluded that the stock market is weak-form efficient. Do you agree? Explain.
23. Relevance of Bond Price Movements.
i) Why is the relationship between interest rates and bond prices important to financial institutions?
(5 marks)
ii) Assume that you require a 14 percent return on a zero-coupon bond with a par value of $\$ 1,000$ and six years to maturity. What is the price you should be willing to pay for this bond?

## Page 7

24. 

i) In what two ways should a bank diversify its loans? Why? Is international diversification of loans a viable strategy for dealing with credit risk? Defend your answer.
ii) With regards to commercial borrowing do all commercial borrowers receive the same interest rate on loans?
25.
i) Explain why interest rates tend to decrease during recessionary periods.
(5 marks)
ii) Should increasing money supply growth place upward or downward pressure on interest rates?
(5 marks)

## END OF PAPER

# INTERNATIONAL FINANCIAL SERVICES 

NBS-6004Y

Time allowed: 3 hours

Answer FOURTEEN Questions in Section A. This section is worth $70 \%$ of the marks.
Answer THREE Questions in Section B. This section is worth $30 \%$ of the marks.

Both Section A and B should be answered in the same answer booklet. Section A should also be answered on this examination paper.

Write your candidate number in the text box on this page.
You are permitted to use a UEA approved calculator.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A (70 Marks)

There are 20 multiple choice questions and you are required to answer any 14 of these questions you prefer. Each one of the 14 questions you answer in this section is worth 5 marks.

To answer the multiple choice questions, please clearly circle the letter at the left of the correct answer and also note down the answer on your answer booklet. You also need to offer a brief justification on your answer booklet for each one of your answers in this section. Only the first 14 questions you have answered will be marked.

1. The main reason that depository institutions experienced financial problems during the credit crisis was their investment in:
A. mortgages.
B. money market securities.
C. stock.
D. Treasury bonds.
2. Due to expectations of higher inflation in the future, we would typically expect the supply of loanable funds to $\qquad$ and the demand for loanable funds to $\qquad$ -.
A. increase; decrease
B. increase; increase
C. decrease; increase
D. decrease; decrease
3. An investor's tax rate is 30 percent. What must the before-tax yield on a security be to have an after-tax yield of 11 percent?
A. 7.7 percent
B. 15.71 percent
C. 130 percent
D. 11.00 percent
E. none of the above
4. When cash outflows temporarily exceed cash inflows, banks are most likely to experience
A. higher dividend payments.
B. illiquidity.
C. a negative duration on its assets.
D. an excess of capital.
5. A bank has a return on assets of 2 percent, $\$ 40$ million in assets, and $\$ 4$ million in equity. What is the return on equity?
A. 10 percent
B. 0.2 percent
C. 2 percent
D. 20 percent
E. none of the above
6. When a bank in need of funds for a few days sells some of its government securities to a corporation with a temporary excess of funds, then buys them back shortly thereafter, this is a
A. federal funds loan.
B. discount window loan.
C. repurchase agreement.
D. commercial paper transaction.
7. Money market deposit accounts (MMDAs)
A. require a maturity of 6 months or longer.
B. allow a limited number of checks to be written against the account.
C. pay a higher interest rate than CDs.
D. none of the above
8. When savings institutions are unable to attract sufficient deposits, they can
A. borrow in the federal funds market.
B. borrow from the Federal Reserve.
C. borrow through a repurchase agreement.
D. all of the above
9. Because savings institutions commonly use long-term liabilities to finance shortterm assets, they depend on additional deposits to accommodate withdrawal requests.
A. True
B. False
10. A firm plans to issue 30-day commercial paper for $\$ 9,900,000$. Par value is $\$ 10,000,000$. What is the firm's cost of borrowing?
A. 12.12 percent
B. 11.11 percent
C. 13.00 percent
D. 14.08 percent
E. 15.25 percent
11. T-bills and commercial paper are sold
A. with a stated coupon rate.
B. at a discount from par value.
C. at a premium about par value.
D. A and C
E. none of the above
12. Corporate bonds that receive a $\qquad$ rating from credit rating agencies are normally placed at $\qquad$ yields.
A. higher; lower
B. lower; lower
C. higher; higher
D. none of the above
13. Managers of firms may consider a stock repurchase or even a leveraged buyout when they believe their stock is $\qquad$ by the market, or a secondary stock offering when they believe their stock is $\qquad$ by the market.
A. undervalued; undervalued
B. overvalued; overvalued
C. undervalued; overvalued
D. overvalued; undervalued
E. none of the above
14. If many investors quickly sell an IPO stock in the secondary market, there will be
$\qquad$ on the stock's price.
A. upward pressure
B. downward pressure
C. no additional pressure
D. none of the above
15. IPOs tend to occur more primarily during recessions.
A. True
B. False
16. When the lockup period expires, the share price commonly
A. remains unchanged.
B. increases significantly.
C. decreases significantly.
D. none of the above
17. A high budget deficit tends to place $\qquad$ pressure on interest rates; the Fed's tightening of the money supply tends to place $\qquad$ pressure on interest rates.
A. upward; upward
B. upward; downward
C. downward; downward
D. downward; upward
18. If the Fed uses a passive monetary policy during weak economic conditions,
A. it increases money supply substantially.
B. it reduces money supply substantially.
C. it allows the economy to fix itself.
D. it focuses on monetizing the debt.
19. If a bank holds more securities backed by floating-rate commercial loans, it is likely that the bank's
A. default risk would decrease.
B. default risk would increase.
C. liquidity risk would increase.
D. liquidity risk would decrease.
E. B and C
20. Money market deposit accounts differ from conventional time deposits in that they
A. specify a maturity.
B. offer limited check writing privileges.
C. are less liquid.
D. none of the above

## Page 6

## SECTION B (30 Marks)

There are 5 questions and you are required to answer any 3 of these questions you prefer. Each one of the 3 questions you answer in this section is worth 10 marks.
21.
(i) Impact of the Economy. Explain how the expected interest rate in one year depends on your expectation of economic growth and inflation.
(ii) Impact of the Money Supply. Should increasing money supply growth place upward or downward pressure on interest rates?
22.
(i) Impact of Money Supply Growth. Explain why an increase in the money supply can affect interest rates in different ways. Include the potential impact of the money supply on the supply of and the demand for loanable funds when answering this question.
(ii) Tradeoffs of Monetary Policy. Describe the economic tradeoff faced by Bank of England in achieving its economic goals.
23.
(i) Proprietary Trading. Explain the process of proprietary trading by securities firms.
(ii) Asset Stripping. What is asset stripping? Explain.

## Page 7

24. 

(i) Bank Use of Credit Default Swaps. Explain how banks used credit default swaps.
(5 marks)
(ii) Bank Sources of Funds. What are four major sources of funds for banks? What alternatives does a bank have if it needs temporary funds? What is the most common reason that banks issue bonds?
25.
(i) Using the Dividend Discount Model. Suppose that you are interested in buying the stock of a company that has a policy of paying a $\$ 6$ per share dividend every year. Assuming no changes in the firm's policies, what is the value of a share of stock if the required rate of return is 11 percent?
(ii) Dividend Discount Model. Describe the dividend discount valuation model. What are some limitations of the dividend discount model?

## END OF PAPER

## Candidate Number:

## INTERNATIONAL FINANCIAL SERVICES

NBS-6004Y

Time allowed: 3 hours

Answer ALL Questions in Section A. This section is worth 77\% of the marks Answer THREE Questions in Section B. This section is worth $23 \%$ of the marks

Both Section A and B should be answered in the same answer booklet. Section A should also be answered on this examination paper.

Write your candidate number in the text box on this page
You are permitted to use a UEA approved calculator

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A (100 Marks)

There are 20 multiple choice questions and you are required to answer all of them. Each one of the questions you answer in this section is worth 5 marks.

To answer the multiple choice questions, please clearly circle the letter at the left of the correct answer and also note down the answer on your answer booklet. You also need to offer a brief justification on your answer booklet for each one of your answers in this section.

1. The term $\qquad$ involves decisions such as how much funding to obtain, and how to invest the proceeds to expand operations.
a. corporate finance
b. investment management
c. financial markets and institutions
d. none of the above
2. If the real interest rate is expected by a particular person to become negative, then the purchasing power of his or her savings would be $\qquad$ , as the inflation rate is expected to be $\qquad$ the existing nominal interest rate.
a. decreasing; less than
b. decreasing; greater than
c. increasing; greater than
d. increasing; less than
3. Assume that a yield curve is influenced by interest rate expectations and a liquidity premium. Assume the yield curve is initially flat. If liquidity suddenly was no longer important, the yield curve would now have a $\qquad$ (assuming no other changes).
a. slight downward slope
b. slight upward slope
c. steep upward slope
d. steep downward slope
4. According to segmented markets theory, if investors have mostly short-term funds available and borrowers want long-term funds, there would be $\qquad$ pressure on the supply of short-term funds provided by investors and $\qquad$ pressure on the yield of long-term securities.
a. upward; upward
b. downward; downward
c. upward; downward
d. downward; upward
5. Inflation is commonly the result of a
a. large budget deficit.
b. high level of interest rates.
c. high level of unemployment.
d. high level of aggregate demand.
6. Financial institutions such as commercial banks, bond mutual funds, insurance companies, and pension funds maintain large portfolios of bonds, so their portfolio is $\qquad$ affected when the Fed $\qquad$ interest rates.
a. unfavorably; decreases
b. unfavorably; increases
c. favorably; increases
d. Answer A and C are correct.
7. Which of the following statements is incorrect?
a. Managers may be tempted to make decisions that are in their own best interests rather than shareholder interests.
b. Directors are responsible for making most of the bank's decisions regarding loans to customers, which encourages a loan department to extend loans with a very high concern for risk.
c. To prevent agency problems, some banks provide stock as compensation to managers.
d. The underlying goal behind the managerial policies of a bank is to maximize the wealth of the bank's shareholders.
8. In an interest rate swap, a bank whose liabilities are $\qquad$ rate sensitive than its assets can swap payments with a $\qquad$ interest rate in exchange for payments with
a $\qquad$ interest rate.
a. more; fixed; variable
b. more; variable; fixed
c. less; fixed; variable
d. less; fixed; fixed
e. none of the above
9. The Federal Reserve provides loans to banks in order to
a. resolve permanent shortages of funds experienced by banks.
b. resolve temporary shortages of funds experienced by banks.
c. finance the shortages of funds of finance companies.
d. none of the above
10. Subordinated notes and debentures are examples of
a. primary capital.
b. secondary capital.
c. depository sources of funds.
d. repurchase agreements.
11. Which of the following is not a factor that affects cash flows of a commercial bank?
a. changes in economic growth
b. changes in the risk-free interest rate
c. changes in industry conditions
d. changes in management abilities
e. all of the above are factors that affect cash flows of a commercial bank
12. If a bank had long-term fixed-rate assets and short-term liabilities, and interest rates increased over time, its net interest margin should
a. decrease.
b. increase.
c. stay the same.
d. either A or B , depending on whether the asset maturities exceed 10 years
13. If a bank increases its provisions for loan losses, its interest income is $\qquad$ , and its noninterest income is $\qquad$ .
a. reduced; not affected
b. reduced; reduced
c. not affected; reduced
d. not affected; not affected
14. $\qquad$ is (are) not included in flotation costs.
a. Issue costs
b. Underwriting spread
c. Taxes paid on income earned from the proceeds through the securities firm
d. Registration expenses
15. The one-day return to investors who purchase IPO shares at the IPO offer price are $\qquad$ , and the returns to investors who purchase the shares a day after the IPO are generally $\qquad$ .
a. high; high
b. high; low
c. low; high
d. low; low
16. If a savings institutions' assets have considerably longer duration than its liabilities, it can reduce its exposure to interest rate risk by
a. reducing its proportion of assets in the short duration categories.
b. increasing its proportion of liabilities in the short duration categories.
c. increasing its proportion of liabilities in the long duration category.
d. A and B
17. A firm plans to issue 30-day commercial paper for $\$ 9,900,000$. Par value is $\$ 10,000,000$. What is the firm's cost of borrowing?
a. 12.12 percent
b. 11.11 percent
c. 13.00 percent
d. 14.08 percent
e. 15.25 percent
18. Assume a bond with a $\$ 1,000$ par value and an 11 percent coupon rate, two years remaining to maturity, and a 10 percent yield to maturity. The duration of this bond is
a. 1.90 years.
b. 1.50 years.
c. 1.92 years.
d. none of the above
19. A newly issued T-bill with a $\$ 10,000$ par value sells for $\$ 9,750$, and has a 90 -day maturity. What is the discount?
a. 10.26 percent
b. 0.26 percent
c. $\$ 2,500$
d. 10.00 percent
e. 11.00 percent
20. A firm has a current stock price of $\$ 15.32$. The firm's annual dividend is $\$ 1.14$ per share. The firm's dividend yield is
a. .74 percent.
b. 1.34 percent.
c. 7.44 percent.
d. 1.14 percent.

## SECTION B (30 Marks)

There are 5 questions and you are required to answer any 3 of these questions you prefer. Each one of the 3 questions you answer in this section is worth 10 marks.
21. Types of Markets and Impact of the Money Supply
(i) Distinguish between primary and secondary markets. Distinguish between money and capital markets.
(ii) Should increasing money supply growth place upward or downward pressure on interest rates?

## 22. Price-Earnings Model and January Effect

(i) Explain the use of the price-earnings (PE) ratio for valuing a stock. Why might investors derive different valuations for a stock when using the price-earnings method? Why might investors derive an inaccurate valuation of a firm when using the price-earnings method?
(ii) Describe the January effect.
23. Protective Covenants and Zero-Coupon Bonds
(i) What are protective covenants? Why are they needed?
(ii) What are the advantages and disadvantages to a firm that issues low- or zerocoupon bonds?
(5 marks)

## 24. Inflation Effects and Bond Price Elasticity

(i) Assume that inflation is expected to decline in the near future. How could this affect future bond prices? Would you recommend that financial institutions increase or decrease their concentration in long-term bonds based on this expectation? Explain.
(ii) Explain the concept of bond price elasticity. Would bond price elasticity suggest a higher price sensitivity for zero-coupon bonds or high-coupon bonds that are offering the same yield to maturity? Why? What does this suggest about the market value volatility of mutual funds containing zero-coupon Treasury bonds versus high-coupon Treasury bonds?
(5 marks)
25. Economic Indicators and bank's Illiquidity.
(i) Stock market conditions serve as a leading economic indicator. Assuming the UK economy is in a recession, what are the implications of this indicator? Why might this indicator be inaccurate?
(ii) How do banks resolve illiquidity problems?

## INVESTMENT MANAGEMENT

NBS-6016Y

Time allowed: 2 hours

You are required to answer ANY FOUR of the six questions
DO NOT provide irrelevant information, but show all steps that are necessary to solve a problem

Use FOUR decimal places in all your calculations, EXCEPT when you are calculating percentages, where you should use TWO decimal places

Use of a calculator is PERMITTED


Notes are not permitted in this examination.
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## Question 1.

You are in a world where there are only two assets, silver and stocks. You are interested in investing your money in one, the other, or both, so you collect the following data on the returns of the two assets over the last six years:

|  | Silver | Stock Market |
| :--- | :---: | :---: |
| Average Return | $9 \%$ | $16 \%$ |
| Standard Deviation | $20 \%$ | $16 \%$ |
| Correlation | -0.3 |  |

a. If you were constrained to pick just one asset, which one would you choose and why? (5 marks)
b. Explain the reason why an investor could be better off by holding a portfolio of both assets instead of a single asset. ( 5 marks)
c. Compute the expected return, variance and the standard deviation for a portfolio that invests $30 \%$ in Silver and $70 \%$ in the Stock Market. If your objective were to minimise risk, would you prefer the portfolio or any of the individual assets? (15 marks)

## Question 2.

a. What is the capital allocation decision? How can an investor determine the optimal capital allocation for a given risk aversion parameter? ( 15 marks)
b. You manage an equity fund with an expected return of $14 \%$ and a standard deviation of $34 \%$. The rate on Treasury bills is $6.8 \%$. If your client's risk aversion is 2 , how would you recommend her to spread $\$ 100,000$ between your equity fund and a T-bill fund? ( 10 marks)

## Question 3.

a. What is the difference between unique risk and market risk? (10 marks)
b. How do we measure the total risk and how do we measure the market risk of an investment? (5 marks)
c. An equity fund manager expects her portfolio to earn a rate of return of $7 \%$ this year. The beta of the fund is 0.9 . If the rate of return available on risk-free assets is $3 \%$ and you expect the rate of return on the market portfolio to be $9 \%$, use the capital asset pricing model (CAPM) to determine whether you should invest in the fund. ( $\mathbf{1 0}$ marks)

## Question 4.

a. State the weak, the semistrong and the strong forms of the Efficient Market Hypothesis (EMH). (15 marks)
b. Suppose that one is able to consistently make superior returns by buying stocks after a $20 \%$ rise in price and selling stocks after a $20 \%$ fall. Can this be considered evidence against the EMH? ( 5 marks)
c. Suppose that this year around $50 \%$ of mutual funds outperform the market. Can this be considered evidence against the EMH? (5 marks)

## Question 5.

a. What is a call option? Explain the differences between European and American call options. (10 marks)
b. An investor purchases a stock for $\$ 51$ and a put for $\$ 1$ with a strike price of $\$ 48$. The investor sells a call for $1 \$$ with a strike price of $\$ 56$. What are the maximum profit and the maximum loss (expressed in dollars) for this position? Present the steps taken to reach your conclusion. ( 15 marks)

## Question 6.

a. How are hedge funds different to mutual funds in terms of transparency, investors, strategies and liquidity? ( 15 marks)
b. A hedge fund with $\$ 2.5$ billion of assets charges an annual management fee of $2 \%$ and an annual incentives fee of $20 \%$ of returns over the money market rate, which currently is $4 \%$. Calculate the total fees (in dollars) that the fund will charge to its investors this year if the fund's annual return is $10 \%$. ( 10 marks)

## END OF PAPER

# INVESTMENT MANAGEMENT 

NBS-6016Y

Time allowed: 2 hours

You are required to answer ANY FOUR of the six questions
DO NOT provide irrelevant information, but show all steps that are necessary to solve a problem

Use FOUR decimal places in all your calculations, EXCEPT when you are calculating percentages, where you should use TWO decimal places

Use of a calculator is PERMITTED


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## Question 1.

a. What are the advantages and disadvantages of exchange-traded funds compared to mutual funds? (15 marks)
b. Corporate Fund started the year with a net asset value (NAV) of \$14.50. By year-end, its NAV was equal to $\$ 13.60$. The fund paid year-end distributions of income and capital gains of $\$ 2.20$. What was the rate of return to an investor in the fund? (10 marks)

## Question 2.

The stock of Nico Properties sells for $\$ 30$ a share. Its likely dividend pay-out and end-of-year price depend on the state of the economy by the end of the year as follows:

|  | Dividend | Stock Price |
| :--- | :---: | :---: |
|  | $\$ 2.00$ | $\$ 40$ |
| Normal Economy | $\$ 1.00$ | $\$ 32$ |
| Recession | $\$ 0.50$ | $\$ 25$ |

a. Calculate the expected annual return and standard deviation of the annual return for Nico properties. All three scenarios are equally likely. ( $\mathbf{2 0}$ marks)
b. Calculate the expected return and standard deviation of a portfolio invested half in Nico Properties and half in Treasury bills. The return on bills is 4\%. (5 marks)

## Question 3.

a. What is the efficient frontier and why is it important in portfolio selection? (10 marks)
b. Assume that you manage a risky portfolio with an expected rate of return of $17 \%$ and a standard deviation of $27 \%$. The T-bill rate is $7 \%$. What is the Sharpe ratio of your portfolio? ( 5 marks)
c. How can a client spread an amount between your portfolio and the T-bill in order to achieve a return of $11 \%$ ? What is the standard deviation of the client's portfolio? (10 marks)

## Question 4.

a. What is the business cycle and what are its transition points? ( 10 marks)
b. Consider two firms producing smartphones. One uses a highly automated robotics process, while the other uses human workers on an assembly line and pays overtime when there is heavy production demand. Which firm will have higher profits in a recession? What about in an expansion? Explain. (10 marks)
c. Which of the two smartphones firms above will have a higher beta and why? (5 marks)

## Question 5.

a. Define the concept of (Macaulay's) duration. State the three main reasons why this tool is important for bond portfolio management. ( 15 marks)
b. A bond currently sells for $\$ 1,200$ offering a yield to maturity of $8 \%$. Suppose that, if the yield increases by $0.25 \%$, the price of the bond would fall to $\$ 1.155$. What is the duration of this bond? (10 marks)

## Question 6.

a. State the six factors that affect the value of a call option according to the BlackScholes formula, together with their relationship with the call price (e.g. the higher a factor, the higher/lower the call price is). (15 marks)
b. A call option on Jupiter Motors stock with an exercise price of $\$ 80$ and one-year expiration is selling at $\$ 7$. A put option on Jupiter stock with exercise price of $\$ 80$ and one-year expiration is selling at $\$ 5$. The stock doesn't pay dividends and the annual risk-free rate is assumed to be equal to $7 \%$. According to the put-call parity, what should the stock price for Jupiter Motors be? (10 marks)

END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2016-17

## INVESTMENT MANAGEMENT

NBS-6016Y

Time allowed: 2 hours

Answer FOUR questions

Each question you answer is worth $25 / 100$ points.
This examination accounts for $50 \%$ of your module mark.
Do not provide irrelevant information, but show all steps that are necessary to solve a problem.

Use four decimal places in all your calculations, except when you are calculating percentages, where you should use two decimal places.

You may use a calculator, but not a mobile phone.

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator.

## Question 1.

You are presented with the following opportunity of investing $£ 100$ in a new auto company. Over the next year, the following three scenarios are possible:

| Value of investment after one year | Probability |
| :---: | :---: |
| $£ 120$ | $40 \%$ |
| $£ 105$ | $20 \%$ |
| $£ 90$ | $40 \%$ |

a. Compute the expected return, variance and standard deviation of the above investment.
(15 marks)
b. Looking at the stock market, you observe that the stock of a similar auto company has an annual expected return of $3 \%$ and a standard deviation of $8 \%$. If your objective is to maximise your reward-to-risk ratio, would you prefer to buy this stock or invest in the new auto company? (Assume a risk free rate of $1 \%$ ).
(10 marks)

## Question 2.

a. What is a complete portfolio?
b. Assume that you manage a risky fund with an expected rate of return of $18 \%$ and a standard deviation of $25 \%$. The T-bill rate is $5 \%$. Your client chooses to invest $60 \%$ of her wealth in your fund and $40 \%$ in a T-bill money market fund. What is the expected return and standard deviation of your client's portfolio?
(10 marks)
c. How should the client allocate her wealth between the risky fund and the money market fund in order to achieve an expected return of $15 \%$ ?
(10 marks)

## Question 3.

a. Explain what the beta and alpha of an investment represent.
(10 marks)
b. Two investment advisers are comparing their performance. Adviser A averaged a $17 \%$ return with a portfolio beta of 1.4 , and adviser B averaged a $13 \%$ return with a portfolio beta of 0.9 . If the T-bill rate was $4 \%$ and the market return during that period was $12 \%$, which adviser was the better stock picker? (15 marks)

## Question 4.

a. Are long-term bonds more or less sensitive to interest rate risk when compared to short-term bonds? Briefly justify your answer.
(5 marks)
b. A bond with a residual time to maturity of 2 year pays an annual coupon rate of $5 \%$ and has a redemption value of $\$ 1,000$. If the spot rates for the 1 -year and 2-year maturities are $1.5 \%$ and $2 \%$, respectively, compute the current price of the bond. Express the price with precision of 2 decimal points. (10 marks)
c. Assume the bond above has a duration of 1.95 years. Does this coupon bond have more interest rate risk than a 2-year bond which pays no coupons and has a redemption value of $\$ 100$ ? Briefly justify your answer.
(10 marks)

## Question 5.

a. Present whether the aggregate supply of goods and services increases or decreases in the following cases: (i) a severe drought affecting crops, (ii) an increase in the wage rate demanded by workers, and (iii) a decrease in the price of imported oil. Briefly justify your answer.
(15 marks)
b. You forecast the economy is just about to enter an expansion phase and are thinking of how demand will react within each economic sector. Would you invest in a pharmaceutical company? What about a financial company? Justify your answer in both cases.
(10 marks)

## Question 6.

a. What is a European put option?
(5 marks)
b. You buy a 1 month European put option on a stock for $£ 6$. If you could exercise this put option today, you would make a profit of $£ 4$. What is the justification for the extra $£ 2$ that you pay for the put option?
(10 marks)
c. An investor considers the following strategy: buy call option with a strike price of $\$ 54$ for $\$ 1.5$ and buy a put option with a strike price of $\$ 47$ for $\$ 0.5$. Both the call and the put options have a 1 month maturity and are written on the same stock which currently trades at $\$ 50$. What does the investor believe will happen to the stock price in 1 month time? In what cases is this strategy profitable?
(10 marks)

## END OF PAPER

## NBS-6016Y - Investment Management Exam

## General Feedback \& Common Mistakes

Question 1: The most common mistake made for this question was using the wrong formulas or reaching a wrong results for the statistics. Also, many of you didn't present all the necessary steps when estimating the statistics.

Question 2: Most of you didn't provide any examples when answering the question on what is a complete portfolio (e.g. the Treasury bill is an example of the risk-free asset). Same as for Question 1, the most common mistakes were using the wrong formulas and not presenting all the necessary steps.

Question 3: Many didn't provide a proper description on what the alpha and the beta of an investment are. There were many cases when the notation used to describe the statistics in the second part of the question was not suitable. This created confusion on what statistics you were referring to. Also, the answer to the question on which adviser was the better stock picker had to be placed in context to whether the alpha was positive or negative (e.g. negative alpha means the adviser is not a good stock picker).

Question 4: Many of you didn't provide a complete or correct justification in the first part of the question. Some made mistakes when estimating the price of the bond by not using the right formula or interest rates. For the last part of the question, many of you went on to estimate the modified duration of the bonds, which was not asked and was not relevant to the question. Also, some of you estimated Macaulay's duration for the coupon bond which was already given.

Question 5: Some mistakes were made by describing what effect each case had on aggregate demand of goods and services and not on the aggregate supply of goods and services as the question asks. Also, some of you didn't provide any explanation to describe the direction of the effect. For the second part of the question, the most common mistake was not properly recognising the stage of the business cycle when pharmaceutical and financial companies are profitable.

Question 6: The mistakes made here were to provide an incomplete description of the put option, not recognising what the extra $£ 2$ represent, and to incorrectly implement the trading strategy in the computation part. Also, some didn't recognise what the investor was betting on.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2017-18

## INVESTMENT MANAGEMENT

NBS-6016Y

Time allowed: 2 hours

Answer FOUR questions

Each question you answer is worth $25 / 100$ points.
This examination accounts for $50 \%$ of your module mark.
Do not provide irrelevant information, but show all steps that are necessary to solve a problem.

Use four decimal places in all your calculations, except when you are calculating percentages, where you should use two decimal places.

You may use a UEA approved calculator

Notes are not permitted in this examination.

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## Question 1.

A friend told you that he has purchased shares of Vertex Solutions, a technology company, in 2014 and is happy with his investment. You wish to invest in this stock for one year. You do some research and find the following historical prices:

| Year | Vertex Solutions Price |
| :---: | :---: |
| 2014 | $\$ 102$ |
| 2015 | $\$ 110$ |
| 2016 | $\$ 105$ |
| 2017 | $\$ 100$ |

a) Compute the historical yearly average return, variance and standard deviation of Vertex Solutions' stock given that the company has payed dividends of \$3 yearly starting in 2016. Does this represent a good investment? How would your answer change considering that the 1 year Treasury bill rate is $1.7 \%$ ? Discuss.
(15 marks)
b) Consider your friend's investment in Vertex Solutions over the 2014 to 2017 period. What total return, capital gain yield and dividend yield did he make over the full period? Why is your friend happy with his investment? Discuss.
(10 marks)

## Question 2.

a) Briefly discuss the five main features which differentiate debt securities from equity securities with respect to: claim type, tax, priority in financial trouble, maturity, and management control.
(15 marks)
b) Assume that you manage a risky fund with an expected rate of return of $15 \%$ and a standard deviation of $20 \%$. The T-bill rate is $5 \%$. You present to a client a portfolio which invests $60 \%$ in your fund and $40 \%$ in a T-bill money market fund. Your client, however, wants to invest only $30 \%$ in your fund and $70 \%$ in the T-bill fund. Estimate the portfolio's expected return and standard deviation in both cases and discuss the differences you observe. What could be the reason behind the client's decision to invest less in your fund?
(10 marks)

## Page 3

## Question 3.

a) Describe the difference between technical analysis and fundamental analysis. How do these two types of analysis relate to the efficient market hypothesis?
(15 marks)
b) Suppose that this year you were able to make superior returns by buying stocks after a $5 \%$ rise in price and selling stocks after a $5 \%$ fall in price. Can this be considered evidence against the EMH?
(5 marks)
c) Suppose that you are able to consistently beat the market by purchasing stocks with a price-to-earnings ratio below 30. Can this be considered evidence against the EMH?
(5 marks)

## Question 4.

You are provided with the following information:

| Bond | Maturity | Coupon rate | Face value | Bond price |
| :---: | :---: | :---: | :---: | :---: |
| A | 2 years | $10 \%$ | $£ 100$ | $£ 109.29$ |
| B | 3 years | $30 \%$ | $£ 100$ | $£ 168.09$ |

Assume the discount rate is constant at 5\%. You can use the following discount factors:

| Year, $t$ | $\frac{1}{(1+5 \%)^{t}}$ |
| :---: | :---: |
| 1 | 0.952 |
| 2 | 0.907 |
| 3 | 0.864 |

a) Considering only the bond characteristics above (i.e. without performing any estimation), which bond is more sensitive to interest rate risk and why?
(5 marks)
b) Now answer the previous question by estimating the Macaulay's duration for each bond.
(15 marks)
c) Assume you run a pension fund and wish to immunize the duration of your liabilities, which currently stands at 2.5 years, by purchasing bonds. What strategy should you follow?

## Question 5.

a) What is a call option? Explain the differences between the intrinsic value and time value of an option.
(15 marks)
b) An investor considers the following strategy: sell a call option with a strike price of $\$ 30$ for $\$ 3.5$ and sell a put option with a strike price of $\$ 30$ for $\$ 1.5$. Both the call and the put options have a 1 year maturity and are written on the same stock which currently trades at $\$ 30$. What strategy does the investor follow? What does the investor believe will happen to the stock price in 1 year time to choose this strategy? In what cases is this strategy profitable?
(10 marks)

## Question 6.

a) How are hedge funds different to exchange-traded funds in terms of transparency, possible number of investors, strategies, liquidity, and fees?
(15 marks)
b) A hedge fund with $\$ 4$ billion of assets charges an annual management fee of $3 \%$ and an annual incentives fee of $25 \%$ of returns over the T-bill rate. Assuming the T-bill rate is currently $5 \%$, estimate the total fees (in dollars) that the fund will charge to its customers this year if the fund's annual return is $9 \%$. What are the total fees in case the fund achieves only a $4 \%$ annual return?
(10 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2018-19
Version 1

## INVESTMENT MANAGEMENT

NBS-6016Y

Time allowed: 2 hours

Answer FOUR questions

Each question you answer is worth $25 / 100$ points.
This examination accounts for $50 \%$ of your module mark.
Do not provide irrelevant information, but show all steps that are necessary to solve a problem.

Use four decimal places in all your calculations, except when you are calculating percentages, where you should use two decimal places.

You may use a UEA approved calculator

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator.

## Question 1.

a. What features of money market securities distinguish them from other fixedincome securities? (5 marks)
b. Suppose that investors perceive an increase in the volatility of stocks. What do you think would happen to the expected returns on stocks, if investors' risk preferences do not change? (5 marks)
c. Assume that you manage a risky portfolio with an expected rate of return of $10 \%$ and a standard deviation of $17 \%$. The T-bill rate is $3 \%$. What is the Sharpe ratio of your portfolio? ( 5 marks)
d. Explain what we mean by the term "efficient frontier" and discuss why it is important in portfolio selection? (10 marks)

## Question 2.

The stock of Olympus Plc is currently selling for $\$ 100$. Suppose that in 1 year from now the price of the stock will be either $\$ 136$ or $\$ 70$ with an equal probability of 0.5 . The company is not going to pay any dividends.
a. What is the expected return on the stock? (5 marks)
b. Assume that an investment in T-Bills offers a $3 \%$ return in 1 year from now. Would a risk averse investor buy the stock? Justify your answer. ( 5 marks)
c. Explain what we mean by the term 'indifference curve'. Can indifference curves of the same investor intersect? Explain your answer. ( 10 marks)
d. How will the indifference curve of a less risk-averse investor compare to the indifference curve of a more risk averse investor? (5 marks)

## Question 3.

a. How do we measure the total risk and how do we measure the market risk of an investment? (5 marks)
b. Explain the separation principle of portfolio selection. ( 10 marks)
c. An equity fund manager expects her portfolio to earn a rate of return of $6.5 \%$ this year. The beta of the fund is 1.5 . If the rate of return available on risk-free assets is $3 \%$ and you expect the rate of return on the market portfolio to be $6 \%$, use the capital asset pricing model (CAPM) to determine whether you should invest in the fund. (10 marks)

## Question 4.

NatWest's 2-year note has an annual coupon rate of $10 \%$ and a face value of $£ 100$. Assume the term-structure of interest rates is flat at 4\%.
a. Estimate the price and the Macaulay duration of the note. ( 15 marks)
b. Consider that the note price is $£ 107.74$ and that its modified duration is 1.84 . Using modified duration, estimate the approximate change (in $£$ ) in the note's price if interest rates increase by $1 \%$. Then, using the bond pricing formula, find the note price if interest rates increase by $1 \%$ and determine the actual change in price. Is the approximate change close to the actual change? ( $\mathbf{1 0}$ marks)

## Question 5.

Assume that the current price of Apple's stock is $\$ 220$ and that you can buy or sell the following 1-month option contracts:

| Option type | Strike (\$) | Option Price (\$) |
| :---: | :---: | :---: |
| Put | 210 | 6 |
| Put | 220 | 10 |
| Call | 220 | 7 |
| Call | 230 | 3 |

a. You believe that the stock price of Apple will increase to $\$ 235$ after one month. What strategy would you follow if you can only trade one call option? How would your answer change if you can only trade one put option? Justify your answer in both cases by estimating the payoff and the profit \& loss of each strategy.
(15 marks)
b. After doing more research on Apple's stock, you decide that it is better to implement a long straddle strategy which involves buying a call option and a put option which have the same strike price. How you would you build this strategy by using the 4 options in the table above? What do you believe should happen to the stock price in one month's time to choose this strategy? Under what circumstances is this strategy profitable? (10 marks)

## Question 6.

a. Discuss the three main reasons why it is difficult to determine the performance of hedge funds. ( 15 marks)
b. A fund of hedge funds has invested $\$ 100$ mil. in hedge fund $A$ and $\$ 100$ mil. in hedge fund $B$. A year later, hedge fund $A$ has made a $10 \%$ return while hedge fund $B$ has made a $20 \%$ return. Both hedge fund $A$ and hedge fund $B$ charge its investors a $20 \%$ incentives fee. If the fund of hedge funds also charges a $20 \%$ inventive fee, what profit (in \$) does the fund of hedge funds make after one year for its investors? Assume all management fees are zero. (10 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2018-19
Version 2

## AUDITING AND ASSURANCE

NBS-5021Y

Time allowed: 3 Hours

Answer FOUR questions, TWO from Section A, ONE question from Section B and ONE question from Section C.

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the invigilator.

## SECTION A

## Answer Section A in full

1. You are an audit manager at the firm BradleyLonsdale (BL) and have been asked to undertake the audit of a longstanding client Tabernacle Engineering Ltd (Tabernacle) for the year ended 30 June 2019. BL has audited Tabernacle for 20 years. You have collected together the following information to help plan the audit.

## Background

Tabernacle was founded 30 years ago. It uses complex machines to make components from a variety of materials to their customers precise specifications. In the year ended 30 June 2019 it is expected to make an operating profit of $£ 3.1$ million on a turnover of about $£ 15.2$ million and has net assets of approximately $£ 17.6$ million. Its main strategic concern is maintaining high levels of quality assurance for its products.

## Information related to the audit

Tabernacle has increased the number of employees from 70 to 88 in the last three months of the year. The new employees will help the company maintain and improve its quality assurance to maintain a high quality of product and will explain the companies design capacity. Payroll has increased from $£ 2.9$ million to $£ 3.3$ million.

Processing all the new employees has put pressure on the payroll clerk and so the personnel manager has been assisting by processing all the new employees onto payroll, so the payroll clerk can concentrate on the existing employees. The personnel manager also authorises that new posts can be released and carries out all the checks to ensure that the new employees are genuine (for example checking identity documents).

The rapid expansion of the firm's activities has also put pressure on the remaining accounts clerks. This has created a backlog in invoicing and there is consequently now a three-week delay in sending invoices out to customers after each job has been completed and the components delivered.

During the year a company controlled by one of Tabernacle's directors purchased a large order of components from Tabernacle. The transaction was carried out at the normal sales price and there are no outstanding receivables in connection with this transaction.

The four company directors are due to receive bonuses if Tabernacle makes a profit in excess of $£ 3$ million.

## Required

a) Explain the elements of audit risk
b) Identify and explain five risk factors for the audit of the Tabernacle.
(10 marks)
c) For each risk you have identified discuss what controls you would advise Tabernacle to adopt and how would you test those controls once implemented.
(10 marks)
d) Explain what is meant by the familiarity threat (to independence) and discuss ways in which it can be mitigated.
2. Green Storage plc (Green) is a UK quoted company which runs self-storage facilities in the UK. The following information has been extracted from the draft financial statements of Purple for the year ended 30 April 2019. Materiality has been set at $£ 3$ million profit and loss balances and $£ 9$ million for balance sheet balances.

## Extract from the accounting policies

Revenue Recognition: Self-storage income is recognised over the period for which the storage room is occupied by the customer on a straight-line basis. The opening offer discount of $50 \%$ off for up to 8 weeks is spread evenly over the term of the discount period.
Other storage related income comprises:

- Insurance income which is recognised on a straight-line basis over the period a customer occupies their room; and
- Packing material sales are recognised at the point of sale as there is not further ongoing performance obligation beyond the point of sale.


## Extracts from the notes to the financial statements

| 2019 | 2018 |
| :--- | ---: |
| $£^{\prime} 000$ | $£^{\prime} 000$ |

## Revenue

| Self-storage income | 97,717 | 91,600 |
| :--- | ---: | ---: |
| Other storage related <br> income | 16,494 | 15,189 |
| Ancillary storage rental <br> income | 524 | 526 |
| Gross Profit |  |  |
| Receivables <br> Trade receivables <br> Pre-payments and accrued <br> income | 80,986 | 74,995 |
|  | 12,684 | 3,174 |

## Required

a) Explain what is meant by materiality and how the two figures of materiality for Green would have been arrived at and used by the auditors.
(8 marks)
b) Describe the audit work that will be carried out in respect of Green's revenue.
(10 marks)
c) Discuss the audit work that will be carried out in respect of Green's receivables balances.

## SECTION B

## Answer one question from Section B

3. For Eyes Opticians Ltd (For Eyes) is a chain of opticians operating in the east of England. It has an inventory of glasses, contacts lenses and accessories in its six retail and eye-test premises. The inventory is valued at approximately £240,000.

Revenue for the year is approximately $£ 6.3$ million. For Eyes maintains a perpetual inventory system. You are planning the year-end inventory count visits.

## Required

a) Explain why it is important that the auditor attends inventory counts and whether it will be necessary for the auditor to attend all six of the year-end inventory counts.
(8 marks)
b) Explain what work you will need to carry out to ensure that audit coverage at each count is appropriate and what you will be looking for when you review the client's count instructions.
(12 marks)
(Total 20 marks)
4. Your firm is the external auditor of Pharmarep plc (Pharmarep) for the year ended 31 May 2019. Pharmarep distributes pharmaceutical products and $40 \%$ of its revenue comes from Canada where the government requires Pharmarep to have a licence to operate. Pharmarep expects its licence to operate in Canada to be withdrawn. However, after carrying out an assessment of the entity's ability to continue as a going concern, the directors have decided that Pharmarep has sufficient resources to continue operating for the 18 months ending 30 November 2020. Additional funding may be required from that date but Pharmarep does not currently have this in place.

## Required

a) Describe the work you will carry out to ascertain whether the directors' going concern assessment of Pharmarep is appropriate.
(8 marks)
b) Discuss, the implications for the auditor's report on Pharmarep's financial statements for the year ended 31 May 2019 if the directors of Pharmarep adequately disclose the information in respect of the licence to operate in Canada in the notes to the financial statements.
c) Discuss the implications for the auditor's report on Pharmarep's financial statements for the year ended 31 May 2019 if the directors of Pharmarep do not adequately disclose the information in respect of the licence to operate in Canada in the notes to the financial statements.
(6 marks)

## SECTION C

Answer one question from Section C
5. In recent decades standard settes and regulators have taken steps to improve audit quality.

## Required

Evaluate how audit quality can be improved.
(20 marks)
6. Among other characteristics accountants and auditors are required to have integrity and be objective. Related to these ethical requirements is the quality of independence.

## Required

Discuss the need for auditors to be and be seen to be objective, independent and to possess integrity.

## END OF PAPER

## NBS-5021Y Generalised exam feedback

Overall 85\% of people sitting the audit exam passed on this sitting.
The average mark was $56 \%$, with a very wide range of marks.
Q1 was general done very well, with appropriate risks identified and explained. The majority of answers provided sensible suggestions of controls but were weaker when it came to discussing how the auditor would test those controls.

In Q2 while there were good answers for tests of revenue, some of these concentrated on links to inventory work which was not appropriate in the circumstances of the scenario. While some answers centred the receivables circularisation as the key test for receivables it was disappointing not to see this in more of the answers.

In section B the majority of people chose to answer Q3. Most people attempting Q3 did very well but there were many quite repetitive answers that used material in both part a) and part b) whereas a higher scoring answer would have covered a broader range of ideas and placed them in the appropriate part of the answer.

Only a small number of people chose to answer Q4 and the answers where quite weak, particularly in respect of how different circumstances would be reflected in the audit report.

Answers in section C to both Q5 and Q6 tended to be very general discussions around the topic area and most answers could have been more tailored towards the actual question set.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School

Main Series UG Examination 2016-2017

## AUDIT AND ACCOUNTABILITY

NBS-6002Y

## Time allowed: 3 hours

Answer FOUR questions: THREE questions chosen from Section A and ONE question chosen from Section $\mathbf{B}$.

Each question is worth 25 marks

The TOTAL number of marks available for this paper is 100

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator

## Page 2

## SECTION A

1. 

(a) Explain the difference between 'general' controls and 'application' controls in a computerised accounting system.
(10 marks)
(b) Speedy Limited imports scooters manufactured in Eastern Europe and supplies them to customers operating independent specialist shops in the Midlands and East Anglia. Speedy's head office, sales and accounting departments are based in Salhouse. The scooters are imported via Felixstowe and are stored in Speedy's nearby warehouse. The scooters are delivered to the independent shops from the warehouse. You are the audit manager of Speedy Limited and are about to begin the interim audit of the sales system.

## REQUIRED:

(i) What controls would you expect to be in place on the sales and accounts departments at Speedy's head office in Salhouse and at the warehouse in Felixstowe to ensure that sales orders are authorised, the scooters are despatched, the sales are invoiced, and the money is collected from the shops?
(ii) What audit tests would you undertake to ensure the controls were working?
2.
(a) Explain the differences involved between 'statistical' and 'non-statistical' audit sampling.
(b) Hoveton Limited is a rapidly expanding manufacturer of parts for the UK car industry. Because of Hoveton's rapid expansion it has failed to recruit sufficiently in the purchase ledger department with the result that suppliers' statement reconciliations that involve matching goods received notes to invoices, and invoices to suppliers' statements, are no longer performed. Also, because of the pressure on senior staff the purchase ledger master file is updated by the purchase ledger clerks. You are the auditor of Hoveton Limited and are planning the audit of trade payables.

## REQUIRED:

(i) What are the key control deficiencies in the purchase ledger department of Hoveton Limited?
(ii) What audit procedures would you undertake to ensure that the trade payables of Hoveton Limited is not materially misstated?
(Total 25 marks)

TURN OVER

## Page 4

3. 

(a) Explain why auditors apply 'analytical procedures' in planning an audit.
(10 Marks)
(b) The following summary financial statements are available for the audit of Shops Limited, a retail company, for the 2017 (subject to audit) and the 2016 (audited) financial years.

Statements of profit or loss for the years ended 31 March:

|  | 2017 | 2016 |
| :--- | ---: | ---: |
| Revenue | $£ 000$ | $£ 000$ |
| Cost of sales | 700 | 500 |
| Gross profit | $\underline{(630)}$ | $\underline{70}$ |
| Expenses | $\underline{(55)}$ | 150 |
| Operating profit | $\underline{(30)}$ | $\underline{(40)}$ |
| Interest | $\underline{(15)}$ | $\underline{(10)}$ |
| Profit (loss) for the year | $\underline{\underline{50}}$ |  |

Balance Sheets as at 31 March:
20172016
£000 £000
Assets
Non-current assets 900
Current assets
Inventories 135
80
Trade receivables 90
60
Cash at bank
10
$\underline{50}$
$\underline{235} \underline{190}$
Total Assets
1,315
1,090
Equity and liabilities
Equity
Issued share capital 600600
Reserves 300
250
Retained profit (loss) (15) $\underline{\boxed{50}}$

Non-current liabilities
Long term loans 300
100

Current liabilities
Trade payables
130
90
Total equity and liabilities
1,315
$\underline{\underline{1,090}}$

You are the Shop's auditor and are currently in the process of planning the 2017 final audit.

## REQUIRED:

(i) Calculate FIVE ratios for BOTH years that would assist you in planning the audit.
(ii) Using the information provided and the ratios calculated, identify and describe FIVE audit risks and explain your response to each risk in planning the final audit of Shops Limited.
(Total 25 Marks)
4.
(a) What is meant by an 'unmodified' audit opinion?
(10 Marks)
(b) You are the auditor of Wroxham Limited a manufacturer of security systems. You have completed the audit fieldwork. However, you discover that an important customer of Wroxham has claimed that the security systems supplied by Wroxham failed to pass independent tests, and the customer has issued a significant legal claim against Wroxham. The directors of Wroxham deny responsibility and have put the claim in the hands of their lawyers.

## REQUIRED:

(i) What audit procedures would you adopt to form a judgement about the claim?
(ii) Discuss the options you have available as the auditor to ensure that the legal claim is adequately reflected in the financial statements and/ or the audit report of Wroxham Limited.
(Total 25 marks)

TURN OVER

## Page 6

## SECTION B

5. Compare and contrast the 'risk-based' and the 'business risk' approaches to auditing.
(25 marks)
6. Discuss why over the years the auditor's responsibility to detect and report fraud has been controversial, and why the controversy has not been easy to resolve.
(25 marks)
7. Explain what is meant by 'high quality' audit and discuss how audit quality can be monitored.
(25 marks)
8. 'The audit committee is an essential point of contact and communication with the external auditors.'

Discuss the role of the audit committee in overseeing the audit process.
(25 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2017-18

## AUDIT AND ACCOUNTABILITY

NBS-6002Y

Time allowed: 3 Hours

Answer FOUR questions:
TWO from Section A, ONE question from Section B, ONE question from Section C.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the invigilator.

## SECTION A

## Answer Section A in full

1. You are an audit manager and have been asked to carry out the audit planning for Pickles Foods Ltd for the year ended 30 June 2018. Pickles Foods has been a client of your firm for 4 years. You have collected together the following information.

Pickles Foods sources most of its raw materials from farmers based in the East Anglia region of the UK. The business has built up a good relationship with a small number of suppliers and has worked with them over a number of years to achieve the high quality of its products.

Pickles Foods sells its products to two large national retail chains and a number of smaller retailers based in the local region. It has successfully agreed a contract with a third national retailer, but in order to get the contract it had to agree to supply its products at a lower price than negotiated with its other customers.

Pickles Foods offers a prompt payment discount to its smaller customers who pay in less than 10 days. The three larger customers have all negotiated credit terms of 60 days.

Having obtained the new contract Pickles Foods has carried out planning work and approached its bank to negotiate a 5 year loan to help finance the expansion of the business. At this point, one month before the year end, the bank has yet to agree the loan.

The accounts department is currently staffed by two clerks working under the supervision of the finance director. The volume of work has grown to the point where Pickles Foods wished to appoint another clerk. However they have not been able to recruit and the new position remains vacant, the work being carried out by the existing staff team working overtime.

The senior managers in Pickles Foods are entitled to a bonus based on profits. This is due to be paid on completion of the audit and publication of the financial statements.

## Page 3

## Required

a) Explain how audit planning helps the auditor devote appropriate attention to important areas of the audit.
b) Identify and explain five risk factors for the audit of Pickles Foods Ltd.
(10 marks)
c) For each risk you have identified discuss the effect it will have on your plans for the audit of Pickles Foods.
(10 marks)
d) Explain what is meant by the familiarity threat (to independence) and discuss ways in which it can be mitigated.
2. You are the audit manager at the audit firm BradleyLonsdale (BL) which is undertaking the audit of Thomlinson Glass Co a large family owned firm which manufactures handcrafted glassware.

Thomlinson which has been a client of BL for a number of years, has a 31 May yearend and interim work on the 31 May 2018 has recently been completed. The final audit work will commence shortly after the year-end.

Thomlinson sells its products to retailers based mainly in the UK. The sales are seasonal with a notably higher levels of sales taking place in September and October as retailers get ready for Christmas and then again in Spring as the retailers prepare for the wedding season. Thomlinson has two warehouses, it maintains a perpetual inventory system and undertakes an annual year-end inventory count.

The retailers place regular orders through an online ordering system but before they can place any orders they have to be authorised and set up on the system. The order system creates a daily report for the warehouse managers of orders which have come in. The warehouse managers ascertain the lead time for that order if the products are not already available in inventory. They then notify the retailer of the expected delivery date and if necessary rework the production schedule.

When goods are despatched the retailer checks and signs a proof of delivery. They make a note of any damaged items and also note any items missing from the order. The annotated proof of delivery, together with any returns are brought back to Thomlinson by the delivery drivers. This does not happen very often because Thomlinson normally checks orders before they are despatched.

On receipt of the proof of delivery the sales system is updated and a sales invoice generated and sent out to the retailer. The retailers are given 30 days credit. During the year Thomlinson expect to write-off approximately $5 \%$ of receivables as smaller retails face financial difficulties.

## Required

a) Outline the three sources of audit confidence.
b) Explain the audit work you would do to obtain evidence from each source of audit confidence for the sales system and the revenue figure.
(12 marks)
c) Discuss why an auditor would regard a written response to a receivables circularisation as a particularly good form of audit evidence.
(7 marks)
d) Describe the other work that would be carried out to obtain sufficient, appropriate audit evidence in respect of the receivables balance.
(8 marks)
(Total 30 marks)

## Page 5

## SECTION B

## Answer one question from Section B

3. Traveller Hotels run a chain of hotels across the east of England. They employ roughly 300 staff and have a 31 May year-end.

The staff work a fixed, core number of hours per week as outlined in their contract of employment. At busy times staff can be asked to work additional hours as overtime which is paid at $25 \%$ premium over and above their regular pay rate. Annual pay rises are usually in line with inflation and are implemented from 1 June each year.

Overtime is recorded manually on timesheets and authorised by the employee's line manager. Deductions such as tax, national insurance and pension contributions are calculated automatically on the computerised payroll system.

Employees are paid monthly for both their core hours and any overtime worked in the previous month. The payroll package links automatically to the bank system to automate payments.

## Required

a) Describe the audit procedures that should be performed at the final audit to ensure that the payroll expense is accurate and complete.
(10 marks)
b) For each audit procedure described explain the purpose of the test
(10 marks)
(Total 20 marks)
4. Sparkle Lights is a wholesaler selling decorative lights and similar products. You are the audit manager and shortly after the year end received a copy of the trial balance and a draft set of financial statements. These show revenue of $£ 30.2 \mathrm{~m}$, receivables of $£ 6.8 \mathrm{~m}$ and profit before tax $£ 4 \mathrm{~m}$. However, before you could visit the company and undertake the final year-end audit work, the company's sales ledger was been corrupted by a computer virus. It has not been possible to access the sales ledger to undertake detailed testing of revenue or year-end receivables. There are no back-ups available for the sales ledger but no other accounting records have been affected.

## Required

a) Discuss what audit work could be carried out obtain evidence of the level of sales and receivables.
(8 marks)
b) Assuming that you are unable to obtain all the audit evidence that would normally be required for Sparkle Lights, discuss the implications for the audit report.
(12 marks)
(Total 20 marks) TURN OVER

## Page 6

## SECTION C

## Answer one question from Section C

5. This is a statement on audit quality from the website of one of the Big 4 audit firms:
' ... we are committed to transparency and believe that our clients and the capital markets benefit from public information about the key elements that drive quality in the auditing profession.'

## Required

Discuss what is meant by 'audit quality' and critically evaluate how it is achieved.
(20 marks)
6. Professional accounting bodies like the ICAEW and the ACCA advise their members that 'firms working in the regulated area of audit are required to comply with the audit regulations and guidance.'

## Required

Discuss the regulatory structure imposed on auditors carrying out audits in the UK and critically evaluate the need for regulation of audit work.
(20 marks)

## END OF PAPER

## Exam Feedback

## NBS-6002Y

After disappointing exam results in 2016/17 the module teaching team worked hard this year to try and ensure that students were better placed to perform well in the exam. We were also a little apprehensive having forced to adjust the exam in order to retain ACCA exemption, which meant the exam this year was felt by the teaching team to be more demanding than previously (we are conscious as a team that some students find processing long case scenarios very demanding).

We were therefore delighted with the performance in this year's exam and congratulate the students taking the module this year for their achievement. It was particularly gratifying to see the solid performance on the two long compulsory scenario questions, where the average mark was 67\% and 62\% for Q1 and Q2 respectively. One question stood out as having caused students answering it some difficulties and that was the audit report question, which had some very weak responses. This is a topic area where we will seek to improve student understanding in future.

# AUDIT AND ACCOUNTABILITY 

NBS-6002Y
Time allowed: 3 Hours

Answer FOUR questions, TWO from Section A, ONE question from Section B, ONE question from Section $C$.

## Notes are not permitted in this examination.

Do not turn over until you are told to do so by the invigilator.

[^0]
## SECTION A

## Answer Section A in full

1. You are an audit manager at the firm BradleyLonsdale (BL) and have been asked to undertake the audit of Harwood Construction Ltd (Harwood) for the year ended 30 June 2019. You have collected the following information to help plan the audit.

## Background

Harwood is a large firm of building and civil engineering company based in the East of England. In the year ended 30 June 2019, it is expected to make an operating profit of $£ 200,000$ on a turnover of about $£ 48$ million and has net assets of approximately $£ 8$ million. The firm prides itself on professionalism and customer care.

## Information related to the audit

BradleyLonsdale acquired Harwood as a new audit client earlier in the year and this is the first annual audit that will be carried out by BL on Harwood.

Harwood has heard that, despite their track record of good customer relationships, one of their largest customers has been seeking alternative suppliers for their next cluster of building contracts. The customer represents approximately $20 \%$ of Harwood's annual turnover.

Harwood is undertaking a change in accounting policy for revenue recognition to comply with recent changes in international financial reporting standards. This requires changes to its accounting software and accounting processes. Harwood has recognised that this is a technically difficult financial reporting problem.
(Please note, you do not need to comment on the detail of IAS 11 or IFRS 15)
It is standard practice in the construction industry for customers to retain payments for up to 12 months after construction work is complete (called retentions). Harwood in common with other members of the construction industry is owed such payments, which represent approximately $10 \%$ of total trade receivables.

All of Harwood's senior managers and directors have company credit cards, with a limit of $£ 5,000$ per month. The individual managers and directors do not require any further authorisation to make any purchases on their company credit cards.

## Required

a) Discuss the importance of assessing risks at the planning stage of an audit.
b) Identify and explain five risk factors for the audit of Harwood
(10 marks)
c) For each risk you have identified discuss what controls you would advise Harwood Construction Ltd to adopt and how you would test those controls once implemented.
d) Identify and explain five ethical threats to independence.
2. Wimborne Group plc (Wimborne) is a quoted company of real estate advisors that provides global consulting services and advice in connection with commercial, residential and agricultural properties

The following information is extracted from its draft financial statements for the year ended 30 April 2019.

|  | 2019 | 2018 |
| :---: | :---: | :---: |
|  | £'000 | £'000 |
| Revenue | 1,600.0 | 1,445.9 |
| Operating profit | 103.8 | 92.7 |
| Receivables | 490.6 | 419.4 |
| Cash and cash equivalents | 208.8 | 223.6 |
| Current liabilities |  |  |
| Borrowing | 110.1 | 35.8 |
| Trade and other payables | 592.7 | 550.2 |
| Tax liabilities | 16.4 | 17.5 |
| Provisions | 11.4 | 10.2 |
| Total current liabilities | 730.6 | 613.7 |
| Non-current liabilities | 87.0 | 117.2 |

Two key areas of audit risk identified at the planning stage of the audit were recoverability of trade receivables and valuation \& completeness of provisions for litigation.
The directors' assessment of the risks facing the company include;

- the impact of a global economic downturn
- recruitment and retention of high calibre staff, and
- exposure to legal claims.


## Required

a) Explain the principle of directional testing.
b) Describe the substantive audit work that will be carried out on each of the following areas of Wimborne's financial statements:
i) Revenue,
ii) Receivables,
iii) Cash and Cash equivalents.
c) Explain the difference between business risk and audit risk in relation to provisions for legal action.
d) Discuss how the auditors will collect appropriate audit evidence to support the directors' opinion on the completeness and valuation of legal provisions.
(6 marks)

## SECTION B

## Answer one question from Section B

3. Purple Storage plc (Purple) is a UK quoted company which runs self-storage facilities in the UK. For the year ended 30 April 2019 it had receivables totalling $£ 16.4$ million and receivables days of 52 days ( $£ 15.1$ million and 51 days in 2018).

## Required

a) Explain the three sources of audit confidence
b) Discuss the audit work that will be carried out in respect of Purple's receivables balances.
4. You are being asked to provide some guidance with respect to two audit clients of the audit firm at which you work.

The first, Archway Ltd (Archway), has recorded revenue for the year of $£ 60.1$ million of which $£ 5.7$ million relates to cash sales. You have identified that Archway does not have any effective system of control over cash sales. Profit before tax is $£ 12.9$ million.

The second company, Buttress Ltd (Buttress), has capitalised $£ 7.5$ million of research costs. Buttress has a profit before tax of $£ 52.7$ million.

## Required

For each of the two companies:
a) outline the audit work you would carry out in relation to the issues raised.
b) explain how your audit report should be modified assuming the issues raised are material.

## SECTION C

## Answer one question from Section C

5. Recent years have seen a number of high-profile companies facing threats of liquidation or administration such as Carillion, House of Fraser, and Patisserie Valerie, with a variety of outcomes: Carillion collapsed, House of Fraser was taken over, and Patisserie Valerie needed a large cash bail out by its main shareholder.

## Required

Discuss whether these and similar events has led to a widening of the audit expectations gap.
6. '...regulation maybe referred to as sustained and focused control exercised by public agency over activities that are valued by a community.' (Dewing and Russell, 2004)

## Required

Describe the regulatory structures imposed on auditors carrying out audits in the UK and discuss the need for regulation of audit work.
(20 marks)

## END OF PAPER

## NBS-6002Y Generalised exam feedback

Overall $85 \%$ of people sitting the audit exam passed on this sitting.
The average mark was $55 \%$, with a very wide range of marks.
Q1 was general done very well, with appropriate risks identified and explained. The majority of answers provided sensible suggestions of controls but were weaker when it came to discussing how the auditor would test those controls.

Q2 was quite a demanding question and there were some pleasing responses to it..
In section B the majority of people chose to answer Q3. Most people attempting Q3 did well While some answers centred the receivables circularisation as the key test for receivables it was disappointing not to see this in more of the answers.

A smaller number of people chose to answer Q4. This question was either answer very well or it was not, there were few moderately good answers.

Answers in section C to both Q5 and Q6 tended to be very general discussions around the topic area and most answers could have been more tailored towards the actual question set.

## INTRODUCTION TO ORGANISATIONAL BEHAVIOUR <br> NBS-1P4Y

Time allowed: 2 hours
Answer ONE question from Section A and ONE from Section B.

All questions carry equal marks.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

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## Section A

1. a) How does the external environment affect UEA as an organisation? Explain with the help of a PESTLE analysis.
b) Using Duncan's typology how would you characterise the environmental changes facing UEA? Please provide your justifications.
2. Using relevant research and theory, discuss how can personality be measured accurately, if at all?
3. Using theory to support your discussion, give a recent example of your involvement in a group activity connected with your studies. Evaluate the effectiveness of the group and key factors which contributed to this.

## Section B

4. The strikes and demonstrations that we have seen in recent months could be considered incidents of negative conflict. Is conflict always a bad thing? With reference to theory discuss differing perspectives of conflict in considering this question.
5. Outline the Job Characteristics Model (Hackman et al 1975). What relevance does it have today for organisations in the designing of jobs?
6. You are a new graduate management employee of a medium sized construction business (250 employees) specialising in repairing roofing of university lecture theatres. The company has a traditional functional structure with departments of -

- Sales and Marketing.
- Finance.
- Procurement.
- Human Resources.
- Stores and Logistics.
- Service (skilled and semi-skilled construction workers who carry out the work).

The company is experiencing increasing complaints from key customers who are not happy with the service provided.

The main complaint is that despite repeated communications with the sales department regarding timings of materials delivery and work being carried out being requested outside lecture times; these are continuing to take place whilst lectures are being delivered. This causes noise and distraction to students and lecturers and therefore customer dissatisfaction.

On initial investigation you have found evidence that communication between the different departments (functions) is poor. The organisation has become departmentalised, with little informal or formal communication between different functions.

As a consequence messages of changes to timings of lectures have often not been passed onto service staff and logistics coordinators in time for them to reschedule resources and rearrange site deliveries with suppliers. Logistics and Service workers are becoming frustrated with the short notice they receive of the changes, often weeks after the customer has issued them.

You have been requested by management to recommend in writing how the organisation could change its structure to improve performance, explaining the reason for your choice and provide specific discussion concerned with issues and benefits of this structural change to the organisation. Use theory and accepted academic models to support your discussion and views.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2011-12

## INTRODUCTION TO ORGANISATIONAL BEHAVIOUR

NBS-1P4Y

Time allowed: 2 hours
Answer ONE question from Section A and ONE from Section B.

All questions carry equal marks.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A

1. In the current climate of global recession, the importance of gaining competitive advantage has become essential to many organisations, not only to be successful, but in some cases purely to survive.

Identify a supermarket, food/clothing retail shop or a restaurant. Discuss the importance of understanding and applying some of the key Organisational Behaviour theories, principles and concepts to the organisation you have chosen, which will help them achieve high levels of performance and competitive advantage.

You are required to use specific examples, supported by academic theories and concepts.
2. Why is the study of perception important? What are the lessons for organisations? Make reference to relevant theory and organisational examples in your answer.
3. Discuss the main barriers to effective communication and implications for organisations. Academic theory should be used to support your discussion throughout.

## SECTION B

4. Examine the role of the change agent in successfully managing organisational change.
5. The main aim of academic research has been to find an answer to the question: what makes an effective leader. With reference to the theories on leadership, explore how successful this research has been.
6. The contemporary view of conflict argues that an optimum level of conflict is needed to maximise performance. How can organisations / management achieve this optimum level?

END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
UG Main Series Examination 2012-13

## INTRODUCTION TO ORGANISATIONAL BEHAVIOUR

NBS-1P4Y

Time allowed: 2 hours
Answer TWO questions.
All questions carry equal weight.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator

1. You are required to write an essay to managers in a business organisation explaining key factors they need to consider in order to effectively communicate with their team/department members. What methods would you recommend to improve communication effectiveness? Academic theory should be used to support your discussion as appropriate.
2. Discuss how the behaviourist approach to learning can be used to condition individual behaviour in organisations. Academic theory should be used to support your discussion throughout.
3. How does job design contribute to worker effectiveness? Academic theories and models should be used to support your discussion as appropriate.
4. What are the key elements of organisational structure which should be considered by an organisational designer and what are the key issues relating to each element?
5. Outline the difference between planned and emergent change. What do organisations need to take into account when managing change?
6. A major debate in $O B$ is whether organisations are rational or political. Compare and contrast the models that explain power in organisations: the rational model and the political model of organisations.

## END OF PAPER

## INTRODUCTION TO ORGANISATIONAL BEHAVIOUR

NBS-4005Y

Time allowed: 2 hours

Answer all FIVE questions from Section A
EACH question from Section $A$ is worth 4 marks

Answer TWO questions from Section B
EACH question from Section $B$ is worth 40 marks

The TOTAL number of marks available for this paper is 100

## Notes are not permitted in this examination

Do not turn over until you are told to do so by the Invigilator

## SECTION A

Multiple Choice Questions
(Answer all FIVE questions)

1. Roger developed the term 'two-sided self' to refer to the positive and negative personality traits that everybody has. True or false?
a. True
b. False
2. Which of the following is one of the main propositions of goal-setting theory?
a. Managers need to motivate their staff to improve performance
b. Participation in goal-setting can increase performance
c. Vague, general goals empower the employee
d. None of the above
3. A few months after the new starters joined the firm, an atmosphere of hostility exists among several members of the team. The team has entered the ----- stage of development.
a. Forming
b. Storming
c. Norming
d. Performing
4. The unitarist perspective sees conflict as:
a. Creative and productive
b. Upsetting an otherwise harmonious organisation
c. Something that always happens in organisations
d. A product of tensions between managers and employees

Page 3
5. Which of the following is NOT one of the bases of power?
a. Reward
b. Knowledge
c. Referent
d. Expert
(4 marks)

## SECTION B

## Essay Questions

(Answer any TWO questions)
6. Explain the trait, style and contingency approaches to leadership. Examine the advantages and disadvantages of these approaches in understanding what makes an effective leader.
7. How are the content and process theories of motivation different from each other? How helpful are they to improve motivation of employees within organisations? Explain with the help of an example for each kind of theory.
8. How does being part of groups affect the behaviour of individual members? Explain using any two of the following concepts and research studies relevant to them - conformity, social loafing, group think and risky shift.
9. Discuss the main barriers to effective communication and implications to organisations. Academic theory should be used to support your discussion throughout.
10. Describe the Job Characteristics Model (JCM) (Hackman et al 1975). How is this model useful in designing jobs that maximise satisfaction and performance?
(40 marks)

## END OF PAPER

## INTRODUCTION TO ORGANISATIONAL BEHAVIOUR

NBS-4005Y

Time allowed: 2 hours

Answer all FIVE questions from Section $A$
EACH question from Section $A$ is worth 4 marks

Answer TWO questions from Section B
EACH question from Section $B$ is worth 40 marks

The TOTAL number of marks available for this paper is 100

Notes are not permitted in this examination
Do not turn over until you are told to do so by the Invigilator

## SECTION A

Multiple Choice Questions
(Answer all FIVE questions)

1. Coding is the process associated with:
a. How the transmitter chooses to express a message
b. How the recipient interprets a message
c. Factors that interfere with the reception of the intended message
d. How message is made secure with special software
2. Which statement most accurately describes self-actualisation?
a. Self-actualisation is concerned with financial success
b. Self-actualisation is the desire to belong to a group
c. Self-actualisation is the desire for personal fulfilment
d. None of the above
3. Norms as they operate in groups, may be defined as:
a. Standard Operating Procedures (SOP)
b. Expected modes of behaviour
c. Formal rules of behaviour that are widely shared and that managers must follow
d. Standards of behaviour that are issued by the group
4. Which of the following conflict resolution methods is most likely to resolve a problem?
a. Competing/forcing
b. Collaborating
c. Accommodating
d. Compromising
5. Which one of the following is NOT one of Taylor's objectives for scientific management?
e. Efficiency
f. Predictability
g. Quality
h. Control

## SECTION B

## Essay Questions

(Answer any TWO questions)
6. What is personality? How are the type, trait and self theories on personality different from each other? Explain with one example of each kind of theory.
(40 marks)
7. Describe the main findings of the Hawthorne relay assembly studies and discuss whether it is still relevant to modern day organisations.
8. Explain the term "Social Loafing". Discuss its impact on groups or teams, and ways to reduce social loafing. You must consider the relevant research studies and their findings in your essay.
9. There are four major frames of reference on conflict. Outline two of these frameworks explaining what distinguishes the frameworks from each other. Use appropriate organisational examples.
10. What is power? Explain the three perspectives on power: power as a property of individuals, of relationships and of organisational structure.
(40 marks)

## END OF PAPER

# INTRODUCTION TO ORGANISATIONAL BEHAVIOUR <br> NBS-4005Y 

Time allowed: 2 hours

Answer all FIVE questions from Section A
EACH question from Section $A$ is worth 4 marks

Answer TWO questions from Section B
EACH question from Section $B$ is worth 40 marks

The TOTAL number of marks available for this paper is 100

Notes are not permitted in this examination
Do not turn over until you are told to do so by the Invigilator


## SECTION A

Multiple Choice Questions
(Answer all FIVE questions)

1. An approach that seeks to capture the essence of an individual's personality is called:
a. Nomothetic
b. Idiographic
c. Scientific
d. Objective
2. The components of a communication model are:
a. Encoder, message, decoder, receiver
b. Transmitter, channel, perception, feedback
c. Transmitter, message, receiver, feedback
d. Extraversion
e. Neuroticism
3. John believes that if he doesn't put much work in the job it will still get done. What term could be used to describe his attitude?
a. Drive theory
b. Social loafing
c. Norms
4. Leading is the same as managing. True or false?
a. True
b. False

## Page 3

5. Which one of the following does NOT make departments more powerful?
a. Having other departments depend on them
b. Being able to increase uncertainty
c. Having control over a good level of financial resources
d. Doing something that no one else can do

## SECTION B

Essay Questions
(Answer any TWO questions)
6. What is communication? What can managers do to improve the effectiveness of their communication?
(40 marks)
7. (a) Explain Maslow's need hierarchy. How useful will this theory be to increase motivation of employees?
(b) Explain goal setting theory. How useful will this theory be to increase motivation of employees?
8. Using Tuckman and Jensen's framework, identify the stages of group development. Comment on the key factors and influences that can have positive or negative impact on group development.
9. What are the key principles of Taylorism and Fordism? What effects might Taylorism and Fordism have on satisfaction with work?
(40 marks)
10. Conflict is bad for organisations. Do you agree? Discuss using key frameworks on conflict and approaches to conflict resolution.
(40 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2016-17

## INTRODUCTION TO ORGANISATIONAL BEHAVIOUR

NBS-4005Y

Time allowed: 2 hours

Answer ALL questions

The TOTAL number of marks available for this paper is 100

Write down all answers in the answer booklet. Only answers in the answer booklet will be marked and graded.

Notes are not permitted in this examination

Do not turn over until you are told to do so by the Invigilator

## SECTION A - MULTIPLE CHOICE QUESTIONS

## (Answer ALL questions)

1. What are the main components of an attitude?
a. Cognitive, Affective, Behavioral
b. Cognitive, Meta-cognitive, Affective, Behavioral
c. Cognitive, Physiological, Instrumental
d. Instrumental and Reactive
2. A medium amount of task conflict between group members can be beneficial for performance.
a. True
b. False
3. Which of the following is not a characteristic of scientific management?
a. Repetitive work cycles
b. Prescribed task sequences
c. Motivation based on economic rewards
d. Teamworking
4. Transformational leaders are more effective because they are more creative.
a. True
b. False
5. French and Raven (1959) outline five types of power. $\qquad$ describes the power type associated with the special abilities or knowledge that a leader may have, which may be useful or desired by his or her followers.
a. Reward Power
b. Referent Power
c. Expert Power
d. Legitimate Power

## SECTION B - SHORT QUESTIONS

(Answer ALL questions)
6. Explain how a manager motivates employees with reference to McGregor's Theory X and Theory Y .
7. Schein (1985) outlines a model of organisational culture that denotes several layers. Describe the model and outline one benefit and one drawback of it.
8. You are a manager of a well-known organisation and you are hiring an assistant. You have decided to use a personality trait test to guide your choice. Based on the literature of Big Five theory and behaviour at work describe the profile of the ideal candidate and explain why.
9. Briefly describe the five core job features of Hackman and Oldham's Job Characteristics Model.
10. Briefly describe the characteristics of a charismatic leader.
11. Briefly describe the concept of social loafing, and outline reasons why it happens.
12. Briefly explain what employees can do if they feel unfairly treated according to equity theory.
13. Define job satisfaction and briefly outline the possible consequences of job dissatisfaction.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2017-18

## INTRODUCTION TO ORGANISATIONAL BEHAVIOUR

NBS-4005Y

Time allowed: 2 hours

Answer ALL questions from Section 1
Each question from Section 1 is worth 4 marks = total 20 marks

Answer ALL questions from Section 2
Each question from Section 2 is worth 10 marks = total 80 marks

The TOTAL number of marks available for this paper is 100

Please write down all answers in the answer booklet. Only answers in the answer booklet will be marked and graded.

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator.

## SECTION 1 - MULTIPLE CHOICE QUESTIONS

(Answer ALL questions)

1. What is the third stage of Tuckman's model of group development?
a. Performing
b. Norming
c. Forming
d. Storming
2. Herzberg (1966) describes what is known as the "two-factor theory" of motivation. What are the two factors that the theory discusses?
a. Hygiene and Motivating factors
b. Autonomy and Feedback factors
c. Effort-Performance, and Attractiveness of Rewards
d. Physiological and Psychological factors
3. Which leadership approach encapsulates the following four elements: (i) idealised influence, (ii) inspirational motivation, (iii) intellectual stimulation, and (iv) individualised consideration.
a. Trait theory
b. Behaviour theory
c. Contingency theory
d. Transformational theory
4. Relationship conflict, rather than task conflict, can be healthy and beneficial for decision-making and cohesiveness in teams.
a. True
b. False
5. "A's relationship to $B$ when $B$ possesses something that $A$ requires" is a description of $\qquad$ .
a. Readiness of change
b. Political action
c. Dependency
d. Curiosity

## SECTION 2 - Short questions

(Answer ALL questions)
6. Describe AND evaluate the democratic leadership style. Use examples to illustrate your answer.
7. Explain the difference between a strong and a weak organisational culture. In doing so, outline a benefit and a drawback of both types of organisational culture, and use examples to illustrate your points.
8. What is goal-setting theory? And why has it been used so often in business? Explain and evaluate the theory.
9. Explain the meaning of groupthink. In your explanation, include symptoms, examples, and ways to overcome groupthink.
10. You are a manager of a well-known coffee shop chain and you are hiring a new employee (as a barista). You have decided to use a personality trait test to guide your choice. Based on the literature of the Big Five theory, describe the profile of the ideal candidate and explain why.
11. French and Raven (1959) suggest there are five bases or sources of power that individuals use in organisations to influence others. What are these five bases or sources of power? And which are most effective for managers?
(10 marks)
12. Sophie is a manager that wants to support her team to become more satisfied and effective at work. A colleague has recommended thinking about Hackman and Oldham's (1979) 'job characteristics model'. Explain the five elements of the job characteristics model.
(10 marks)
13. In the context of organisations, what is meant by 'resistance to change'? And what are the causes AND consequences of it?

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2018-19
Version 1

## INTRODUCTION TO ORGANISATIONAL BEHAVIOUR (1) - NBS Students NBS-4005Y

Time allowed: 2 hours

Answer ALL FOUR questions from Section 1
Each question from Section 1 is worth 5 marks = total 20 marks

Answer ALL FOUR questions from Section 2
Each question from Section 2 is worth 20 marks = total 80 marks

The TOTAL number of marks available for this paper is 100

Please write down ALL answers in the answer booklet. Only answers in the answer booklet will be marked and graded.

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the invigilator.

## SECTION 1 - MULTIPLE CHOICE QUESTIONS <br> (Answer all FOUR questions)

1. Which of the following is not a category of Schein's (1985) model of organisational culture?
a. Values
b. Assumptions
c. Leadership Styles
d. Artefacts
2. Adam Smith is renowned for theorising which of the following ideas?
a. The division of labour
b. Leadership communication
c. Social loafing
d. The five factor theory of personality
3. In management ethics, the semiotic square can be used to describe the good, the bad, the benign and the indifferent. Which of these occurs when a manager ignores harm done by, or to, others?
a. The good
b. The bad
c. The benign
d. The indifferent
4. Power tactics are used to influence others that we work with. Which of the following is the most effective when trying to exert 'upward influence'?
a. Pressure
b. Consultation
c. Rational persuasion
d. Coalitions

## SECTION 2 - Short questions

(Answer ALL FOUR questions)
5. What is organisational culture? And why is it important for organisational leaders to understand and influence it in business?
6. Jake has recently started a job as a line manager and now coordinates a team of eight people. However, he is finding that members of his team can be quite political in their interactions with one another.

What does it mean to be political in the context of organisations? And is it good or bad to be politically skilful at work? Justify your response.
7. Should a growing tech firm like Facebook adopt the bureaucracy as its primary organisational design? Or would an alternative form of organisational design be more effective for this type of firm? Outline reasons why the principles of bureaucracy could be problematic and/or helpful to tech firms like Facebook.
8. Mariella works as a manager for an innovative marketing business. She is in the process of recruiting a new member of staff for the role of 'creative designer'. She wants someone that is creative, hardworking and willing to try new ideas.

What factors from the five factor theory of personality should Mariella look for in the candidates applying for the job? Describe the relevant factors and point out why they may be relevant for the role mentioned above.
(20 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2017-18

## INTRODUCTION TO ORGANISATIONAL BEHAVIOUR

NBS-4011Y

Time allowed: 2 hours

Answer ALL questions from Section 1
Each question from Section 1 is worth 4 marks = total 20 marks

Answer ALL questions from Section 2
Each question from Section 2 is worth 10 marks = total 80 marks

The TOTAL number of marks available for this paper is 100

Please write down all answers in the answer booklet. Only answers in the answer booklet will be marked and graded.

Notes are not permitted in this examination
Do not turn over until you are told to do so by the Invigilator

## SECTION 1 - MULTIPLE CHOICE QUESTIONS

## (Answer ALL questions)

1. Motivation is a personal trait.
a. The statement is correct.
b. The statement is incorrect.
2. Which leadership theory suggests that leaders are born?
a. Trait theories of leadership
b. Behavioral theories of leadership
c. Situational theories of leadership
d. Transformational theories of leadership
3. If you designed jobs according to Hackman and Oldham's Job Characteristics Model, what outcome would you expect?
a. Improvements in intrinsic motivation
b. Work-related stress
c. High levels of boredom
d. Less innovation
4. A common distinction in organizational culture is often made between strong and weak cultures. Which statement is correct?
a. A strong culture usually reduces employee turnover.
b. A strong culture means that most employees have many interpersonal strengths.
c. A weak culture means that employees have a strong emotional attachment to the core values and little agreement about these values.
d. In a strong culture, employees would not disapprove of fellow employees who act against core values.
5. What does referent power mean (according to French \& Raven)?
a. The power to fire, demote, assign tasks
b. Special skill or knowledge
c. Power of desirable resources or personal traits
d. Formal authority based on position in organization

## Page 3

## SECTION 2 - Short questions

## (Answer ALL questions)

6. Briefly explain the Big Five theory of personality.
7. Briefly describe the concept of resistance to change and outline several ways to overcome resistance to change.
8. What are inputs and outputs according to Stacy Adams' equity theory?
9. Briefly describe the 4 stages of group development according to Tuckman. What are some of the criticisms of the model?
10. Is political behaviour in organisations unethical? Define political behaviour and discuss.
11. Schein (1985) outlines a framework for understanding the nature of organisational culture. The framework describes three levels of organisational culture: (i) artefacts, (ii) espoused values, and (iii) underlying assumptions. Briefly explain the meaning of these levels, using examples to illustrate your points
12. What are the basics of trait theory of leadership and what are its criticisms?
13. Explain the idea of a matrix organisational structure, and outline one benefit and one drawback of it.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2018-19
Version 1

## INTRODUCTION TO ORGANISATIONAL BEHAVIOUR (2) - Non-NBS Students NBS-4011Y

Time allowed: 2 hours

Answer ALL FOUR questions from Section 1
Each question from Section 1 is worth 5 marks = total 20 marks

Answer ALL FOUR questions from Section 2
Each question from Section 2 is worth 20 marks = total 80 marks

The TOTAL number of marks available for this paper is 100

Please write down ALL answers in the answer booklet. Only answers in the answer booklet will be marked and graded.

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the invigilator.

## SECTION 1 - MULTIPLE CHOICE QUESTIONS <br> (Answer all FOUR questions)

1. Which of the following is not a category of Schein's (1985) model of organisational culture?
a. Values
b. Assumptions
c. Leadership Styles
d. Artefacts
2. Adam Smith is renowned for theorising which of the following ideas?
a. The division of labour
b. Leadership communication
c. Social loafing
d. The five factor theory of personality
3. In management ethics, the semiotic square can be used to describe the good, the bad, the benign and the indifferent. Which of these occurs when a manager ignores harm done by, or to, others?
a. The good
b. The bad
c. The benign
d. The indifferent
4. Power tactics are used to influence others that we work with. Which of the following is the most effective when trying to exert 'upward influence'?
a. Pressure
b. Consultation
c. Rational persuasion
d. Coalitions

## SECTION 2 - Short questions

(Answer ALL FOUR questions)
5. What is organisational culture? And why is it important for organisational leaders to understand and influence it in business?
6. Jake has recently started a job as a line manager and now coordinates a team of eight people. However, he is finding that members of his team can be quite political in their interactions with one another.

What does it mean to be political in the context of organisations? And is it good or bad to be politically skilful at work? Justify your response.
7. Should a growing tech firm like Facebook adopt the bureaucracy as its primary organisational design? Or would an alternative form of organisational design be more effective for this type of firm? Outline reasons why the principles of bureaucracy could be problematic and/or helpful to tech firms like Facebook.
8. Mariella works as a manager for an innovative marketing business. She is in the process of recruiting a new member of staff for the role of 'creative designer'. She wants someone that is creative, hardworking and willing to try new ideas.

What factors from the five factor theory of personality should Mariella look for in the candidates applying for the job? Describe the relevant factors and point out why they may be relevant for the role mentioned above.
(20 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2010-11

## NBS- 2P3Y

## HUMAN RESOURCE MANAGEMENT

Time Allowed: TWO Hours

Candidates should answer TWO questions
ONE question from Section $A$, and ONE question from Section $B$

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## SECTION A

1. Describe briefly the historical phases of the development of human resource management in the UK up to the 1960s. Select any 2 of these historical phases and critically appraise their continuing impact, if any, on human resource management practice in the $21^{\text {st }}$ century.
2. 'If you want to retain your employees, all you have to do is to pay them well'. Do you agree with this statement? Your answer should consider the typical reasons for employee turnover, and critically evaluate what human resource managers can do to address them.
3. Critically evaluate the advantages and disadvantages of internal and external recruitment sources and methods.

## SECTION B

4. Evaluate critically the impact of age discrimination legislation on human resource management practices with regard to managing diversity in the workplace.
5. Assess critically why managing absence has become more important for human resource managers in the $21^{\text {st }}$ century.
6. Appraise critically whether the office romance is an important issue for organisations today, specifying the policy recommendations as a human resource manager you would make to your Chief Executive Officer with regard to office romances.

## END OF PAPER

# HUMAN RESOURCE MANAGEMENT 

NBS-2P3Y
Time allowed: 2 hours

Candidates should answer TWO questions
ONE question from Section $A$, and ONE question from Section B

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator.

## SECTION A

1. Considering a range of different rewards options and their implications, evaluate the ways a company can reward its top executives.
2. In discussing performance appraisal, McGregor (1957:90) argues that 'managers are uncomfortable when they are in the position of playing God'. What would the HR function need to consider when training and supporting line managers in conducting effective appraisals?
3. Evaluate the use of psychometric testing as part of an effective selection process.

## SECTION B

4. Assess the role of trade unions in the modern organisation from both an organisational and a trade union perspective.
5. The topic of employee voice has grown in importance as the role of trade unions has declined. Examine the ways in which an organisation can directly involve their staff.
6. It could be argued that one of the main differences between managing diversity and an equal opportunities approach is the former's focus on the business case. Evaluate to what extent there is evidence to support this business case.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2012-13

## HUMAN RESOURCE MANAGEMENT

NBS-2P3Y

Time allowed: 2 hours

Answer TWO questions

All questions carry equal weight

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## Page 2

1. The practical significance of e-recruitment as a method of recruitment remains a question of debate. Why?
2. Retention. Good or bad for organisations?
3. Evaluate the extent to which organisations can increase individual levels of performance.
4. Examine the advantages and disadvantages of increasing the amount of variable pay in rewarding staff. (You should consider this issue from both an employee and organisational perspective).
5. With the decline in trade unions, a potential representation gap has occurred. Evaluate the ways that this gap can be filled with individual employee voice mechanisms.
6. An employee has been medically diagnosed with workplace stress. Why should the organisation's HR department be concerned with this issue?

## END OF PAPER

## HUMAN RESOURCE MANAGEMENT

NBS-5011Y

Time allowed: 2 hours

Answer TWO questions: ONE question from Section $A$ and ONE question from Section B

ALL questions carry EQUAL weight

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A

1. Josietown community medical centre (JCMC) is a small hospital with 30 beds on the edge of a small market town located in a rural county. It is 70 miles from the closest large city. JCMC employs around 180 people including 40 nurses and nursing assistants. While financially the hospital has been well run, future funding is more uncertain so to help them to evaluate this situation the board instructed a survey of its workforce and was alarmed by the following findings, which indicate an imbalance of labour demand and labour supply.

- In 2017 66\% of the current nursing employees will be of retirement age.
- Most nurses live within a 15 mile radius of Josietown.
- $80 \%$ of the nurses were schooled locally and then went away to gain their nursing qualifications before coming back to Josietown to pursue their careers. However, fewer numbers of individuals are leaving the local school academies and entering nursing. Those that do so are not returning back to Josietown like previous generations.
- JCMC does not have a current workforce replacement plan in place to deal with the nursing employee attrition expected over the next decade.

You are the HR Manager and you have been asked to consider how JCMC 's HR planning process can help address the projected downturn in staffing.
2. 'Lyon and Sayce Insurance' are reviewing the employee voice mechanisms covering their unionised workforce. Evaluate the range of direct and indirect methods that the organisation could introduce.
3. Are "the equal opportunities approach" and the "management of diversity approach" mutually incompatible? Justify your answer and explain why.

## SECTION B

4. What is strategic reward and what role does it play? Assess what factors you would need to consider when developing a reward strategy?
5. You work for HR in a large UK national communication company UKcom. During the recession it focused on its core service and core employees but is now starting to grow its business again. It has been decided to strategically develop the broadband service packages that are currently driving business growth. To support this move 50 employees from other less profitable and productive departments are being moved. You have been asked to organise training and development for these employees to work in the broadband part of the business. What will you need to consider when designing a training and development programme for these 50 employees?
6. At Hewlett Packard "engagement" is considered as part of their Human Resource Strategy. On their webpage, they state that: "When employees are engaged and loyal, companies perform better". Explain the meaning of this sentence and provide examples of how you would promote engagement in the organisation.

## END OF PAPER

## HUMAN RESOURCE MANAGEMENT

NBS-5011Y

Time allowed: 2 hours


Answer TWO questions: ONE question from Section $A$ and ONE question from Section B

ALL questions carry EQUAL weight

Notes are not permitted in this examination.
Do not turr over until you are told to do so by the Invigilator.

## SECTION A

1. You are a HR officer at a security firm SECTO. There is a world cup sporting event and you have been asked to supply security for the event, which will take place in London. It has been forecast that you will need 1000 licensed security people when originally you were planning for 200. You have nine months before the event.
How can HR help in addressing this planning resource issue?
2. In implementing employee voice, how does an organisation demonstrate to their employees that these mechanisms are important?
3. If you worked in the Human Resource Department of a company that wants to use diversity as part of their Human Resource Strategy, what specific policies would you develop to manage diversity and use it as a competitive advantage?

## Page 3

## SECTION B

4. The use of performance related pay (PRP) can be seen as controversial. Evaluate the reasons why this might be the case.
5. According to Torrington et al (2014) systematic models of learning and training continue to be of value in today's business environment. Evaluate this statement in relation to organisational and HR approaches to strategy.
6. Is "pay" one of the main retention strategies that organisations should use to avoid loss of talent? Explain why and propose other policies that could help companies retain employees.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2016-17

## HUMAN RESOURCE MANAGEMENT

NBS-5011Y

Time allowed: 2 hours

Answer TWO questions, ONE from each section.

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator.

## SECTION A

1. Outline the reasons behind the decline of trade union representation in the UK and discuss the consequences of this decline for organisations and employees.
2. Please read the following scenario carefully.
"James works as a Human Resource Director at a multinational company.
Together with his team, 10 years ago he designed and implemented a programme called "We take care of you", based on offering employees financial support for training activities as well as for services such as childcare. Over the last 5 years, employees have evaluated the programme as insufficient. Employees also report high levels of stress and low levels of job satisfaction".

Explain (a) why you consider the programme is not succeeding, and (b) propose an alternative programme to increase employees' well-being.
3. You work in the Human Resource Department of a company that wants to reduce absenteeism as part of its Human Resource Strategy. What measures and policies would you take into consideration when developing a strategy to manage absenteeism?

## SECTION B

4. You have been appointed as the Human Resource (HR) adviser of a company that wants to restructure the HR function. The aim is to align the objectives of the HR function with those of the company. The HR manager has read about Ulrich's work on roles and the related three-legged model, and she is asking for your opinion on this. Your task is to describe the three-legged structure, and whether and how it can enhance strategic HR Management.
5. The use of the Internet for recruitment purposes, referred to as e-recruitment, and of social media for attracting candidates has both positive and negative aspects. Evaluate the reasons why this might be the case.
6. You have been appointed as the Human Resource adviser of a company that wants to restructure the performance management system, to meet the demands of the highly competitive environment. What are the principal stages and elements that you need to consider in any redesign of the performance management system?

## END OF PAPER

## Generalised Exam Feedback

## Module: NBS-5011Y Human Resource Management

## Section A

1. Question 1 asked students to "outline the reasons behind the decline of trade union representation in the UK and discuss the consequences of this decline for organisations and employees." Students should have defined trade union (TU) and the extent of its decline in the UK. Next they should have listed and explained the reasons underlying such decline, such as globalisation and relocation of companies, less unionfriendly political environment, changes in the labour market, increase in other forms of direct voice mechanisms. Subsequently, students should have illustrated the main consequences of TU decline for both organisations and employees.
The biggest problems with this answer was that students did not engage in a discussion of both the causes and the consequences of TU decline, but they only provided a descriptive list of causes. Furthermore, some students only discussed few consequences for the organisations or the employees (instead of focusing on both perspectives).
Good answers should have discussed the scope of employee relations, the changes in terminology from industrial relations to employee relations, the shift from collectivism in general, and the relatively recent changes in legal regulations and HRM practices. Only few students were able to include some of these points in their answers.
2. Question 2 was a quite common choice. The question required students to read a scenario presenting a wellbeing intervention and (a) to explain why the programme did not succeed, (b) to propose an alternative programme to increase employee wellbeing. Hence, the question required to apply theoretical concepts and models to the scenario.
A good answer should have included a definition of health and wellbeing and an explanation of the organisation's role in enhancing individual wellbeing. Next, students were expected to provide evidence-based arguments to a) analyse the failure of the programme and b) identify alternative strategies. They could have drawn upon the JobDemands Resources (JD-R) model (Demerouti et al., 2001). In fact, the "health impairment process" could help to understand the source of employee stress and to depict the key elements (i.e., job characteristics) to modify in order to decrease stress. The "motivational process" could help to understand how to support individual motivation and satisfaction (in the provided scenario, employees were stressed and unsatisfied). Some exemplary strategies to improve the programme include: a wider range of job resources (based on the JD-R model); work-life balance policies; opportunities for employee growth and development; open channels of communication.
Performance on this question was variable. Some students performed well and demonstrated their understanding of the topic by the way they applied their thinking and provided recommendations that were underpinned by academic theories. Some students correctly recognised that 'financial support for training' and 'childcare provision' was not enough to support individual wellbeing. Many students used the JDR model or the job characteristics model (Hackman \& Oldham, 1976) to identify the job characteristics able to support wellbeing. The latter model was the most mentioned.

However, some answers were limited to a mere description of the models, failing to apply them to the case. Finally, some students only addressed one part of the question. This consequently decreased their marks.
3. Question 3 regarded the measures and policies to take into consideration when developing a strategy to manage absenteeism. This was the most popular question of Section A and, on the whole, it was answered very well, as there were some high marks and few exemplary answers. Students were expected to describe the main methods to monitor and reduce absenteeism (e.g., keeping accurate records, absence review and trigger points, return to work interview, use of disciplinary and preventive measures). Good answers were able not only to identify and describe absenteeism measures and policies, but also to discuss the implications of some of these measures for individual and organisational wellbeing and productivity (e.g., presenteeism). Few answers stressed the relevant role of line managers to manage attendance. Some students also recognised the importance of understanding the causes of absence in organisations to set appropriate policies and measures, and they presented some theoretical models to explain attendance behaviours (e.g., Steers and Rhodes, 1978; Johns, 1997). However, some answers only provided a basic description of these models without linking them to absenteeism policies and measures. In other words, how these theories can help organisations to manage attendance? Few excellent answers were able to address this question exhaustively.

## Section B

4. Question 4 was the least popular choice. It asked to describe Ulrich's three-legged model of the HR function, and whether and how this model could enhance strategic HR Management (HRM). Students were required to explain the three 'legs' of the structure (i.e., HR Business Partners (HRBPs), HR shared services centres, and centres of HR expertise). Students should then have focused on how this structure could promote the strategic role of the HR function. They could have discussed the HRBP role of influencing and steering strategies and strategy implementation. Better answers should have shown a more thorough understanding of the HRBP role and how it fits in the 3-legged structure. They could have discussed the main responsibilities or competencies of the HRBPs.
Some confusion emerged about the meaning and function of the HR shared service centres and of the centre of HR expertise. The main problem with the answers to this question was the lack of discussion and critical consideration of the effects of Ulrich's model on strategic HRM. Treatment was limited to the description of the three 'legs'.
One excellent answer showed a thorough understanding of the HR roles proposed by Ulrich (strategic partner, change agent, administrative expert, employee champion) and linked them to the three-legged structure. Moreover, it reported the advantages and possible issues associated with the model.
5. Question 5 was the most popular choice of Section B. It asked students to discuss the positive and negative aspects associated with the use of the Internet for recruitment purposes (e-recruitment) and of social media for attracting candidates.
There was high variability in students' answers. Good answers were expected to define e-recruitment and its main channels (e.g., cyber agencies, corporate website), and to explain the principal advantages (e.g., access to a larger number of applicants, reduced advertising costs, increased speed of the recruitment) and disadvantages
(e.g., unsuitable applications, reduced diversity of job applicants) related to erecruitment. Some students also indicated some malpractices of cyber-agencies. Many students reported some examples of e-recruitment, and some better answers illustrated the use of virtual reality and business games to attract candidates.
It is important to note that to completely address the question, students should have also discussed the use of social media for recruitment purposes. They should have explained whether and why it is appropriate (or not) to use information gathered from social networks (e.g., Facebook, Twitter, LinkedIn) for recruitment decisions. Arguments could have been built around issues as equity, privacy, and (mis)use of personal information. This was the major flow in students' answers, since they mostly focused on the use of corporate websites and cyber agencies. Additional issues pertained to the basic and descriptive treatment of the topic, and to failure to use coherent and articulate arguments to demonstrate an adequate level of understanding of the debate around the topic.
Many students also mentioned the use of e-recruitment for employer branding. Good answers critically discussed the implications for the image of the company, providing valid examples. However, some answers were not able to explain the link between corporate websites (or social media usage) and employer branding.
A final problem with this question regarded the inclusion of long irrelevant paragraphs focused on the recruitment process in general or on the broader advantages of external recruitment. When these answers also analysed the positive and negative aspects of e-recruitment, students were not penalised. However, the focus should have been on e-recruitment and on the use of social media. For the future, it is important to focus on what the question asks, as discussed during the seminars and lectures dedicated to exam preparation.
6. Question 6 asked students to identify and explain the principal stages and elements to consider in any redesign of the performance management (PM) system. Students were required to define the PM system and to describe the PM cycle, illustrating its main stages (i.e., definition of the business role, planning performance, delivering and monitoring, performance appraisal and link to the reward system).
Again, students' performance was highly variable. Some answers were limited to a brief presentation of the PM cycle. In some cases, the key focus on development of the PM cycle (e.g., development plans) appeared to be missing. Better answers described and explained the four stages, providing some details for each phase. For example, some answers correctly referred to goal setting theory or to the SMART technique for individual goal setting, discussed the importance of supervisory ongoing coaching and mentoring, and reported a thorough illustration of the performance appraisal moments (e.g., competency-based vs objective-base assessment; quantitative and qualitative performance measurement; performance scales). Excellent answers should have shown a high understanding of the PM system and cycle, recognising possible difficulties associated with each of the various stages of the PM system.
Finally, some students mentioned the differences between the PM system and the traditional approach to performance appraisal. While some answers properly outlined such differences, others failed to show a satisfactory understanding of the two approaches and to explain how PM can add value and generate competitive advantage for the organisation.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2017-18

## HUMAN RESOURCE MANAGEMENT

NBS-5011Y

Time allowed: 2 hours
Answer TWO questions, ONE from each section.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

Page 2

## SECTION A

1. With reference to examples, explain the link between strategy and 'Best Fit' human resource management. Your answer should include several examples of human resource management practices.
2. Employer branding is an important consideration for many organisations during recruitment. Describe and evaluate the idea of employer branding, explaining its benefits for organisations (including rationale) AND its wider criticisms. Please use examples to illustrate your answer.
3. Identify the key attributes of organisational development, and discuss some of the challenges involved in organisational development. Your answer must include several references to human resource management practices.

## SECTION B

4. John is the newly appointed Human Resource Adviser of a company that aims to increase employee involvement. The team of managers seems to underestimate the importance of employee voice, since they only implement a yearly team briefing to share information with employees. John wants to persuade the team to take employee voice more seriously. What arguments should he use? What other mechanisms and methods can he suggest to offer employee voice?
5. "The formal grievance procedure plays an important role in introducing democracy into the workplace" (Craig and Solomon, 1996, p. 334). Comment on this statement and explain the key features of the grievance procedure.
6. Hofstede (1980) outlined a range of dimensions for understanding national culture. Describe these dimensions and discuss their relevance for human resource management. Give examples to illustrate your points.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2018-19
Version 1

## HUMAN RESOURCE MANAGEMENT

## NBS-5011Y

Time allowed: 2 hours

Answer TWO questions, ONE from each section.

## Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator.

## SECTION A Answer ONE question

1. With reference to two examples, critically evaluate the claim that an organisation's strategy directly determines its Human Resource Management Practices.
2. Robert works as a digital marketing manager in a medium size business. His department has been inundated with work over recent months and he is now looking to recruit and select five new digital marketing designers. The recruitment part of the process will be coordinated by the central Human Resources department. However, Robert has been asked to organise the selection part of the process. Robert is keen to use the most effective selection methods possible. But as yet, he does not know how to approach this. So, he has come to you for advice. Your task, therefore, is to outline and evaluate series of selection methods. Robert is particularly interested to find out about the 'classic trio' and 'assessment centres'.
3. Using both examples and critical theory, compare and contrast two perspectives when considering the possible link between Performance Management and Rewards.

## SECTION B Answer ONE question

4. If creativity and innovation are important drivers of future organisational performance, how can human resource managers encourage creativity and innovation within the organisation? Use evidence, examples and evaluation to support your points.
5. Line managers bring HR policies to life. Evaluate the importance of the Employment Relationship between line managers and employees, and its implications in maintaining mutual trust and confidence.
6. With reference to theories of national culture, discuss the adjustments a UK based University might need to make to its existing Human Resource Management policies when they are redeveloped/adapted for its first branch campus in China.

## END OF PAPER

## Generic Examination Feedback - NBS-5011Y Human Resource Management

Students attempted all questions but the questions on Performance Management / Reward and Organisational Development were less popular. The question on selection was also on the whole quite poorly answered with a number of students deciding to answer this question with limited knowledge of the 'classic trio' for example which is a basic starting point for the topic of selection.

There were a good number of firsts (20) and most students demonstrated a good understanding of the content of the module and many had taken on board the advice provided by the module team on exam practice and technique. There was still a reluctance to complete an essay plan and I would reiterate the importance of this to a strong and clear structure to answering the question. Students are reminded of the importance of answering the question with relevant content. There were still a significant number of fails (9) and an average mark of $58 \%$ which was reflective of the general quality of student's work in the examination.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2010-11

NBS-3P4Y<br>Contemporary Workplace Relations - Conflict and Cooperation

Time allowed: 2 hours

Answer TWO of four questions: One question from Section $A$ and one question from section B

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator

## SECTION A

1. Critically evaluate the impact of Equality Regulatory frameworks on employee relations in the UK.
2. How have changes in UK employment law affected trade union activity?

## SECTION B

3. Two weeks after starting work as a marketing assistant at the Old Luvvie Theatre in Anytown, Kelly has discovered that she is pregnant. Kelly is very concerned about the reaction of her new boss and fears she will lose her job.

Advise Kelly what family-friendly employment rights are available to her, and how they will protect her and help her to care for her child, both during and after her pregnancy.
4. Your best friend Tom, who is gay believes he has been the victim of discrimination at work, and has left his job as a result.

He has been advised that he has a good claim against his employer and wants to bring a tribunal claim for compensation. Tom has asked your advice as he cannot afford a solicitor and wants to represent himself.

Advise Tom what he will need to do to bring a claim and what to expect on the day of the hearing.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2011-12

## CONTEMPORARY WORKPLACE RELATIONS - CONFLICT AND COOPERATION

NBS-3P4Y
Time allowed: 2 hours

Answer TWO of four questions. ONE from Section A and ONE from Section B

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator

## Section A

1. Critically evaluate the relevance of trade unions in today's workplace.
2. What are the distinctive features of Human Resource Management? Why might it appeal to both employers and employees? Is it really that new?

## Section B

3. Peter is a boiler engineer, who has worked for your company, Nice'n'Warm since March 2004. He has a good employment record.

Recently, you have received several complaints from some of Peter's regular customers about higher charges for services. You were surprised by this, as the company has not increased its charges for nearly two years.

Additionally, you have been approached by one of Peter's colleagues, Dave, who alleges that Peter has been overcharging customers. He accused Peter of charging customers who pay in cash for parts that have not been used, and pocketing the difference. You are aware that Dave has a long-standing grudge against Peter, but you are very concerned about the allegations as your company is struggling financially and cannot afford to lose any money. If this is true, then you will have to get rid of Peter.

You know very little about employment law and are nervous about what action to take, as a good friend of yours recently faced a tribunal claim for unfair dismissal from an employee, which turned out to be very expensive.

What should you do?
4. Why does inequality in the workplace persist? Are voluntary measures and targets (as outlined in the Davis Report) or regulation (as favoured in Norway) the best ways forward?

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2010-11

## QUANTITATIVE METHODS FOR BUSINESS

## NBS- 2B3Y

Time allowed: 3 hours
Answer FIVE of seven questions. TWO questions from section A and THREE questions from section $B$.

Candidates must show on each answer book the type of calculator used. The calculator must be electronic, hand-held, battery-powered, with numeric display only. Calculators with graphic or alphabetical displays are NOT permitted.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator

## SECTION A

1. 

(a) Describe what is meant by the sampling distribution of the sample mean, X . (4 marks)
(b) The following data shows a sample of the diameters (mm) of a type of manufactured pipe together with some test output:
$\begin{array}{lllllllllll}53.7 & 51.9 & 49.6 & 41.4 & 47.4 & 51.0 & 50.1 & 50.0 & 51.2 & 54.2 & 52.3\end{array}$
One-Sample Statistics

|  | N | Mean | Std. <br> Deviation | Std. Error <br> Mean |
| :--- | :---: | :---: | :---: | :---: |
| Diameters | 11 | 50.2545 | 3.50496 | 1.05678 |

## One-Sample Test

|  | Test Value $=48$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | t | df | Sig. (2tailed) | Mean Difference | 95\% Confidence Interval of the Difference |  |
|  |  |  |  |  | Lower | Upper |
| Diameters | 2.133 | 10 | . 059 | 2.25455 | -. 1001 | 4.6092 |

(i) Give formulae to show how the 'Mean', Std. Deviation', and 'Std. Error Mean' have been calculated.
(3 marks)
(ii) Show how the 't' value is calculated.
(iii) State a 95\% confidence interval for the mean diameter of a pipe.
(2 marks)
(iv) You are told that the average diameter of all such pipes is greater than 48 mm . Does this sample provide evidence to support this claim? Clearly explain your reasoning.
(v) State any assumptions which must be made for your answers above to be valid.
2.

An ice cream salesman is interested in predicting the amount of ice cream he will sell each month. He has noticed that there appears to be an association between the average temperature in a month and the level of his sales during that month. He would therefore, like to use weather forecasts to allow him to predict his sales over the coming months.

The average monthly temperature in degrees Celsius and Sales ( $£^{\prime} 000$ ) for a twelve month period was entered into a statistics software package and the following output produced.

Model Summary

| Model | R | R <br> Square | Adjusted R <br> Square | Std. Error of <br> the Estimate |
| :--- | :--- | ---: | ---: | ---: |
| 1 | $.973^{\mathrm{a}}$ | .946 | .941 | 7.159 |

a. Predictors: (Constant), Temperature

ANOVA $^{\text {b }}$

a. Predictors: (Constant), Temperature
b. Dependent Variable: Sales

Coefficients ${ }^{\text {a }}$

| Model |  | Unstandardized Coefficients |  | Standardized <br> Coefficients <br> Beta | t | Sig. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | B | Std. Error |  |  |  |
| 1 | (Constant) | 41.499 | 4.971 |  | 8.348 | . 000 |
|  | Temperatur <br> e | 5.934 | . 448 | . 973 | 13.233 | . 000 |

a. Dependent Variable: Sales
(a) Explain why Sales is the dependent variable and Temperature is the independent or predictor variable.
(b) State the correlation coefficient between the two variables and write a few sentences explaining clearly what this figure tells you. (4 marks)
(c) State the regression equation produced by the computer programme.
(d) What sales would you expect for a month during which the average temperature is $0^{\circ} \mathrm{C}$ ?
(1 mark)
(e) For every extra $1^{\circ} \mathrm{C}$ in average monthly temperature what would you expect to happen to sales? Explain you answer.
(3 marks)
(f) How well does the regression line fit the data? Use information provided in the output above to support your answer.
(3 marks)
(g) Discuss whether or not you think temperature is useful in predicting sales, referring to any relevant output in your answer.

## 3.

A time series is often described as being comprised of a trend component, a seasonal component and a random component.
(a) Briefly explain what is meant by each of the 3 components. (3 marks)
(b) The 3 components are usually combined in either an additive model or a multiplicative model. Explain the difference between the two models.

UK primary fuel consumption data is recorded for 18 consecutive quarters. The following SPSS output is produced in relation to this data where the variable 'Quarters' assumes a value from 1 to 18 in sequence.

Model Summary

| Model | R | R <br> Square | Adjusted R <br> Square | Std. Error of <br> the Estimate |
| :--- | :--- | ---: | ---: | ---: |
| 1 | $.311^{\mathrm{a}}$ | .097 | .040 | 122.732 |

a. Predictors: (Constant), Quarters

| ANOVA ${ }^{\text {b }}$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Model | Sum of Squares | df | Mean Square | F | Sig. |
| Regression <br> Residual <br> Total | $\begin{array}{r} \hline 25755.534 \\ 241010.077 \\ 266765.611 \\ \hline \end{array}$ | $\begin{array}{r} 1 \\ 16 \\ 17 \\ \hline \end{array}$ | $\begin{aligned} & \hline 25755.534 \\ & 15063.130 \end{aligned}$ | 1.710 | . $209^{\text {a }}$ |

a. Predictors: (Constant), Quarters
b. Dependent Variable:
consump
Coefficients ${ }^{\text {a }}$

a. Dependent Variable: consump
(c) What regression line has been fitted to the data?
(d) Which of the 3 components is estimated by the regression line?
(e) Give a possible reason as to why the $R^{2}$ value is so low.
(4 marks)
(f) You are told that a multiplicative model is to be assumed and the following seasonal indices are appropriate:

| Quarter | 1 | 2 | 3 | 4 |
| :--- | :--- | :--- | :--- | :--- |
| Seasonal Index | 0.87 | 1.07 | 1.15 | 0.91 |

Quarter 19 is the beginning of a new year such that the Quarter 1 index is applicable.

Using this information, forecast the next 6 values in the series.
(6 marks)

TURN OVER

## SECTION B

## 4.

(a) If $h$ is the cost of storing one unit of stock for one year, $k$ is the cost of placing an order and $D$ is the amount of stock demanded per year, state formulae for the following:
(i) The optimal reorder quantity
(ii) The frequency of ordering
(iii) The annual storage cost
(iv) The annual order cost
assuming an objective of minimizing costs.
(b) Briefly explain the limitations of using the formulae above.
(c) The following information relates to company X .

Cost of storage is $£ 20$ per unit of stock per year.
Cost of placing an order is $£ 50$
Demand is 2000 units per year.
Unit costs are £25
(i) How often would you recommend company X place an order?
(2 marks)
(ii) How many stock items would be in each order?
(iii) State the total cost per year relating to these stock items.
(iv) The company supplier offers to sell the product at $£ 24$ each for orders in excess of 400 units. Is this worthwhile? (3 marks)

## 5.

A company produces two products, Alpha and Beta. Alpha has a contribution of $£ 124$ per unit and Beta $£ 80$ per unit. Both products must undergo two processes Gamma and Delta and the time in minutes per unit is outlined below:

Gamma
Delta

Alpha
(Time per unit)
150 minutes
100 minutes

Beta
(Time per unit)
90 minutes
120 minutes

Currently there is a maximum of 225 hours per week available for Gamma and 200 hours per week available for Delta. The company can sell all it can produce of Alpha but there is an upper limit on sales of Beta of 75 units per week.

The company wishes to maximize contribution and currently makes and sells 30 units of Alpha and 75 units of Beta.
(i) Determine the optimum production plan using the existing capacities.
(ii) Calculate the extra contribution that would be achieved if the optimum production plan were adopted rather than the current one.(4 marks)
(iii) You are given the following extract from the Sensitivity Report produced by Excel relating to this linear programming problem.

Constraints

| Cell | Name | Final <br> Value | Shadow <br> Price | Constraint <br> R.H. Side | Allowable <br> Increase | Allowable <br> Decrease |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Delta | 12000 | 0.093333333 | 12000 | 1500 | 3000 |  |
| Gamma | 13500 | 0.764444444 | 13500 | 4500 | 2250 |  |

(a)Demonstrate how the Final Value of 12000 for Delta is calculated.
(2 marks)
(b)Explain what is meant by the Shadow Price for Gamma and provide calculations to support the value of 0.764444 shown.
(c)The extra costs involved in increasing capacity for Gamma and Delta are $£ 0.50$ per hour for each process. Comment on whether it is worthwhile doing.
(2 marks)

## 6.

Yellows Sports Centre offer short stay breaks to customers who are keen to participate in a short term exercise and dietary regime.

Budgeted estimates for the year to 30 June 2012 are as follows:
a) The maximum capacity of the centre is 50 customers per day for 350 days in the year.
b) Customers are to be invoiced at a fee per day. Occupancy will then vary from high ( $90 \%$ ), to mid ( $75 \%$ ), to low ( $60 \%$ ) according to the fee charged as follows:

| Fee per day | Occupancy level | Percentage of maximum <br> occupancy |
| :--- | :---: | :---: |
| $£ 180$ | High | $90 \%$ |
| $£ 200$ | Mid | $75 \%$ |
| $£ 220$ | Low | $60 \%$ |

c) Costs are estimated at one of three levels per day irrespective of occupancy levels. The high, mid and low levels are £95, £85, and £70 per day.
(i) Prepare a $3 \times 3$ pay off table for the three possible options of fees which could be set showing the expected annual profit which would be achieved assuming high, mid and low levels of costs. Provide workings to show how each of the nine values is calculated.
(9 marks)
(ii) State the customer fee strategy for the year which will result from the use of each of the following criteria:
(a) maximax, (b) maximin, (c) minimax regret.

In each case explain the basis of operation of each criterion and hence give reasons for your answer.
(9 marks)
(iii) The probabilities of cost levels occurring at the high, mid and low levels are estimated as $0.1,0.6$, and 0.3 respectively. Using this information determine the strategy which will maximize the expected annual profit.
(2 marks)
7.
a) Construct a network for the project outlined below. Use nodes to represent the start/ end of each activity and calculate the earliest event time and latest event time for each node.
(8 marks)
Activity Preceding activities Duration Cost Minimum time Additional (in weeks) (£) (in weeks) Crash cost (£ per week)

| A | - | 5 | 100 | 4 | 100 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| B | - | 4 | 120 | 2 | 20 |
| C | A | 10 | 400 | 4 | 100 |
| D | B | 7 | 300 | 3 | 100 |
| E | B | 11 | 200 | 10 | 50 |
| F | C | 8 | 400 | 6 | 200 |
| G | D,E,F | 4 | 300 | 4 | - |

b) Explain why it is necessary to include a dummy activity in your network.
(3 marks)
c) Calculate a float for each activity and hence identify the critical path.
(4 marks)
d) State the minimum time needed to complete the project without crashing.
e) What is the minimum time needed to complete the project if crashing is allowed? What is the additional cost that would be incurred in this case?

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
May/June UG Examination 2011-2012

## QUANTITATIVE METHODS FOR BUSINESS

## NBS-2B3Y

Time allowed: 3 hours

Answer FIVE questions; TWO questions from Section A and THREE questions from Section B.

All questions carry equal marks.

Candidates must show on each answer book the type of calculator used.

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator.

## SECTION A - Answer TWO Questions

1. 

(a) Briefly explain the difference between Descriptive Statistics and Inferential Statistics.
(b) You are interested in estimating the number of hours of private study undertaken by first year undergraduate students at a large university each week. Explain how you might go about drawing a sample and what factors should be considered when doing so.
(4 marks)
A group of 15 first year undergraduates were asked how many hours of private study they undertook each week. The results are recorded below:

Descriptives

|  |  | Statistic | Std. Error |
| :--- | :--- | :--- | :--- |
| Private study | Mean | 11.60 | 1.629 |
| 95\% Confidence | Lower Bound | 8.11 |  |
| Interval for Mean | Upper Bound | 15.09 |  |
| 5\% Trimmed Mean | 11.06 |  |  |
| Median | 10.00 |  |  |
| Variance | 39.829 |  |  |
| Std. Deviation | 6.311 |  |  |
| Minimum | 5 |  |  |
| Maximum | 28 |  |  |
| Range | 23 |  |  |
| Interquartile Range | 7 |  |  |
| Skewness | 1.534 | .580 |  |
| Kurtosis | 2.400 | 1.121 |  |

(c) From the output provided give both a point estimate and an interval estimate of the number of hours private study undertaken by all first year undergraduates at this university.
(d) In your own words explain in what way the estimates given in (c) above may be useful.
(e) Explain the difference between the Std. Deviation (6.311) and Std. Error (1.629) figures given in the output.
(f) If you were asked to calculate a 90\% confidence interval for the mean number of hours of private study undertaken by first year undergraduates at this university how would you expect it to differ from the interval in the output?
(2 marks)
2.
(a) Describe the four step structure of a statistical test.
(4 marks)

The market valuation (£million) of 17 companies before and after a rights issue were recorded and the following computer output was produced.

Paired Samples Statistics

|  | Mean | N | Std. <br> Deviation | Std. Error <br> Mean |
| :---: | ---: | ---: | ---: | ---: |
| Pair 1 Before | 402.47 | 17 | 211.373 | 51.265 |
| After | 410.65 | 17 | 207.203 | 50.254 |

Paired Samples Correlations

|  | N | Correlation | Sig. |
| :---: | ---: | ---: | ---: |
|  <br> After | 17 | .982 | .000 |

Paired Samples Test

|  |  | Paired Differences |  |  |  |  | t | df | Sig. (2- <br> tailed) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Mean | Std. <br> Deviation | Std. <br> Error <br> Mean | 95\% Confidence Interval of the Difference |  |  |  |  |
|  |  | Lower |  |  | Upper |  |  |  |
| Pair $1$ | Before <br> - After |  | -8.176 | 39.652 | 9.617 | -28.564 | 12.211 | -. 850 | 16 | . 408 |

(b) Did market values rise or fall, on average, as a result of the rights issue?
(1 mark)
(c) State the average value of the 17 companies before the rights issue and the average value after the rights issue.
(d) The test carried out above is to assess whether or not there is a difference in the mean market valuation of a company before and after a rights issue. We work with the differences only and therefore reduce the data to a single sample.
(i) What is the mean of this sample?
(ii) What are the null and alternative hypotheses used in this test?
(iii) What test statistic is used in the test?
(iv) What do you conclude?
(v) What assumptions are necessary?

## Page 5

3. Data relating to the amount spent on advertising (in $\$ 10,000$ ) and the sales volume (in 1000 units) during the first month for 8 new products is summarised below:

Model Summary

| Model | $R$ | R Square | Adjusted R <br> Square | Std. Error of the <br> Estimate |
| :--- | ---: | ---: | ---: | ---: |
| 1 | $.812^{\mathrm{a}}$ | .659 | .602 | 30.917 |

A. Predictors: (Constant), Advertising

| ANOVA ${ }^{\text {b }}$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Model | Sum of Squares | df | Mean <br> Square | F | Sig. |
| 1 Regression Residual Total | $\begin{array}{r} 11091.576 \\ 5735.299 \\ 16826.875 \end{array}$ | 1 6 7 | $\begin{array}{r} \hline 11091.576 \\ 955.883 \end{array}$ | 11.603 | . $014{ }^{\text {a }}$ |

A. Predictors: (Constant), Advertising
B. Dependent Variable: Sales

Coefficients ${ }^{\text {a }}$

| Model | Unstandardized Coefficients |  | Standardized <br> Coefficients <br> Beta | t | Sig. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | B | Std. Error |  |  |  |
| 1 (Constant) | 38.592 | 30.922 |  | 1.248 | . 259 |
| Advertising | 2.663 | . 782 | . 812 | 3.406 | . 014 |

A. Dependent Variable: Sales
(a) Explain why Sales has been entered as the dependent variable and Advertising as the independent variable.
(b) Briefly explain how you would interpret the $R$ and $R$ Square values. (4 marks)
(c) What is the least squares line fitted to this data?
(2 marks)
(d) Predict the level of sales when $\$ 350,000$ is spent on advertising.
(2 marks)
(e) Show how the t-value 3.406 is calculated from other values in the output.
(2 marks)
(f) Briefly explain the test carried out to test whether the amount spent on advertising is useful in predicting sales volume.
(g) What conclusions do you draw with respect to the test mentioned in (f) above?
(4 marks)

## SECTION B - Answer THREE Questions

4. Group 5 would like to increase overall group production capacity per year by up to 30,000 hours. A requirement of the project is that the minimum increase of any one division must be equal to $5 \%$ of its current capacity. The maximum funds available for the project are $£ 3,000,000$. The Group would like to maximise additional contribution per year.

Additional information is as follows:

| Division | Existing capacity <br> (hours) | Investment cost <br> per hour (£) | Average contribution <br> per hour $(£)$ |
| :--- | :--- | :--- | :--- |
| A | 20,000 | 90 | 12.5 |
| B | 40,000 | 75 | 9.50 |
| C | 24,000 | 100 | 11 |
| D | 50,000 | 120 | 8 |
| E | 12,000 | 200 | 14 |

An extract from the sensitivity report produced by Excel is below:
Adjustable Cells

| Cell | Name | Final <br> Value | Reduced <br> Cost | Objective <br> Coefficient | Allowable <br> Increase | Allowable <br> Decrease |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| A | 22090.90909 | 0 | 12.5 | 1.5 | 1.8 |  |
| B | 2000 | 2.795454545 | 9.5 | 2.795454545 | $1 \mathrm{E}+30$ |  |
| C | 1200 | 1.636363636 |  | 11 | 1.636363636 | $1 \mathrm{E}+30$ |
| D | 2500 | 4.909090909 | 8 | 4.909090909 | $1 \mathrm{E}+30$ |  |
| E | 2209.090909 | 0 | 14 | 13.77777778 | 1.5 |  |

Constraints

| Cell Name | Final <br> Value | Shadow <br> Price | Constraint <br> R.H. Side | Allowable <br> Increase | Allowable <br> Decrease |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Capacity | 30000 | 11.27272727 | 30000 | 1966.666667 | 11600 |
| Funds | 3000000 | 0.013636364 | 3000000 | 2320000 | 177000 |

(a) Clearly state the objective function and constraints which make up the Linear Programming model.
(b) State the maximum additional contribution made and the increase in capacity of each division at the optimal solution.
(c) Explain the effect on contribution of the limits placed on capacity and investment.
(d) Explain the sensitivity of the project to changes in contribution per hour.
(e) Briefly explain the limitations of the use of linear programming.
5. The managing director of a company must decide which one of three new products to manufacture.

The fixed and variable costs of each product are shown below:

| Product | Fixed cost | Variable cost |
| :--- | ---: | :---: |
| 1 | $£ 900,000$ | $£ 20$ |
| 2 | $£ 1,150,000$ | $£ 17$ |
| 3 | $£ 1,400,000$ | $£ 15$ |

The managing director believes that annual demand will be 50,000, 100,000 or 150,000 units regardless of which product is manufactured, with probabilities of $0.3,0.3$ and 0.4 respectively.

The selling price of the product will be £40.
(a) Prepare a payoff table from the information above providing calculations for each of the 9 values in the table.
(b) If the managing director uses the maximax criterion which product would he manufacture? Explain your answer.
(3 marks)
(c) If the managing director uses the maximin criterion which product would he manufacture? Explain your answer.
(3 marks)
PLEASE TURN OVER
(d) If the managing director uses the expected value criterion which product would he manufacture? Explain your answer.
(e) Prepare an opportunity loss table and hence decide which product the managing director would manufacture if he uses the minimax regret criterion.
6. Strollers plc purchases a component for one of its products from a particular supplier.

It can either purchase a small quantity at $£ 6.25$ per unit or it can take advantage of quantity discounts and purchase a larger quantity at $£ 6.00$ per unit.

The company uses 20,000 units of the component each year.
Order costs per order, K are £31.25 for the smaller quantity or $£ 120$ for the larger quantity.

Holding costs, h , per unit per year are $20 \%$ of the unit cost.
(a) Determine the most economical quantity to order in each case. (4 marks)
(b) How many orders would need to be placed each year in each case?
(c) State the annual ordering cost in each case.
(d) Calculate the annual holding cost in each case.
(e) Calculate total annual costs in each case.
(f) Which purchasing strategy should Strollers adopt?

Warehousing difficulties suddenly cause holding costs per unit per year to soar to $80 \%$ of the unit cost.
(g) What effect will this have on the purchasing strategy? Provide calculations to support your answer.
(h) State the relationship between the rate of change of $h$ and the change in Q, the economic order quantity.

## Page 9

7. Briefly explain the following with regard to project planning:
(a) The precedence table
(b) A dummy activity
(c) The critical path
(d) A gantt chart
(e) Draw a network to represent the following project.

| Activity | Preceding Activities Duration(weeks) |  |
| :--- | :--- | :--- |
| A | - | 4 |
| B | A | 5 |
| C | A | 3 |
| D | - | 6 |
| E | B,C | 4 |
| F | C,D | 2 |

(f) Calculate floats for each activity and hence identify the critical path.
(g) Sketch a gantt chart for this project.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
UG Main Series Examination 2012-13

## QUANTITATIVE METHODS FOR BUSINESS

NBS-2B3Y

Time allowed: 3 hours

Answer FIVE questions; TWO questions from Section A and THREE questions from Section B.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## SECTION A

1. Answer the following questions relating to the output on the next page which relates to a group of students selected at random from a large university:
(a) Estimate, using a single value, the average height of all male students at the university.
(b) Give a $95 \%$ confidence interval for the average height of all female students at the university.
(c) State any assumptions you need to make when calculating the interval in part (b).
(d) Explain how the interval in part (b) is calculated.
(e) If you were using a single value to estimate the average height of male and female students at this university, which estimate would you regard as most reliable? Give your reasons
(f) If you were to calculate a 99\% confidence interval of the average height of all male students at the university would it be wider or narrower than the corresponding 95\% interval in the output above? Give reasons for your answer.
(g) The Vice Chancellor of the university would like to test whether or not the average height of female students at the university is 160 cm .
(i) state the null and alternative hypotheses you would use in this test.
(ii) give the t-value that would be used in this test
(iii) what conclusion would be drawn?

Page 3
Case Processing Summary

|  |  | Cases |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Valid |  | Missing |  | Total |  |
|  | Gender (M/F) | N | Percent | N | Percent | N | Percent |
| Height | F | 25 | 100.0\% | 0 | .0\% | 25 | 100.0\% |
| (cm) | M | 11 | 100.0\% | 0 | .0\% | 11 | 100.0\% |

## Descriptives

|  | Gender (M/F) |  |  |  | Std. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Height (cm) | F | Mean |  | 163.72 | 1.256 |
|  |  | 95\% Confidence | Lower Bound | 161.13 |  |
|  |  | Interval for Mean | Upper Bound | 166.31 |  |
|  |  | 5\% Trimmed Mean |  | 163.68 |  |
|  |  | Median |  | 164.00 |  |
|  |  | Variance |  | 39.460 |  |
|  |  | Std. Deviation |  | 6.282 |  |
|  |  | Minimum |  | 152 |  |
|  |  | Maximum |  | 177 |  |
|  |  | Range |  | 25 |  |
|  |  | Interquartile Range |  | 11 |  |
|  |  | Skewness |  | . 035 | . 464 |
|  |  | Kurtosis |  | -. 634 | . 902 |
|  | M | Mean |  | 177.00 | 1.087 |
|  |  | 95\% Confidence | Lower Bound | 174.58 |  |
|  |  | Interval for Mean | Upper Bound | 179.42 |  |
|  |  | 5\% Trimmed Mean |  | 177.00 |  |
|  |  | Median |  | 177.00 |  |
|  |  | Variance |  | 13.000 |  |
|  |  | Std. Deviation |  | 3.606 |  |
|  |  | Minimum |  | 171 |  |
|  |  | Maximum |  | 183 |  |
|  |  | Range |  | 12 |  |
|  |  | Interquartile Range |  | 5 |  |
|  |  | Skewness |  | . 188 | . 661 |
|  |  | Kurtosis |  | -. 277 | 1.279 |

## PLEASE TURN OVER

## Page 4

2. 'The technique of statistical testing endeavours to use a sample to answer questions about the population'

Briefly explain how this is done illustrating your answer by way of an example.
(6 marks)

A doctor is interested in the length of time taken by athletes to recover from exercise. He selects a sample of 20 athletes and records their heart rate at rest (h1), then again 5 minutes after strenuous exercise (h2). For each athlete he calculates the difference between the two values (h2-h1). He enters the 20 differences (h2 - h1) into PASW/SPSS and uses a one sample t-test with a test value of 0 . The output shows a Sig.(Two-tailed) value of 0.06 .
(a) What do you think are the best null and alternative hypotheses for the doctor to use? Give reasons for your answers.
(b) Clearly explain what the probability 0.06 is measuring.
(c) Assuming a one sided test what is the p-value?
(d) What conclusion would you draw from this output?
(e) State any assumptions necessary.
3. The following output has been produced from data collected from a sample of checkout workers at a large supermarket. The speed variable is a measure of the average number of items processed using an electronic scanner per minute whilst the ageyears variable is the age of the employee to the nearest year.

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| :--- | :---: | ---: | ---: | ---: |
| 1 | $.252^{\mathrm{a}}$ | .063 | .030 | 1.76572 |
|  |  |  |  |  |

a. Predictors: (Constant), ageyears

ANOVA ${ }^{\text {b }}$

| Model | Sum of <br> Squares | df | Mean <br> Square | F | Sig. |  |
| :--- | :--- | ---: | ---: | :---: | :---: | :---: |
| 1 | Regression | 5.899 | 1 | 5.899 | 1.892 | $.180^{\mathrm{a}}$ |
|  | Residual | 87.297 | 28 | 3.118 |  |  |
|  | Total | 93.196 | 29 |  |  |  |

a. Predictors: (Constant), ageyears
b. Dependent Variable: speed

Coefficients ${ }^{\text {a }}$

| Model | Unstandardized Coefficients |  | Standardize <br> d <br> Coefficients | t | Sig. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | B | Std. Error | Beta |  |  |
| 1 (Constant) | 8.385 | 1.120 |  | 7.484 | . 000 |
| ageyears | . 050 | . 036 | . 252 | 1.376 | . 180 |

a. Dependent Variable: speed
(a) How many employees were included in the sample?
(b) State the correlation coefficient between age and speed and write a few sentences explaining what this tells you about the relationship between the two variables.
(5 marks)
PLEASE TURN OVER

## Page 6

(c) What assumption is usually made about the random term in a regression model? Suggest an estimate for the variance of the random term based on this output.
(d) What is meant by $R$ Square in the output? Which other figures in the output is it calculated from and how?
(e) Give the regression equation which has been fitted to the data.
(f) According to the model, how many items, on average, would you expect to be processed per minute by a 52 year old employee?
(g) Test whether or not age is useful in predicting the processing speed of the employee.

## SECTION B

4. Describe the way in which Linear Programming might be used to model a management decision problem. Give an example of a problem in the construction industry which would be suited to this type of modelling.
(5 marks)

A small bakery makes two types of biscuit. A batch of standard biscuits takes 20 kg of flour and 2 kg of butter, whereas a batch of deluxe biscuits requires 10 kg of flour and 5 kg of butter. The bakery makes a profit of $£ 2$ on a batch of standard biscuits and a profit of $£ 6$ on a batch of deluxe biscuits. There is a maximum of 200 kg of flour and 40 kg of butter available each day.

## Page 7

Below is a selection of output produced by Excel in relation to this problem.
Constraints

| Cell Name | Cell Value | Formula | Status | Slack |
| :--- | ---: | :--- | :--- | ---: |
|  |  |  | Not |  |
| Flour | 80 | $\$ C \$ 1<=200$ | Binding | 120 |
| Butter | 40 | $\$ C \$ 2<=40$ | Binding | 0 |

Variable Cells

| Cell | Name | Final <br> Value | Reduced <br> Cost | Objective <br> Coefficient | Allowable <br> Increase | Allowable <br> Decrease |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Standard | 0 | -0.4 | 2 | 0.4 | $1 \mathrm{E}+30$ |  |
| Deluxe | 8 | 0 | 6 | $1 \mathrm{E}+30$ | 1 |  |

Constraints

| Cell | Name | Final <br> Value | Shadow <br> Price | Constraint <br> R.H. Side | Allowable <br> Increase | Allowable <br> Decrease |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Flour | 80 | 0 | 200 | $1 E+30$ | 120 |  |
| Butter | 40 | 1.2 | 40 | 60 | 40 |  |

(a) How many batches of each type of biscuits should the bakery produce each day in order to maximise profit?
(2 marks)
(b) How much profit is made at the optimal solution?
(c) Show how the slack figure of 120 in the first table is calculated and explain what this represents.
(d) Explain how the solution would change if profit on a batch of deluxe biscuits increased to $£ 8$ ? Or dropped to $£ 4$ ?
(e) Explain the value of 1.2 in the final table.

## Page 8

5. Explain the principles behind the basic Economic Order Quantity model for inventory control. Comment on the assumptions made and the limitations of using such a model.

A firm demands 900 units of an input per period, has an order cost of $£ 10$ per order and it costs $£ 20$ to hold a unit of stock for one period.
(a) Find the order quantity which minimises total cost
(b) What is the minimum total cost per period?
(c) Sketch a graph of the stock holding cost, the stock ordering cost, and the total cost for the interval 0 to 60 units.
6. Camvar Manufacturing Company is considering the production of a new product with a four-year product lifetime. In order to produce the new product it would be necessary to build a new plant.

There are three possible strategies:
A. Build a small plant at an estimated cost of $£ 250,000$
B. Build a large plant at an estimated cost of $£ 750,000$
C. Delay for one year to collect more information and then, if research provides positive feedback towards the new product, build either the large or small plant at the same costs as above or, if negative feedback is received abandon the project. In this case the annual cash flows are over the three remaining years of the project.

If the small plant is built, high demand will yield annual cash flows of $£ 100,000$ whereas low demand will result in annual cash flows of $£ 20,000$ per year.

If the large plant is built, high demand will yield annual cash flows of $£ 300,000$ per year opposed to a loss of $£ 50,000$ if demand is low. It is estimated there is a $70 \%$ chance of high demand at present and a 30\% chance of low demand but if feedback from research is positive this changes to a $90 \%$ chance of high demand and $10 \%$ chance of low demand.

## Page 9

(a) Assuming an $80 \%$ chance of positive feedback and $20 \%$ chance of negative feedback, construct a decision tree to display this problem.
(b) Calculate net cashflow over the length of the project for each branch of the tree.
(c) Calculate the expected value of each of the three strategies.
(d) Which strategy would you suggest?
(e) Comment on any reservations you may have with this method of decision making.
7. A university is concerned about the build-up of traffic at their main car park at peak times during the academic year. Currently there is one entry barrier but there is scope to construct another one if it is deemed to be necessary. A queue of more than three cars is deemed to be unacceptable.

The arrival time of cars, and the time taken to gain entry at the busiest periods are assumed to have the following probability distributions:

| Inter-arrival time (minutes) 1 | 2 | 3 | 4 | 5 |  |
| :--- | :--- | :--- | :--- | :--- | :---: |
| Probability | 0.55 | 0.3 | 0.05 | 0.05 | 0.05 |


| Entry time | 1 | 2 |
| :--- | :--- | :--- |
| Probability | 0.6 | 0.4 |

Random numbers 370944946291927876039680739820486285904153531

## Page 10

(a) Calculate the mean inter-arrival time and entry time. Comment.
(b) Use the random numbers given to simulate the entry process for 10 drivers. (8 marks)
(c) Estimate the average waiting time per driver.
(d) Estimate the average queue length.
(e) What action, if any, do you suggest? Explain.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2015-16

## QUANTITATIVE METHODS FOR BUSINESS

NBS -5005Y

Time allowed: 3 hours
Answer FIVE questions, TWO from Section A and THREE from Section B

EACH question is worth 20 marks
The TOTAL number of marks available for this paper is 100


Notes are not permitted in this examination
Do not turn over until you are told to do so by the Invigilator

## SECTION A

1. 

A medical researcher gathers information from 15 men and 15 women relating to their age (years), weight (kgs) and body fat percentage(\%). Gender takes the value of 1 if the person is male and the value of 0 if the person is female. The results are analysed using SPSS and reproduced below:

Model Summary

| Model | R | R <br> Square | Adjusted R <br> Square | Std. Error of <br> the <br> Estimate |
| :--- | ---: | ---: | ---: | ---: |
| 1 | $.863^{\mathrm{a}}$ | .744 | .715 | 5.1442 |

a. Predictors: (Constant), gender, age, weight

ANOVA ${ }^{a}$

| Model |  | Sum of Squares | df | Mean Square | F | Sig. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Regression | 2000.499 | 3 | 666.833 | 25.199 | . $000{ }^{\text {b }}$ |
|  | Residual | 688.028 | 26 | 26.463 |  |  |
|  | Total | 2688.527 | 29 |  |  |  |

a. Dependent Variable: bodyfat
b. Predictors: (Constant), gender, age, weight

## Coefficients ${ }^{a}$

| Model | Unstandardized <br> Coefficients |  | Standardized <br> Coefficients |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
|  | B | Std. Error | Beta | t | Sig. |
| 1 (Constant) | .871 | 9.220 |  | .094 | .925 |
| age | -.105 | .101 | -.105 | -1.036 | .310 |
| weight | .583 | .145 | .595 | 4.032 | .000 |
| gender | -22.884 | 2.804 | -1.209 | -8.160 | .000 |

a. Dependent Variable: bodyfat
(a) State the multiple linear regression model which has been fitted to the data.
(2 marks)
(b) Using this model, predict the body fat percentage for a 30 year old man who weighs 75 kg , and a 40 year old woman who weighs 65 kg .
(c) Is the overall model useful? Explain your answer.
(d) Which independent variable(s) is useful in predicting body fat percentage? Clearly explain your answer.
(e) Explain clearly what action you would take to improve the model.
2.
(a) For each of the following time series, state whether you would expect a trend, a seasonal effect, both a trend and seasonal effect or neither a trend nor seasonal effect. Give your reasons in each case.
(i) Quarterly UK university applications from 2000 to 2015
(ii) The number of passengers using a commuter train each day for a year
(iii) The number of earthquakes recorded each year from 1900 to 2010
(iv) Sales of chocolate bars recorded each month during the first two years of a new company.
(2 marks each, 8 marks in total)

## Page 4

(b) Describe two ways in which we might isolate the trend from a time series. Explain, in each case, why we achieve the desired result in this way. (6 marks)
(c) Give an equation which might be used to express a time series using an additive model. Clearly explain all notation used.
(2 marks)
(d) A time series, where $\mathrm{Y}=$ Sales and $\mathrm{X}=$ month is analysed for months 1-8 inclusive. The following output is produced:

## Coefficients ${ }^{\text {a }}$

| Model |  | Unstandardized Coefficients |  | Standardized Coefficients | t | Sig. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | B | Std. Error | Beta |  |  |
| 1 | (Constant) | 2129.500 | 328.461 |  | 6.483 | . 001 |
|  | month | 49.667 | 65.045 | 298 | . 764 | . 474 |

a. Dependent Variable: Sales

If you assume a 4 season additive model is appropriate and seasonal indices are:
$S_{1}=19 \quad S_{2}=-430, \quad S_{3}=555, \quad S_{4}=-144$
Forecast values of $Y$ for months $9,10,11$, and 12.
(4 marks)
3.
(a) Give an example of a situation in which a company might wish to use the technique of 'Simulation'. Explain why this technique is appropriate in this situation.
(b) You are interested in a particular busy airport which has only one runway. At peak times the Inter-Arrival times of flights at the airport are assumed to follow the discrete probability distribution below:

Inter-Arrival Times Probability
(minutes)

| 1 | 0.3 |
| :--- | :--- |
| 2 | 0.5 |
| 3 | 0.1 |
| 4 | 0.1 |

(i) Calculate the Expected Inter-Arrival Time of such flights.
(ii) Explain how you would use the information above if you were interested in simulating use of the runway at the airport.
(iii) What other information do you think would be needed to enable you to analyse the utilisation of the runway.
(4 marks)
(c) Explain what is meant by a next-event-time-advance mechanism and a fixed-increment-time-advance mechanism in the context of simulation.
(d) What is meant by validating a simulation model?

## SECTION B

4. 

An investor would like to invest $£ 50,000$ to be divided into three types of investments. Type 1 is low risk but instant access, Type 2 is medium risk but longer term investment and Type 3 is high risk and long term investment.

The following instructions apply:
At least $40 \%$ of funds should be invested in Type 1
No more than 20\% should be invested in Type 3
Returns on the investments for the coming year are predicted as follows:
Type $1 \quad 2 \%$
Type 25
Type $3 \quad 10 \%$

Express the information above as a Linear Programming problem assuming that the objective is to maximize return on the portfolio and the full amount is to be invested.
(a) The following is an extract of the sensitivity Report produced by Excel using the Solver Add-In tool:

Variable Cells

| Cell | Name | Value | Reduced | Objective | Allowable | Allowable |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Cost | Coefficient | Increase | Decrease |  |  |  |
| Type 1 | 20000 | -0.03 | 0.02 | 0.03 | $1 \mathrm{E}+30$ |  |
| Type 2 | 20000 | 0 | 0.05 | 0.05 | 0.03 |  |
| Type 3 | 10000 | 0.05 | 0.1 | $1 \mathrm{E}+30$ | 0.05 |  |

## Page 7

Constraints

|  |  | Final | Shadow | Constraint | Allowable | Allowable |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

(i) How much should be invested in each of the 3 types of investment? (2 marks)
(ii) Calculate the expected return received on the portfolio.
(2 marks)
(iii) If return on Type 1 investments were to fall to $1 \%$, what impact would this have on the portfolio? Explain why this is the case. What impact would it have on the investor's return?
(iv) Using the information above, explain how small increases/decreases in the return on Type 3 investments will affect the decision making process.
(v) Explain what is meant by shadow price in the final table and provide calculations to show how the figure given is arrived at.
5.

A university student is about to embark upon a dissertation as part of their post graduate studies. The dissertation will be compiled of the following sections:

1. Introduction
2. Literature Review
3. Methodology
4. Findings
5. Conclusions

The student has decided to produce a project planning network to represent this part of their course.

They decide to break the project into the following 10 activities:

Activity
Preceding Activities
Duration(days)

A Produce research proposal - 7
B Complete Literature Review A 28
C Supervisor meeting $1 \quad$ A 1
D Methodology B, C 2
$\begin{array}{llll}\text { E } & \text { Obtain Ethics Approval } & \text { C } & 7\end{array}$
F Data Collection D, E 28
G Record/Analyse Findings F 14
$\begin{array}{llll}H & \text { Supervisor meeting } 2 & \text { G }\end{array}$
I Make revisions H 2
J Write Conclusions I 14
(a) Use the information above to draw a project planning network.
(b) Describe the two types of dummy activity which are used in project planning. Looking at the precedence table given, explain why dummy activities are required in the network you have drawn.
(c) What is the minimum number of days required to complete the dissertation?
(1 mark)
(d) Identify which activities have floats and calculate the float in each case.
(e) Draw a gantt chart for the dissertation project.
(f) Explain why gantt charts are useful in project planning.
6.

A company stocks and supplies a particular type of car exhaust. There is a steady demand for the exhaust of 20 per day. The company buys the exhausts at a cost of $£ 50$ each. Exhausts can be purchased in any quantity ranging from a single item to 500 items. The delivery costs in all cases is $£ 100$. Storage of the exhausts is estimated to cost $£ 1$ per exhaust per day. There is a time lag between ordering the exhausts and their delivery of 2 days.
(a) From the information above, identify the following:
(i) The ordering cost
(ii) The holding cost
(iii) The unit cost
(iv) The lead time
(b) Using your answers to part (a), calculate the optimum order quantity using the Economic Order Quantity model.
(2 marks)
(c) How frequently should the company place an order?
(d) How many exhausts should be in stock when an order is placed?
(e) Which of the costs given above is not used when calculating the Economic Order Quantity?
(f) Explain your answer to (e), i.e. why is this particular cost not used when calculating the Economic Order Quantity?
(3 marks)
(g) Assuming the company orders the economic order quantity, calculate the total cost incurred each day.
(3 marks)
(h) Explain the derivation of the formula used in the Economic Order Quantity model.
(4 marks)
7.
(a) Explain the difference between simple interest and compound interest.
(4 marks)
(b) Calculate, to the nearest pound, the sum accrued at the end of 5 years if one invests $£ 2000$ and the annual interest rate for the period is $12 \%$.
(i) Using simple interest
(ii) Compounded annually
(iii) Compounded monthly
(iv) Compounded quarterly
(c) A company wishes to undertake a project whereby it invests $£ 50,000$ in year 0 in order to earn $£ 10,000$ in year $1, £ 20,000$ in year 2 and $£ 40,000$ in year 3 .
(i) Assuming an annual interest rate of 10\% calculate the Net Present Value of the project.
(ii) Estimate the Internal Rate of Return to the nearest 0.5\%. (2 marks)
(iii) If the company must borrow to fund the project and the interest rate charged on the loan is $10 \%$, what would you recommend? (2 marks)
8.
(a) A business owner has to make a decision between 4 different courses of action $A, B C$ and $D$. There are also 4 uncertain events $(W, X, Y$ and $Z)$ which may occur with differing probabilities. For each decision and uncertain event we can associate a particular financial return as indicated in the table below:

Financial Return ( $£^{\prime} 000$ )

Uncertain Event

|  | W | X | Y | Z |
| :--- | :--- | :--- | :--- | :--- |
| Probability | $(0.2)$ | $(0.3)$ | $(0.4)$ | $(0.1)$ |
| Course of Action A | 240 | 140 | 540 | 400 |
| Course of Action B | 420 | 580 | 0 | 140 |
| Course of Action C | 350 | 250 | 360 | 240 |
| Course of Action D | 50 | 120 | 260 | 500 |

For each of the following decision making criteria and using the information given above, state the most desirable course of action clearly giving your reasons in each case.
(i) Maximax
(ii) Maximin
(iii) Expected Value
(3 marks each, total 9 marks)
(iv) Produce a new table of opportunity losses for each combination of course of action and uncertain event. Explain how the opportunity losses are calculated.
(4 marks)
Hence, state which course of action is most desirable if you are using the minimax regret decision making criterion, giving your reason for your decision.
(b) Briefly discuss the four decision making criteria above and how a decision maker's attitude to risk might influence their decision.

## QUANTITATIVE METHODS FOR BUSINESS

## NBS-5005Y

Time allowed: 3 hours

Answer FIVE questions, TWO from Section A and THREE from Section B

EACH question is worth 20 marks
The TOTAL number of marks available for this paper is 100


Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

## Page 2

## SECTION A

1. 

(a) Explain what is meant by 'Inferential Statistics'.

The Finance Director of a company is interested in ascertaining the average annual mileage undertaken by staff using company cars. He draws a random sample of 30 such cars and records the mileage for the last 12 months. These results have been analysed below.

## Descriptives

|  |  |  | Statistic | Std. Error |
| :---: | :---: | :---: | :---: | :---: |
| Annualmileage | Mean |  | 17503.70 | 1889.578 |
|  | 95\% Confidence Interval for Mean | Lower <br> Bound | 13639.08 |  |
|  |  | Upper <br> Bound | 21368.32 |  |
|  | 5\% Trimmed Mean |  | 16540.96 |  |
|  | Median |  | 13925.50 |  |
|  | Variance |  | 107115120.493 |  |
|  | Std. Deviation |  | 10349.643 |  |
|  | Minimum |  | 5672 |  |
|  | Maximum |  | 48720 |  |
|  | Range |  | 43048 |  |
|  | Interquartile Range |  | 12304 |  |
|  | Skewness |  | 1.541 | 427 |
|  | Kurtosis |  | 2.255 | . 833 |

## Page 3

(b) From the output above give both a point estimate and an interval estimate of the average mileage of the cars.
(c) Write a paragraph to clearly explain how you would interpret the interval in (b). (4 marks)
(d) Show how the Std. Error of 1889.578 has been calculated and explain what it represents.
(e) The following output relates to the correlation coefficient between the annual mileage of the cars and the age of the driver.

## Correlations

|  |  | Annualmileage | Age |
| :--- | :--- | ---: | ---: |
| Annualmileage | Pearson <br> Correlation | 1 | $-.631^{* *}$ |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 30 | 30 |
| Age | Pearson | $-.631^{* *}$ | 1 |
|  | Correlation | .000 |  |
|  | Sig. (2-tailed) | 30 | 30 |

${ }^{* *}$. Correlation is significant at the 0.01 level (2-tailed).
(i) Explain precisely what is measured by a correlation coefficient, giving details of the range of values it can take and the significance of values at the extremes or near the centre of this range.
(ii) Consider the value shown of -.631. Clearly explain with particular reference to this example what this tells you about the relationship between the relevant variables.
(3 marks)

## 2.

One of the simplest methods of forecasting is called Exponential Forecasting. It uses the formula:

$$
F_{t+1}=F_{t}+\alpha\left(x_{t}-F_{t}\right)
$$

(a) For each term in the formula, explain what it represents.
(b) The following is a record of sales of a particular newspaper at a small newsagent over a period of 10 consecutive days:

| Day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{X}_{\mathrm{t}}$ |  | 34 | 29 | 31 | 30 | 26 | 35 | 24 | 32 | 36 |

You would like to prepare two series of exponential forecasts for this series using values of $\alpha=0.1$, and 0.9 .
(i) What value would you use for $\mathrm{F}_{2}$ ?
(ii) Produce the two series of exponential forecasts.
(iii) Calculate the Mean Squared Error and Mean Absolute Error for each series.
(iv) On the basis of your answer to (iii) which series provides the best forecasts?
(v) A different newspaper has the following sales over the same period:

| Day |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 34 | 32 | 31 | 30 | 32 | 34 | 31 | 32 | 32 |
| $\mathrm{X}_{\mathrm{t}}$ |  | 31 |  |  |  |  |  |  |  |  |

Which of the two values of $\alpha$ would you expect to give the best forecasts? Explain why this is the case.
(c) Describe the type of situation in which this method of forecasting is mostly used.
3.

Ricky's Cars Limited is a car rental firm, which has 12 cars for hiring purposes. Each day 7 of these cars are rented to regular customers and the daily demand for the remaining cars may be assumed to have a Poisson distribution with mean 3.

There are costs incurred of $£ 18$ per car per day regardless of whether or not the car is used. In addition to this there are costs of $£ 20$ per car per day for cars rented out.

Rental income is $£ 60$ per car per day.
Poisson probabilities can be calculated using the formula:
$P(X=x)=\frac{\mu^{x}}{x!} e^{-\mu}$ where $\mu=E(X)$
(a) Prepare a table to show the probabilities that demand for the 5 remaining cars is $0,1,2,3,4$, or 5
(5 marks)
(b) Calculate the probability that demand exceeds supply i.e. that 6 or more cars are demanded.
(c) Software is used to randomly generate values from this distribution to simulate demand in the remaining cars for a 10 day period.
Values generated are: $\begin{array}{lllllllllll}1 & 2 & 2 & 3 & 2 & 4 & 1 & 2 & 3 & 2\end{array}$ Using these values produce a table to show the number of cars rented out by Ricky's Cars Limited each day for this 10-day period, the daily costs incurred and income received.
(d) Calculate the average daily profit over the 10-day period.
(e) Explain why it is sometimes necessary to simulate from probability distributions.
(f) In what sort of circumstances might it be appropriate to simulate from the normal distribution?

## SECTION B

4. 

Xavier owns a small yard near the seaside where he makes surfboards. He makes three types of board; the sundream, the sunspirit and the sunliner.

The sundream uses $£ 50$ of materials and takes 5 hours of labour, the sunspirit uses $£ 75$ of materials and takes 10 hours of labour and the sunliner uses $£ 100$ of materials and takes 15 hours of labour.

Each week Xavier has a budget of $£ 500$ to spend on materials and he is prepared to work for 40 hours. In order to ensure he has some variety in his work, Xavier wants to produce at least one of each type of surfboard.

Xavier expects to make $£ 15$ profit on each sundream, $£ 18$ profit on each sunspirit and $£ 30$ profit on each sunliner.

Xavier uses Excel to produce the following report:

## Variable

Cells

|  | Final | Reduced | Objective | Allowable | Allowable |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Cell | Name | Value | Cost | Coefficient | Increase | Decrease |
| sundream | 3 | 0 | 15 | $1 \mathrm{E}+30$ | 5 |  |
| sunspirit | 1 | -12 | 18 | 12 | $1 \mathrm{E}+30$ |  |
| sunliner | 1 | -15 | 30 | 15 | $1 \mathrm{E}+30$ |  |

Constraints

|  | Final | Shadow | Constraint | Allowable | Allowable |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Cell | Name | Value | Price | R.H. Side | Increase | Decrease |
| Materials | 325 | 0 | 500 | $1 \mathrm{E}+30$ | 175 |  |
| Labour | 40 | 3 | 40 | 17.5 | 10 |  |

(a) How many of each type of surfboard should Xavier produce each week?
(b) How much profit will Xavier make each week?
(c) If profit on the sundream increases to $£ 20$, what impact will this have on the production policy?
(d) Explain the meaning of the Allowable Increase and Allowable Decrease figures relating to Materials in the second table.
(e) If Xavier is prepared to remove his condition that he produces at least one of each type of board, what impact will this have?
(4 marks)
(f) Xavier decides to cease production of the sunspirit. He has a budget of $£ 500$ for materials and will spend no more than 40 hours working. He wants to produce at least one of each of the other two types of board.
(i) Express the information as a linear programming problem. (4 marks)
(ii) Sketch a graph representing this problem and identify the optimum mix of surfboards to manufacture if Xavier wants to maximise profit.
(4 marks)
5.
(a) Explain what is meant by the following terms in relation to a project planning network:
(i) a project
(ii) a precedence table
(iii) a logical dummy activity
(iv) a uniqueness dummy activity
(v) a float
(vi) a critical path

## TURN OVER

(b) A project consists of eight activities, which are listed in the following precedence table:

> Activity Immediately preceding activities Duration (days)
A
5

B
A 6

C
A
2

D
A
3
E
B,C 5

F
D 1

G
F
4

H
E,G
2
(i) Draw a network for the project. (6 marks)
(ii) Calculate the earliest and latest event times for each node. (4 marks)
(iii) Calculate a float for each activity.
(2 marks)
(iv) Identify the critical path(s).
(1 mark)
(v) Determine the minimum time required to complete the project.
(1 mark)

## Page 9

## 6.

The following diagram displays the ordering costs, holding costs and total costs per time period incurred by a company using order quantities ranging from 100 to 900 units. Demand is assumed to be constant. Total cost $=K \mathrm{D} / \mathrm{Q}+h \mathrm{Q} / 2$ where Q is the quantity ordered, $K$ is the ordering cost per order, $D$ is the demand per time period and $h$ is the holding cost per unit of stock per time period.

(a) What is the optimum order quantity according to the graph?
(b) Give a formula for the economic order quantity and explain how it is derived.
(c) If the company uses the optimum order quantity above, what is the average stock level?
(d) Using the graph, state $h$, the holding cost per unit of stock per time period.
(e) Explain why the line representing ordering cost has a negative gradient.
(f) In what way might the company assess whether or not the assumption of constant demand is reasonable?
(g) Discuss the impact on the economic order quantity of changes in:
(i) Demand
(ii) Ordering cost
(iii) Holding cost
7.
(a) Which would you prefer:
(i) $£ 5000$ that has been invested for 4 years at $5 \%$ interest payable annually or
(ii) $£ 5000$ that has been invested for 4 years at $5 \%$ interest payable monthly?
Provide calculations to support your answer.
(b) Calculate the value at the end of the sixth year of $£ 100,000$ invested at an annual rate of $12 \%$
(i) Compounded annually
(ii) Compounded quarterly
(iii)Compounded monthly
(c) A company can invest in one of two projects. Assume a discount rate of $10 \%$ compounded annually. The inflow and outflow of cash is indicated below:

|  | Project A | Project B |
| :--- | :--- | :--- |
| Initial Outlay | $£ 50,000$ | $£ 100,000$ |

Revenues:

| End of year 1 | $£ 15,000$ | $£ 10,000$ |
| :--- | :--- | :--- |
| End of Year 2 | $£ 15,000$ | $£ 50,000$ |
| End of Year 3 | $£ 15,000$ | $£ 75,000$ |
| End of Year 4 | $£ 20,000$ | $£ 0$ |

(i) Calculate the Net Present Value for each project.
(ii) Estimate the Internal Rate of Return for each project to the nearest $0.5 \%$.
(iii) Which project would you recommend?
(iv) If the company must pay $9.5 \%$ interest to borrow money to finance project $B$, would you suggest it goes ahead? Explain your reasoning.
8.

A theatre has a seating capacity of 500 people and is considering engaging a performer for a one night only concert.

Performer A charges a fee of $£ 10,000$ whereas performer B charges $£ 15,000$.
Based on past experience of events of this type, the price of the theatre ticket would be $£ 25$ per person for performer A or $£ 30$ per person for performer B .

The size of the audience for this event is uncertain, but based on past experience it is expected to be as follows:

| People | Probability | Probability |
| :--- | :--- | :--- |
|  | Performer A Performer B |  |
| 300 | 0.5 | 0.2 |
| 400 | 0.3 | 0.3 |
| 500 | 0.2 | 0.5 |

In addition to the sale of theatre tickets, it is expected that members of the audience will also purchase refreshments both prior to the performance and during the interval.

The contribution that this would yield to the theatre has been estimated as follows regardless of performer:

Contribution Probability
£3 per person 0.3
$£ 5$ per person 0.5
$£ 10$ per person 0.2
(a) Draw a decision tree to enable the theatre management to decide whether it is financially worthwhile to engage one of the performers and if it is which would be preferable.

## TURN OVER

(b) For each possible route through the tree calculate a profitloss value that would occur.
(c) Calculate an expected profit if performer $A$ is engaged and an expected profit if performer $B$ is engaged and hence advise management.
(d) If performer $B$ is engaged what is the probability the theatre will make a profit?
(2 marks)
(e) Assuming that performer A is engaged and that there is an agent who will guarantee an audience of 400 to the concert, how much should the theatre be prepared to pay for the agent's services? Explain your answer.
(4 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School

Main Series UG Examination 2016-17

## QUANTITATIVE METHODS FOR BUSINESS

NBS-5005Y

Time allowed: 3 hours

Answer FIVE questions; TWO from Section A and THREE from Section B.
EACH question is worth 20 marks.

The TOTAL number of marks available for this paper is 100 .

When answering the (1), (2), (3) parts of Question 3, you should copy the table templates on your answer sheets and then complete the tables.

## Notes are not permitted in this examination

Do not turn over until you are told to do so by the Invigilator

SECTION A. Answer any TWO questions (40 marks)

## Question 1.

The CEO of a company is interested in ascertaining if the company driver's age could predict the annual mileage of company cars. He draws a random sample of 30 such cars and records the mileage and the age of the driver for the last 12 months. The following two tables are the output from SPSS.

Descriptives


## Correlations

|  |  | Annual mileage | Age of driver |
| :--- | :--- | ---: | ---: |
| Annual | Pearson Correlation | 1 | $-.651^{* *}$ |
| mileage | Sig. (2-tailed) |  | .000 |
|  | N | 30 | 30 |
| Age of driver | Pearson Correlation | $-.651^{* *}$ | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 30 | 30 |

**. Correlation is significant at the 0.01 level (2-tailed).

## Page 3

(1) Explain what is meant by 'statistical inference'.
(2) From the output above give both a point estimate and an interval estimate of the average mileage of the cars.
(3) Interpret the meaning of the obtained interval estimate in Question (2).
(4) Explain precisely what is measured by a correlation coefficient, giving details of the range of values it can take, and explain the meaning of a zero correlation coefficient.
(5) Consider the correlation coefficient in the table. Clearly explain what this tells you about the relationship between the annual mileage of the cars and the age of the driver.

## Question 2.

A small cake shop obtains the following numbers of orders during each of 10 consecutive quarters:

| Quarter | Number of orders |
| :---: | :---: |
| 1 | 22 |
| 2 | 22 |
| 3 | 29 |
| 4 | 27 |
| 5 | 24 |
| 6 | 26 |
| 7 | 31 |
| 8 | 29 |
| 9 | 23 |
| 10 | 28 |

(1) Explain what is meant by a seasonal effect and a trend in relation to a time series.
(2) Does this series appear to have a seasonal effect, a trend, neither or both? Explain your answer.
(3) If there is a seasonal effect, how many seasons are there?
(4) Calculate a centred moving average series to eliminate the seasonal component.
(5) Assuming an additive model, use the centred moving average series to calculate adjusted seasonal indices.
(6) Use the seasonal indices to seasonally adjust the first four values of the original series.

## Question 3.

Daily demand at a store that sells game consoles is assumed to follow the probability distribution below:

| Daily demand | Probability |
| :--- | :--- |
| 0 | 0.15 |
| 1 | 0.1 |
| 2 | 0.25 |
| 3 | 0.25 |
| 4 | 0.15 |
| 5 | 0.1 |

The store orders the consoles in batches of 6 with an ordering cost of $£ 30$. Half of the time these orders arrive at the start of the following day and half of the time they arrive at the start of the day, 3 days after ordering. The store can only place another order when the previous order has arrived.

The holding costs are approximately $£ 5$ per console per day.
If the store is out of stock a customer will go elsewhere and their business is lost. It is estimated that this lost-sales cost per console is $£ 12$.

The manager wants to choose between two alternative order policies:
a. Order a batch of 6 consoles every 5 days, or
b. Order when stocks fall below 5 .

As a business analyst, you are required to carry out a simulation to cover a period of 15 days which would enable the manager to assess the two policies. In particular, you need to follow the assumptions
i. The daily demand on each day is estimated by the following random numbers: 592371326271172433169644834916
ii. The delivery time of each order is estimated by the following random numbers: 662532164150831
iii. There are 10 consoles in the store as the initial stocks by the end of day 0 .

## Page 6

(1) Assign the random digits 00-99 to the daily demand by completing the below table's 'Random digits' column in your answer sheets.

| Daily demand | Probability | Random digits |
| :--- | :--- | :--- |
| 0 | 0.15 |  |
| 1 | 0.1 |  |
| 2 | 0.25 |  |
| 3 | 0.25 |  |
| 4 | 0.15 |  |
| 5 | 0.1 |  |

(2) Assign the random digits 0-9 to the order delivery time by completing the below table's 'Random digits' column in your answer sheets.

| Delivery time | Probability | Random digits |
| :--- | :--- | :--- |
| 1 day | 0.5 |  |
| 3 days | 0.5 |  |

(3) Run the simulation and calculate the total costs in a period of 15 days by completing the table template below for each order policy in your answer sheets.

| End <br> day | Daily <br> demand | Delivery <br> amount | Stock <br> balance | Total <br> holding <br> cost | Place <br> order <br> (Yes/No) | Delivery <br> time <br> (days) | Ordering <br> cost | Lost- <br> sales <br> cost | Total <br> daily <br> cost |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0 |  |  |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |  |  |  |
| 13 |  |  |  |  |  |  |  |  |  |
| 14 |  |  |  |  |  |  |  |  |  |
| 15 |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

## Page 7

(4) Explain which policy would be your recommendation to the manager.
(2 marks)
(5) Since the initial conditions have a significant effect on the simulation results, can you suggest two ways of improving the process to make the results more useful?
(Total 20 marks)

## Page 8

SECTION B. Answer any THREE questions (60 marks)

## Question 4.

A company manufactures two products, X and Y . Profit contribution per unit is $£ 16$ for $X$ and $£ 12$ for $Y$. Their joint fixed costs are $£ 50$ per day.
Production of the two products is restricted by limited supplies of three essential resources, A, B and C.
Each $X$ requires 8 units of $A, 4$ units of $B$ and 4 units of $C$ whilst each $Y$ requires 10 units of $A$ and 8 units of $B$.
There are 85 units of $A, 90$ units of $B$ and 25 units of $C$ available on each day.

Following a profit maximisation policy, we have the Excel's sensitivity report output below for solving the linear programming.

Variable Cells

| Product | Final <br> Value | Reduced <br> Cost | Objective <br> Coefficient | Allowable <br> Increase | Allowable <br> Decrease |
| :--- | :--- | :--- | :--- | :--- | :--- |
| X | 6.25 | 0 | 16 | $1 \mathrm{E}+30$ | 6.4 |
| Y | 3.5 | 0 | 12 | 8 | 12 |

Constraints

| Resource | Final <br> Value | Shadow <br> Price | Constraint <br> R.H.Side | Allowable <br> Increase | Allowable <br> Decrease |
| :--- | :--- | :--- | :--- | :--- | :--- |
| A | 85 | 1.2 | 85 | 46.25 | 35 |
| B | 53 | 0 | 90 | 1 E+30 | 37 |
| C | 25 | 1.6 | 25 | 17.5 | 25 |

## Page 9

(1) Briefly describe the circumstances in which the technique of linear programming may be appropriate.
(2) Clearly state the optimal production plan of the two products and the total daily profit produced at this level of output.
(3) State which resources are fully utilised at the optimal solution and show how many spare capacities in the other resources is calculated.
(4) What is the 'Allowable Increase' for the profit coefficient? Interpret the value of the 'Allowable Increase' for the profit coefficient of $X$ units in the 'Variable Cells' table.
(5) What is 'Shadow Price'? Interpret the value of Resource A's shadow price in the 'Constraints’ table.

## Question 5.

A project consists of eight activities, which are listed in the following precedence table:

| Activity | Immediately preceding activities | Duration (days) |
| :---: | :---: | :---: |
| A | - | 4 |
| B | A | 5 |
| C | A | 2 |
| D | A | 3 |
| E | B, C | 5 |
| F | D | 1 |
| G | F | 4 |
| H | E, G | 2 |

(1) Draw a network for this project.
(2) Calculate the earliest and latest event times for each node.
(3) What is meant by a float? Provide its equation and calculate the float for each activity.
(4) Identify the critical path(s).
(5) Determine the minimum time required to complete the project.
(Total 20 marks)

## Question 6.

A company purchases a component for use in a production process directly from a supplier at a cost of $£ 6$ per component. The components are used at a constant rate of 1200 per month throughout the year. Ordering costs are $£ 60$ per order and holding costs are $£ 1$ per component per year.

Assuming that there are 250 working days per year and that there is a lead time of 5 days.
(1) Briefly describe the basic Economic Order Quantity (EOQ) model and explain any variables within its equation.
(2) Explain the assumptions implicit within the EOQ model.
(3) Calculate the Economic Order Quantity for this component.
(4) How frequently should an order be placed? Round your answer to days.
(5) What is meant by lead time in an inventory control model? Calculate the reorder level and interpret your answer.
(6) Calculate the total annual costs associated with this Economic Order Quantity.

## Question 7.

Part I. There are two investment options available to you:
a. $£ 3,000$ that has been invested for 2 years at $12 \%$ annual interest payable annually
b. $£ 3,000$ that has been invested for 2 years at $12 \%$ annual interest payable monthly
(1) Which one of the investments above would you prefer? Use calculations to support your answer.

Part II. A company can only invest in one of two projects. Assume an annual discount rate of $10 \%$. The annual net cashflows ( $£$ ) are indicated below:

|  | Project A | Project B |
| :--- | ---: | ---: |
| Initial Outlay | $-30,000$ | $-50,000$ |
| End of Year 1 | 15,000 | 25,000 |
| End of Year 2 | 10,000 | 20,000 |
| End of Year 3 | 10,000 | 15,000 |

(2) Calculate the Net Present Value (NPV) for each project.
(3) What is meant by the Internal Rate of Return? Estimate the IRR for each project.
(6 marks)
(4) Which project would you recommend? Justify your recommendation with the NPV decision rule.
(5) If the company must pay $12 \%$ interest to borrow money to finance Project $B$, would you suggest it goes ahead? Explain your reasoning based on the IRR decision rule.

## Question 8.

The following payoff table indicates profit (in $£$ 's) for a particular product, which will result from each of three alternative decisions assuming either high or low demand of the product. You may assume there is an $80 \%$ chance of high demand and a 20\% chance of low demand.

|  | High Demand | Low Demand |
| :--- | ---: | ---: |
| Decision 1 | 150,000 | $-50,000$ |
| Decision 2 | 120,000 | 20,000 |
| Decision 3 | 80,000 | 50,000 |

(1) Briefly describe what is meant by each of the following decision-making criteria:
a. The maximax criterion
b. The maximin criterion
c. The minimax regret criterion
d. The expected value criterion
(2) Using each of the criteria above, determine which decision should be chosen. Show your workings and explain your answer in each case.

## QUANTITATIVE METHODS FOR BUSINESS

NBS-5005Y

Time allowed: 3 hours

Answer FIVE questions, TWO from Section A and THREE from Section B

EACH question is worth 20 marks

The TOTAL number of marks available for this paper is 100

## Notes are not permitted in this examination

## Do not turn over until you are told to do so by the Invigilator

## Page 2

## Section A (answer 2 questions only from this section)

## Question 1.

The SPSS output below relates to a dataset of 37 companies who print a catalogue listing their products. The dataset details three independent variables: the number of products in the catalogue ("products"), the number of catalogues printed ("print_run") and the number of pages in a single catalogue ("number_of_pages").

a. Predictors: (Constant), products, print_run, number_of_pages

| ANOVA $^{\mathrm{a}}$ |  |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | :---: | :---: |
| Model |  | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 15773496.676 | 3 | 5257832.225 | 154.533 | $.000^{\mathrm{b}}$ |
|  | Residual | 1156817.140 | 34 | 34024.034 |  |  |
|  | Total | 16930313.816 | 37 |  |  |  |

a. Dependent Variable: orders
b. Predictors: (Constant), products, print_run, number_of_pages

a. Dependent Variable: orders

## Page 3

(a) The first table has both "R Square" and "Adjusted $R$ Square" values. Which one should you use and why? What does this value tell you about the model in this scenario?
(b) Clearly state the estimated equation for the multiple linear regression model, which has been fitted to the data.
(c) The unstandardized coefficient estimate for the 'print_run' variable is 0.182. Explain how this should be interpreted in the model.
(d) Use the model to predict orders from a 50 page catalogue, detailing 5000 products, with a print run of 2500 .
(e) State the null and alternative hypotheses for the F-test in this case and explain what this test tells you about this multiple regression model.
(f) With reference to the $t$-tests in the third table, suggest adjustments you could make to improve the model. How would you assess whether your changes have had an effect?

## Page 4

## Question 2.

Time series are very common in presenting data for and about business.
(a) Explain what is meant by a time series. Time series can exhibit trends and seasonal effects, explain what these terms mean with an example of each.
(5 marks)
(b) The data and graph below gives the number of haircuts given in a barber shop every week for 10 weeks.

| Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of <br> haircuts | 159 | 163 | 142 | 155 | 181 | 156 | 135 | 141 | 146 | 157 |


(i) Why is the method of exponential forecasting appropriate to analyse these data?
(ii) The equation for exponential forecasting is:

$$
F_{t+1}=F_{t}+\alpha\left(x_{t}-F_{t}\right)
$$

Explain the meaning of each of the symbols in this equation.

## Page 5

(iii) What values can $\alpha$ take? Explain the effect that varying $\alpha$ has on the forecast.
(iv) Use the exponential forecasting technique to predict the number of haircuts in the $11^{\text {th }}$ week when $\alpha=0.2$.
(v) Calculate the mean square error (MSE) and mean absolute error (MAE) for $\alpha=0.2$. What roles do MSE and MAE play in the forecasting process?

## Question 3.

(a) Explain the difference between next-event and fixed-increment time advance mechanisms for business simulation.
(b) An online comics retailer has calculated that the demand for the best-selling superhero comic follows the following probability distribution:

| Daily comics sales | Probability |
| :---: | :---: |
| 0 | 0.04 |
| 1 | 0.07 |
| 2 | 0.16 |
| 3 | 0.26 |
| 4 | 0.18 |
| 5 | 0.12 |
| 6 | 0.11 |
| 7 | 0.06 |

(i) What are the expected number of sales each day?
(ii) With a view to using simulation techniques to help its strategic planning, assign appropriate random digits to the sales probability distribution.
(iii) Would a next-event or fixed-increment time advance mechanism be most appropriate for the comics retailer?

## Page 6

(iv) Given the following random digits:
$480063760435718559439550960687 \quad 7153508377$ generate a simulated set of comic sales for 10 days, clearly explaining the process you follow.
(v) The artist of the comic in question is notoriously unreliable and the comic can often be delivered late to the retailer because of this. The probabilities of lateness are given below:

| Days late | Probability |
| :---: | :---: |
| 0 | 0.5 |
| 5 | 0.2 |
| 10 | 0.2 |
| 15 | 0.1 |

Assign random digits to this distribution.
Calculate the number of days late the retailer can expect a comic delivery to be.

## Section B <br> (answer 3 questions only from this section)

## Question 4.

(a) Explain why linear programming is useful in modelling business scenarios.
(b) A delivery company must deliver at least 1200 packages per job and has two types of van at their disposal:

Large vans: take 200 packages at a cost of $£ 80$ per van.
Small vans: take 80 packages at a cost of $£ 40$ per van.
The firm wants to use both types of vans but does not want to use more large vans than small vans. The maximum amount of money they want to spend on a job is £550.

## Page 7

(i) Formulate this scenario as a linear programming problem to minimise the cost of a job. State clearly the objective function and any constraints you use.
(ii) Sketch the problem and clearly label all the lines. Shade and clearly label the feasible region on your sketch. Find the coordinates of any intersection points analytically.
(iii) Calculate the costs associated with each of your solutions from part (ii). Which combination of large and small vans minimises the costs? (Your answer may not have a whole number of vans.)

Here is the output for this problem from the solver add-in Excel assuming that only a whole number of vans can be used in the delivery.


(iv) How many large and small vans should the company use according to the output? (1 mark)
(v) What would this cost the company?
(vi) What is the meaning of the terms "Binding" and "Not Binding" in the context of this problem?

## TURN OVER

## Question 5.

The following project planning network has all the nodes and activities present but is missing some of the durations for activities, and some earliest and latest event times for some nodes:


Letters represent individual activities with subscripts indicating the duration of the activity in days so, for example $\mathbf{X}_{\mathbf{1 2}}$ says that activity X has a duration of 12 days.

Nodes are circles numbered 1 to 8 with the numbers above a node representing the Earliest Event Time for that node and numbers underneath representing the Latest Event Time for that node.
(a) Write out a precedence table for the project in the network listing each activity and their immediately preceding activities.
(3 marks)
(b) Deduce all the missing information from the network and construct a table listing the activities with their duration, the earliest event time of the preceding node, the latest event time of the following node, and their float. (8 marks)
(c) Identify the dummies in the network?
(d) What type of dummies are they? How can you tell?
(e) What is the critical path for this project?

## Page 9

## Question 6.

(a)
(i) How does inventory control modelling interpret a backlogged demand?
(ii) Carefully sketch a graph that illustrates the idea of backlogged demand for 3 inventory cycles of an Economic Order Quantity model. Clearly label the maximum stock level $M$ and batch size $q$ on your sketch along with any other pertinent information.
(iii) In a real business, what could be the result of backlogged demand?(2 marks)
(b) The values of $M$ and $q$ (where $q$ is the Economic Order Quantity with shortages allowed, EOQ*) can be calculated using the equations:

$$
M=\sqrt{\frac{2 K D}{h}} \sqrt{\frac{s}{s+h}} \quad \text { and } \quad q=\sqrt{\frac{2 K D}{h}} \sqrt{\frac{s+h}{s}}
$$

(i) What do the symbols $K, D, s$ and $h$ represent?
(ii) What happens to EOQ* and $M$ as $s$ increases?
(c) A company makes 114000 kettles each year. They also produce the heating elements for the kettles. The production of the elements cost $£ 50000$ to set up and each completed heating element costs 25 p per month to store and insure. If the company runs out of heating elements it costs them $£ 2.50$ per unit per month. Assuming there is no lead time, what is the batch size and maximum shortage that the company can expect to have?
(5 marks)
(Total: 20 marks)

## TURN OVER

## Question 7.

(a)(i) Explain what is meant by interest being compounded.
(ii) If a nominal annual interest rate of $9 \%$ is compounded quarterly, what is the effective interest rate?
(iii) What is the effective interest rate if the $9 \%$ is compounded monthly?
(iv) What is the maximum interest rate achievable as the compounding period gets shorter and shorter?
(b) A finite geometric series can be written as:

$$
S=a+a r+a r^{2}+\ldots+a r^{n-1}
$$

Where $S$ is the sum of the series, $a$ is the first term, $r$ is the common ratio and $n$ is the number of terms.
(i) Show that:

$$
\begin{equation*}
S=\frac{a\left(1-r^{n}\right)}{1-r} \quad \text { equation } 1 \tag{3marks}
\end{equation*}
$$

(ii) Show that $S=\frac{a}{1-r}$ as $n$ approaches infinity.

What constraints do you have to impose for this to be true?
(iii) Use your result from (ii) to evaluate $\frac{1}{3}+\frac{1}{9}+\frac{1}{27}+\frac{1}{81}+\ldots$
(c) A bank offers a savings scheme whereby if savers invest $£ 5000$ at the end each year for an 8 year period the bank will pay $6.5 \%$ annually on their investment.
(i) Show how the savings scheme can be modelled using a finite geometric series.
(ii) What are the values of $a, r$ and $n$ ?
(iii) Use equation 1 to calculate the total savings accrued in the scheme.

## Question 8.

A stallholder runs a busy Noodle Bar in a street market in London. She keeps a record of how many noodle dishes she serves each week and has come up with the following results:

| Noodle dishes sold | Probability |
| :---: | :---: |
| 200 | 0.06 |
| 250 | 0.12 |
| 300 | 0.23 |
| 350 | 0.22 |
| 400 | 0.19 |
| 450 | 0.13 |
| 500 | 0.05 |

The stallholder needs to decide how many whole boxes of noodles to order each week. The noodles are fresh and any that are unused have to be thrown away at the end of each week. A box of noodles contains enough for 100 servings and costs $£ 50$. There is a $5 \%$ discount if the stallholder orders 4 or more boxes. Every dish the stallholder sells comes with noodles at a cost of $£ 1$ to the customer.
(a) Construct a payoff table for this problem to help the stallholder maximise their profits from selling noodles. Clearly state the Uncontrollable Events and Courses of Action.

Apply each of the four decision making criteria below to the problem to help the stallholder decide how many boxes of noodles to order. Explain your reasoning in each case.
(i) the maximax criterion,
(ii) the maximin criterion,
(iii) the minimax regret criterion and
(iv) the expected value criterion
(v) Make a recommendation to the stallholder about how many whole boxes of noodles she should order.

Answers to this exam were extremely variable in quality. Questions were done extremely well by some, but poorly by others. In general marks were lost for poor explanations of concepts, omission of units and simply missing out whole parts to questions. Also it was evident that some students did not read questions properly and missed key parts which carried marks. The exam tested understanding of concepts and put less emphasis of calculations. Almost all students showed a good understanding of the basic concepts. It was those students who exhibited a deeper understanding of the concepts who generally did really well in this exam.

Mean mark was $57.53 \%$ with a standard deviation of 14.43 .

Breakdown of questions (mark out of 20):

1. Mean 9.47, SD 4.00

The question was generally well answered but depth of understanding was needed to gain high marks. Omission or misuse of mathematical notation was the main problem along with lack of finer details. As with the rest of the questions, many students scored very high marks on this question and many scored low.
2. Mean 12.89 , SD 4.81

A good understanding of time series/trends and seasons but some students did not give examples. The calculation was well done but the definition of terms was often incorrect or lacked clarity.
3. Mean 12.72 , SD 3.58

The difference between the mechanisms was generally well answered but more depth was required in many cases. Assigning of random digits was well done but the explanation of the process was not. Some confusion for the assigning of digits in the final section.
4. Mean 11.73 , SD 3.23

A decent understanding of the concepts of linear programming were shown and many students solved the simultaneous equations correctly. However the sketch was poorly done and feasible regions were often wrong. Interpretation of the Excel table was OK. The understanding of "Binding" and not binding" was variable.
5. Mean 14.55, SD 2.94

This question was well done and a good understanding of LET, EET and Float calculations was needed to score well. The explanations of what dummies were was less well done however.
6. Mean 10.75 , SD 3.66

The graphical interpretation of backlogged demand was poor and many marks were lost here. This answers suffered from a lack of units in definitions and calculations. Also balancing between years and months was not properly done in the EOQ* and M calculation.
7. Mean 8.20, SD 4.21

A good sense check would have avoided many of the mistakes on this question. It concentrated on the mathematical element of financial calculations to distinguish it from the Business Finance module. However there was still many marks available for calculations. A majority of students used the wrong equation for the effective rate of interest and did not know what happens as the compounding interest got shorter. Many answers here were not sensible which comes from only knowing how to use an equation rather than understanding how it works or what it is doing. In part $b$ the equations were given and two basic proofs were required, this was done well in general and students either got all or none of the marks. Part c was disappointing as it was a straight calculation where the equation was given. The main misunderstanding was that $r$ in the given equation was the common ratio and not interest rate. However again a quick sense check should have told students that their answer was nonsensical.
8. Mean 12.57, SD 5.10

This question was well done in general and even if the payoff table was not correct, almost all students could explain and apply the decision criteria.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School

Main Series UG Examination 2018-19

Version 1

## QUANTITATIVE METHODS FOR BUSINESS

NBS-5005Y

Time allowed: 3 hours<br>Answer FIVE questions, TWO from Section A and THREE from Section B

You are advised to spend an equal amount of time on each question

EACH question is worth 20 marks

Notes are not permitted in this examination
Do not turn over until you are told to do so by the Invigilator

Section A (answer TWO questions only from this section)

## Question 1.

(a) Describe the four-step process for carrying out a hypothesis test.
(b) If you had a random sample of 400 people along with details of their weekly online spending habits, detail how the process in part (a) would work if you had to test whether the mean online spending for all men was less than that for all women. Your answer should include the statistical test and any hypotheses you would use, and any assumptions you make. Ensure that you define any symbols that you introduce and describe the process you would follow.
(c) SPSS reports a "two-tailed sig." for this test of 0.06 , what conclusions could you draw? Make sure you support your conclusion with clear statistical reasoning.

## Question 2.

(a) The multiplicative model for forecasting uses the equation:

$$
x_{t}=T_{t} S_{t} R_{t}
$$

Define the meaning of each symbol.
(b) How does the multiplicative model differ from the additive model? Your answer should include both mathematical and graphical aspects.
(c) Compare and contrast two different ways that $T_{t}$ can be estimated from a given data set. Describe the strengths and weaknesses of your two methods.
(d) What value does $R_{t}$ take in the multiplicative model?

Explain why this is the case.
(e) Assuming that your data exhibits four seasons, how would you calculate the estimated seasonal aspects of the multiplicative model? How would you account for any variation in values from the same season but from different years?
(Total: 20 marks)

## Question 3.

A fish and chip shop serves chips, fish and chips, sausage and chips, and pie and chips. The price of a meal and the probability that a customer orders that meal are detailed in the table below:

| Meal | Price (£) | Probability |
| :--- | :---: | :---: |
| Chips | 1.20 | 0.36 |
| Fish and Chips | 5.50 | 0.48 |
| Sausage and Chips | 4.50 | 0.10 |
| Pie and Chips | 4.95 | 0.06 |

The shop thinks that customers should wait no more than 3 minutes on average for their meal. They have some data on how often a customer arrives in the shop (interarrival times) and how long a customer has to wait for their order if they are first in a queue or after the previous customer has been served if they are in a queue:

| Inter-arrival time <br> (minutes) | Probability |
| :---: | :---: |
| 0 | 0.14 |
| 1 | 0.16 |
| 2 | 0.20 |
| 3 | 0.18 |
| 4 | 0.15 |
| 5 | 0.09 |
| 6 | 0.06 |
| 7 | 0.02 |


| Wait time (minutes) | Probability |
| :---: | :---: |
| 0 | 0.3 |
| 2 | 0.4 |
| 4 | 0.2 |
| 6 | 0.1 |

(a) What are the expected values for price paid for a meal, inter-arrival time and customer waiting time?
(b) Using the random digits:

$$
520312981529743246901733819823
$$

Construct a next-event time-advance simulation for 15 customers of the fish and chip shop. Take into account inter-arrival and waiting times for customers, the meals ordered and therefore sales for the shop. Show clearly how you have allocated your random digits and start your simulation from the arrival of the first customer.
(c) What is the mean waiting time for customers?
(d) What is the mean spend per customer?
(e) Do you think the shop is working efficiently?
(f) How can you improve the simulation?

## Section B (answer THREE questions only from this section)

## Question 4.

You are in charge of buying new display cabinets for a shop and have a budget of $£ 1800$. The wall where the cabinets are to be fitted is 9 m long. The cabinets come in two sizes: large (cost $£ 300$, length 120 cm ) and standard (cost $£ 150$, length 90 cm ). The large cabinet has $40 \%$ more space than a standard cabinet.
(a) Use linear programming to decide how many and what type of cabinets to buy to maximise the space available for display along the length of the wall. Let $x$ be the number of standard cabinets and $y$ be the number of large cabinets. In your answer you need to include:
i) A clear set of constraints and an objective function expressed mathematically.
(4 marks)
ii) A sketch of the problem with any intersection points and the feasible region clearly labelled.
(6 marks)
iii) A recommended number of each type of cabinet to purchase and clear reasoning why.
iv) The Excel Answer report for this analysis states that both the cost and length constraints are binding. Explain what this means. Would you expect any slack in these constraints?
v) If the volume of a standard cupboard is $0.6 \mathrm{~m}^{3}$, what volume of display cabinets is generated by your solution?
(b) The suppliers of the cabinets introduce a medium cabinet (cost $£ 210$, length 105 cm ) which is $25 \%$ larger than the standard. An analysis in Excel produces the following:

| Cell | Name | Original Value | Final Value | Integer |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| \$B\$4 | standard | 0 | 3 | 3 Integer |  |
| \$B\$5 | medium | 0 | 6 | 6 Integer |  |
| \$B\$6 | large | 0 | 0 | 0 Integer |  |
| Constraints |  |  |  |  |  |
| Cell | Name | Cell Value | Formula | Status | Slack |
| \$B\$2 | length |  | \$B\$2<=9 | Binding | 0 |
| \$B\$3 | cost | 1710 | \$B\$3<=1800 | Not Binding | 90 |
| \$B\$4=Integer |  |  |  |  |  |
| \$B\$5=Integer |  |  |  |  |  |
| \$B\$6=Integer |  |  |  |  |  |

i) Do you think that the introduction of a medium cabinet benefits the shop?

Explain your answer.
ii) What volume of display cabinets is generated by this solution?
(Total: 20 marks)

## Question 5.

(a) The following precedence table gives details of 10 activities in a project along with any preceding activities and the activity's duration in weeks:

| Activity | Preceding Activity | Time (weeks) |
| :--- | :--- | :--- |
| A | - | 4 |
| B | A | 3 |
| C | A | 5 |
| D | A | 6 |
| E | A | 4 |
| F | B, E | 5 |
| G | C, D | 3 |
| H | C | 8 |
| I | F, H | 12 |
| J | I | 2 |

(b) Identify and categorise any dummies in your network.
(c) Calculate the float for each activity and therefore state the critical path through this network.
(5 marks)
(d) The following table gives the crash costs, if applicable, of each activity.

| Activity | Crash cost <br> (£/week) | Activity | Crash cost <br> (£/week) |
| :--- | :--- | :--- | :--- |
| A | $£ 1000$ | F | $£ 500$ |
| B | $£ 500$ | G | $£ 1000$ |
| C | Not possible | H | $£ 6000$ |
| D | $£ 2000$ | I | Not possible |
| E | $£ 10000$ | J | Not possible |

Given that no activity can be reduced to zero weeks, devise the cheapest strategy for crashing the project by 4 weeks. Give your reasoning for your strategy.

## Question 6.

(a)
i) Write down the equation used to calculate a basic Economic Order Quantity. Define each of the symbols in the equation paying attention to the units attributed to each.
(5 marks)
ii) What assumptions do you need to make in order to construct the model?
(4 marks)
(b) A garden centre uses a constant 60000 litres of compost every year for potting up plants and growing on seedlings. Every time the garden centre orders compost they incur a cost of $£ 150$. It also costs them 30 p to store a litre of compost for a month. You can assume that a working month lasts 30 days and a working year is 360 days.
i) Given these conditions, what is the most economically viable volume of compost to order?
ii) How many times a month should the garden centre order compost?
(2 marks)
iii) If compost costs 50 p per litre, what are the monthly compost costs for the garden centre?
iv) If it takes 5 days for compost to arrive, how much compost should be left in stock when the order is placed?
v) Suggest a method that the garden centre could employ to monitor stock levels and account for the lead time. How would this method work?
(Total: 20 marks)

## Question 7.

## (a)

i) Is it better to invest $£ 15000$ for a year in Fund $X$ which pays a nominal annual interest rate of $3 \%$ compounded monthly or Fund $Y$ which pays a nominal annual interest rate of $4 \%$ compounded quarterly? Support your argument with quantitative evidence.
ii) What are the effective interest rates for Funds $X$ and $Y$ ? Give your answers to 3 significant figures.
iii) How long will it take for $£ 12800$ invested in Fund $Y$ to accrue enough interest to become at least $£ 15000$ ?
iv) The fund managers want to create a new fund where the nominal rate is compounded twice yearly. What must the rate be if the fund is needed to grow from $£ 12800$ to $£ 15000$ in half the time of Fund $Y$ ?
(b) A company invests $\$ 9 \mathrm{~m}$ in property. They plan to develop this asset by spending a further $\$ 0.25 \mathrm{~m}$ each year for 10 years. They expect a return on their investment of $\$ 0.3 \mathrm{~m}$ in the first year, $\$ 0.6 \mathrm{~m}$ in the second year and $\$ 1.5 \mathrm{~m}$ in each of the subsequent years.
i) Show how the present value of the profit on this project in years 3 to 10 can be modelled using a geometric series assuming a discount rate of $3 \%$.
(3 marks)
ii) The sum $S$ of a geometric series is given by $S=\frac{a\left(1-r^{n}\right)}{1-r}$.

What are $a, r$ and $n$ for the present value of the profit in years 3 to $10 ?$ Calculate the total present value for this profit.
iii) Use your answer to (ii), or otherwise, to calculate the net present value of the project. Is the project worth investing in?

## Question 8.

(a)
i) When is it appropriate to use a payoff table when making a decision and when is it appropriate to use a decision tree?
ii) Compare and contrast the four decision making criteria for a payoff table.

Explain how each method is applied and their strengths and weaknesses.
(8 marks)
(b) A bakery is considering moving to new premises. A business analyst has forecast the profits for the bakery given that sales either fall, remain the same, or increase. They provided the following table showing the payoff for each situation in £000's:

|  | Business forecast (chance) |  |  |
| :--- | :---: | :---: | :---: |
|  | Falls (20\%) | Remains the <br> same (30\%) | Increases <br> $(50 \%)$ |
| Staying in old <br> premises | 10 | 35 | 35 |
| Moving to <br> new premises | -30 | 5 | 65 |

i) What are the uncontrollable events and courses of action in this scenario?
ii) Apply the four decision making criteria to this payoff table. Clearly showing your reasoning, state which course of action each criterion recommends.
iii) Which course of action would you recommend overall and why?

Again answers to this exam were extremely variable in quality, at least one student scored full marks on each question. Like last year general marks were lost for poor explanations of concept and construction of argument (both mathematical and linguistic), omission of units and simply missing out whole parts to questions. The exam tested understanding and application of concepts with some questions more calculational in nature than others. It was those students who exhibited a deeper understanding of the concepts who generally did really well in this exam. There was a near 50:50 split between those who achieved good honours and those who did not.

Mean mark was $59.55 \%$ with a standard deviation of $18.61 \%$.

Breakdown of questions (mark out of 20):

1. Mean 11.86, SD 4.28

A good effort at this question but lack of clarity in argument and definition of terms let many students down. A particular problem was in the definition of the null and alternative hypotheses in the example with inevitable knock on effects.
2. Mean 11.09, SD 4.66

Good definitions here. Very few students addressed the graphical aspects well however the question regarding trends was very well done as was the seasonal effect work.
3. Mean 13.37, SD 4.36

A well done question in general with good allocation (a great improvement on last year). Marks were lost in the calculation itself, mainly for absence of units and poor table construction.
4. Mean 11.89, SD 3.97

A more calculational question which was, overall, well done with attention to detail evident. Students found it difficult formulating the problem with the non-zero constraint and the objective function proving particularly elusive. A number of people ignored the information given and assigned $x$ and $y$ themselves. The sketch often had an extra, unneeded line and the feasible region was often unlabelled.
5. Mean 12.36 , SD 4.99

Those students who attempted this question made a decent effort. Greater care could've been taken in creating the networks as many were quite messy. Quite a number of unnecessary dummies were in evidence. The float calculation was well done but LET and EET were often incorrect. The final part about crashing was often not attempted, but those who did made a good effort.
6. Mean 12.36 , SD 4.04

A more technical question that was, in general well done. Attention to detail was needed though and the balance of time (months to years) was often overlooked. Many marks were lost due to a lack of units both in definitions and numerical answers.
7. Mean 11.61, SD 5.25

A much better attempt than last year however there was still many basic errors in financial calculations which should be common place, such as compound interest calculations. The second half, regarding the NPV was confused with a lack of clarity in the construction of the series with $a, r$ and $n$ rarely correctly assigned. On the other hand, the calculations themselves were, in general correct for the numbers used. Unfortunately units were often missing and so marks were lost.
8. Mean 11.36 , SD 4.76

Students who attempted this question either did really well or poorly. Many good explanations and excellent decision making was in evidence. Strengths and weaknesses of the four criteria were often absent however.

## PRINCIPLES OF MARKETING

NBS-4006Y

Time allowed: 2 hours

Answer TWO questions
EACH question is worth 100 marks
The TOTAL number of marks available for this paper is 100

Notes are not permitted in this examination
Do not turn over until you are told to do so by the Invigilator

1. Comprehensive market research strengthens effective marketing decision making and also helps avoid expensive marketing mistakes. Jersey Dairies, a leading national dairy producer, has had great success with its MooMoo ${ }^{\text {TM }}$ brand of frozen yogurts range which is marketed across a number of major retail outlets. Building on this success, the company wants to branch out into establishing a chain of frozen yogurt bars in major cities across the country, both as stand-alone retail outlets and as concessions in major shopping malls and leisure attractions.
a. Design a market research study for Jersey Dairies, helping them understand the market better, incorporating a range of suggestions and market research methods to gain consumer insights. ( 60 marks)
b. Justify your recommendations for the chosen market research methods and research instruments, in the context of their relevance and their suitability for the company's marketing plans. (40 marks)
2. The decision making processes of individual and organisational consumers can be substantially different when it comes to making buying decisions. You are the marketing manager for Healthy Eating Limited, the company behind the $\mathrm{GoGo}^{\text {™ }}$ brand of organic foods covering a range of snack bars, shakes, and smoothies.
a. In your capacity, how will you account for the differences in purchasing influences that shape the B2B and B2C market for the same type of snack foods? ( 50 marks)
b. What are the factors that will differentiate the decision making process between individual and organisational consumer decision making? (50 marks)
3. Marketing promotions are a critical element of marketing success.
a. What are the different types of promotional and marketing communication tools available to marketers and how do they contribute to marketing success? (60 marks)
b. How can digital marketing methods be integrated successfully into conventional and traditional promotional methods and marketing communication tools? Illustrate with suitable examples of your choice. (40 marks)
4. The right type of pricing strategy and method can make a significant difference to the marketing success of a product and also help strengthen its competitive position in the marketplace. Bella is a young fashion vlogger who achieved internet fame through her beauty tutorials on YouTube. She is now launching her own brand of cosmetics and makeup aimed primarily at teenage girls but also at the 18-25 women's market.
a. Suggest a set of pricing strategies for Bella for her makeup and cosmetics ranges keeping in mind the different types of customer requirements and target audiences. (60 marks)
b. Justify your suggestions and recommendations in the context of how the Bella range can achieve a favourable competitive positioning against those of better known and well established brands. (40 marks)

## PRINCIPLES OF MARKETING

NBS-4006Y
Time allowed: 2 hours

Answer TWO questions
EACH question is worth 100 marks
The TOTAL number of marks available for this paper is 100


Notes are not permitted in this examination
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1. Marketing is a managerial practice and process that brings together a range of markets, customers, and businesses for mutual benefit.
a. How do you understand the core marketing concepts and their importance to the marketing process? Illustrate using suitable examples. ( 50 marks)
b. Explain the various types of marketing philosophies commonly adopted by firms to serve its markets and customers. Illustrate using suitable examples. (50 marks)
2. The marketing mix is a critical aspect of formulating successful marketing strategies.
a. Using suitable examples, discuss the nature and relevance of the essential marketing mix and how it contributes to marketing success. (50 marks)
b. Discuss how the marketing mix can be extended and using suitable examples of your choice, explain how it will help firms draw up effective marketing strategies. (50 marks)
3. Jardine Mathieson is a global luxury property management company that specialises in managing elite, exclusive, luxury commercial and residential properties in select global cities. It has a small presence in London but is drawing up ambitious plans to expand its operations in London and a few other major metropolitan cities in the UK.
a. Identify some of the macro- and micro-environmental factors as part of a market analysis that the company needs to be aware of in its market expansion plans. ( 60 marks)
b. Discuss some of the challenges and opportunities that the company will take into consideration as part of the market analysis. (40 marks)
4. A well-thought out distribution strategy will help a company identify and capitalise on a range of market opportunities.
a. Discuss the importance of channel distribution functions to a business. (40 marks)
b. Smart Tone ${ }^{\text {TM }}$ Company is launching a new in-home fitness system with a range of accessories targeted at people who are interested in working and strengthening their core workout fitness and toning. Suggest an appropriate distribution strategy for the company using as many options available. (60 marks)

## END OF PAPER

## PRINCIPLES OF MARKETING

NBS-4006Y

Time allowed: 2 hours

Answer TWO questions
EACH question is worth 100 marks
The TOTAL number of marks available for this paper is 100


Notes are not permitted in this examination
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1. Segmentation, targeting, and positioning are vital to ensure that the product is effectively marketed to the right target audience.
a. Discuss the ideas being market segmentation, targeting, and positioning and explain the various methods using suitable examples. ( 40 marks)
b. As a marketing manager of a new brand of environment friendly hybrid car, explain how you would determine your segmentation, targeting and positioning strategy and justify your reasoning. ( 60 marks)
2. The Porter's Five Forces Model is a popular and enduring theoretical framework used to analyse industry prospects for any business.
a. Discuss and explain the model and its continuing relevance for carrying out industry analysis using suitable examples. (50 marks)
b. As an entrepreneur, you plan to launch a small independent chain of artisanal coffee shops targeting high-end consumers. Explain how you would use Porter's five forces framework to assess the industry attractiveness. (50 marks)
3. The concepts of product and brand are inextricably linked in marketing although they can signify different things and value meanings.
a. Explain your understanding of a product and its anatomy using suitable examples. How can marketers expand a product and optimise its value offering to a customer base? (50 marks)
b. How and when does a product translate to a brand? What are the key processes that help in understanding a product as a brand? Use suitable examples to discuss your answer. ( 50 marks)
4. An integrated marketing communication strategy that draws from a range of traditional and unconventional marketing promotional tools are important for ensuring marketing success of a product.
a. How can an effective marketing communication strategy combine conventional promotional tools with more module methods such as digital technologies and social media? Discuss using examples (50 marks)
b. A new brand of organic high end cosmetics and beauty products that are being endorsed and co-developed by a world-famous supermodel is being launched in select markets. Suggest an integrated marketing communication strategy that will make best üse of the appropriate marketing promotional tools most suitable for this product launch. (50 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2016-17

## PRINCIPLES OF MARKETING

NBS-4006Y

Time allowed: 2 hours

Answer TWO questions from SECTION A and ONE question from SECTION B

The TOTAL number of marks available for this paper is 100

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator.

## Page 2

## SECTION A

Answer ANY TWO of the following questions. Each question carries 20 MARKS.

1. Portfolio planning is seen as the process of managing groups of brands and product lines.
a) Drawing on an appropriate theoretical framework, explain how firms can balance sales, profit margins, and market share position amongst their product portfolio.
b) Explain the various levels of your chosen framework with suitable examples of your choice.
2. The success of a firm's marketing planning and implementation depends more on the effectiveness with which it tackles competition.
a) Drawing on an appropriate theoretical framework, explain how firms can choose to adopt one or more competitive strategies to decide their position in the marketplace.
b) Using suitable examples of your choice, discuss the relevance of these various strategies for different types of products and markets.
(10 Marks)
3. Digital technologies enable firms to supplement and complement traditional marketing communication and promotional techniques.
a) Explain and discuss the relevance of various digital and online marketing techniques.
(10 Marks)
b) Using suitable examples of your choice, discuss how some of the digital marketing techniques can support and enhance the experience of traditional marketing communication methods.

## Page 3

4. Of the 4Ps in the marketing mix, pricing is critical as it makes the difference a product becoming profit making or loss making.
a) Discuss and explain the different types of pricing strategies commonly used in marketing using suitable examples of your choice.
b) If you were to market different versions of the same brand of product with different pricing points, explain how you would differentiate mass market from high end pricing strategies.

## Page 4

## SECTION B

Answer ANY ONE of the following questions. Each question carries $\mathbf{6 0}$ MARKS.
5. Hereford Farms is a cooperative of over 50 organic farmers who grow a variety of vegetables and fruit. About 10 years ago, increasingly frustrated by the low margins in farming and the impossible demands placed on them by supermarket chains, Hereford Farms started to move away from primary farming into processed food. A few years ago, the cooperative launched CRUNCH ${ }^{\text {TM }}$, a brand of potato crisps into the market. Consciously marketed as a high-end home grown quality product, and aided by a quirky branding campaign, CRUNCH has come to occupy a niche position in the competitive potato crisp sector, even though its retail price per pack is at least 10p higher than the leading market brand on average. The cooperative has since expanded its offering to include a range of potato based snacks as well as vegetable crisps. Its profits have soared. A few months ago, a large US foods multinational has acquired a controlling stake in the cooperative and is making plans to expand the brand into the growing 'posh popcorn' market with a view to repositioning the firm as a healthy snack food company.

Using a typical marketing planning process, address the following through the application of relevant theoretical frameworks to the scenario above:
a) A brief sample mission statement and a set of about 3-4 time-bound measurable objectives,
(5 Marks)
b) A comprehensive market analysis that will involve a brief but thorough microand macro-environmental scanning as well industry analysis to understand the nature of competition, and summarise the analysis;
(25 Marks)
c) A set of marketing strategies and outline of portfolio planning with a brief justification for your choices and suggestions;
(15 Marks)
d) A set of competitive strategies based on a value chain analysis with a brief justification for your choices and suggestions.
6. Samba Spirit ${ }^{\text {TM }}$ is a trademarked brand of a spirit distilled from sugarcane juice and is the national alcoholic beverage of Brazil. In contrast to the crude, unrefined, and sometimes toxic variety of the spirit that is widely available in Brazil, this brand is marketed as a high quality, finely refined version of the spirit that can be sold as a stand-alone drink and as an ingredient mixer in many cocktails. Gomez Liquors, the Brazilian company that owns the brand, has worked hard over the years to build up a small but exclusive export channel to market the product. It has a valuable distribution pipeline among many leading clubs and bars in most major cities around the world but its export values are very small. Over the past couple of years, the company has seen a rising demand for this product throughout the UK, driven by the flourishing night time economy of London and other major UK cities, as well as growth in sales of expensive alcoholic spirits in upmarket grocery chains and retail supermarkets.

Using your theoretical understanding of distribution strategies and promotional communication tactics, address the following through the application of relevant theoretical frameworks to the scenario above:
a) A set of relevant distribution strategies and choice of distribution channels with justification for your recommendations and suggestions;
(20 Marks)
b) An outline of the type of distribution intermediaries including influential opinion makers who will be a key part of the distribution and communication strategies being developed;
(20 Marks)
c) A set of promotional methods involving both online and offline communications that will be appropriate and relevant to the types of distribution strategies that are being recommended.
(20 Marks)

TURN OVER

## Page 6

7. Lacto Free ${ }^{T M}$ is a new brand of vegan, dairy-free alternative products made from almond, soya, rice bran etc. and sold in the form of milk, yoghurt, cream, and powdered versions. The brand's product range is currently available only in a handful of upper end supermarket chains and health food shops in major UK cities and it is more expensive than many of the other brands in the market including supermarket own-label brands. The marketing team behind the brand want to identify demand potential for the product in the mass market before planning for the brand to become more widely available through the major supermarkets. They are interested in gathering consumer insights by understanding consumer purchase patterns, average spend, consumer interest in health foods, and how consumers including non-vegan ones will use and consume this brand's range of vegan products.

Using your theoretical understanding of the market research process and research methodologies, address the following through the application of relevant theoretical frameworks to the scenario above:
a) An outline marketing research plan that highlights some key research objectives that need to be attained as a result as carrying out market research and your justifications;
b) A set of recommendations for background and secondary research;
c) A set of quantitative research methods and techniques with your justifications;
d) A set of qualitative research methods and techniques with your justifications
(15 Marks)
(Total for Section B is 60 Marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2017-18

## PRINCIPLES OF MARKETING

NBS-4006Y

Time allowed: 2 hours

Answer TWO questions in SECTION A and ONE question in SECTION B

The TOTAL number of marks available for this paper is 100

Notes are not permitted in this examination

Do not turn over until you are told to do so by the Invigilator

## Section A

Answer ANY TWO of the following questions. Each question carries $\underline{\mathbf{2 0} \text { marks in }}$ total.
(Total Marks for Section A is 40 MARKS)

1. Marketing promotions are essential tools to improve marketing performance.
a) What are the different types of promotional tools available to marketers?
b) How do they support marketing performance?
2. Marketing philosophy is a fundamental element of marketing.
a) List and briefly describe the various types of marketing philosophies that a firm might adopt to serve its customers.
b) Is there an ideal type of marketing philosophy? Illustrate your answer with succinct real-life examples.
3. Market Segmentation is a way of categorising consumer groups for proficient marketing practice.
a) Using proper examples of your choice, briefly outline how various forms of market segmentation methods will transform into targeting methods.
(10 Marks)
b) Explicate your answer further by discussing the significance of positioning and the use of a perceptual map in focusing the segmentation and targeting methods.
(10 Marks)
4. Business customers are just as, if not more, critical to marketing operations performance than are individual customers/consumers.
a) Discuss and explain the differences between individual customers and business customers regarding how they are segmented in the market and the various decision making influences, using suitable examples of your choice.
(10 Marks)
b) Using a select few examples, discuss how individual and business customers will vary in their decision making approaches and methods for the same product or service offered to them.
(10 Marks)

## Section B

Answer ANY ONE of the following questions. Each question carries 60 marks in total.
(Total Marks for Section B is 60 MARKS)
5. McVitie's $s^{T M}$ is a British snack food brand owned by United Biscuits. It has a wide range of snack food and biscuits including products that target healthconscious consumers. Nonetheless, the brand and its parent company face tough competition in the British market following recent consolidations in the industry. As a means to diversify its market and alleviate the effect of harsh competitive conditions, United Biscuits has worked hard over the years to build up an alternative export channel to market McVitie's ${ }^{T M}$ abroad, especially EU. It has developed a valuable distribution channel in major countries and cities around the world and EU, but its export values are stalled over the recent years. Nonetheless, over the past couple of years, the company has seen a rising demand for this product throughout the Eastern and Southern Europe, driven by the flourishing economy in the region, as well as growth in sales of snack food that consumers find convenient to access and fast to eat.

Using your theoretical understanding of distribution strategies and promotional communication tactics, address the following through the application of relevant theoretical frameworks to the scenario above:
a) A set of relevant distribution strategies and choice of distribution channels with justification for your recommendations and suggestions;
(20 Marks)
b) An outline of the type of distribution intermediaries including influential opinion makers who will be a crucial part of the distribution and communication strategies being developed;
(20 Marks)
c) A set of promotional methods involving both online and offline communications that will be appropriate and relevant to the types of distribution strategies that are being recommended.
(20 Marks)
6. Health Valley is an exclusive health food brand that specialises in importing raw chia seed and chia seed-based products from select organic producers in Latin America and distributing them in the form of pudding, bars, nibs, etc. through health food stores and upmarket retail grocery chains. The product range is very exclusive and expensive and is patronised by serious foodies who are interested in the tremendous health benefits of raw chia seed, one of the most abundant sources of anti-oxidants and fibre in the world. The growing healthy eating trend, as well as the influence of health bloggers and nutritionists, means that there is an increasing demand for raw chia seed based products in the UK. The marketing team behind the brand would like to make the product more widely available but need to gain further customer insights into product usage, preferences, attitudes to healthy eating, and willingness to spend on specialist health food products.

Using your theoretical understanding of the market research process and research methodologies, address the following through the application of relevant theoretical frameworks to the scenario above:
a) An outline marketing research plan that highlights some key research objectives that need to be attained as a result of carrying out market research and your justifications;
b) A set of recommendations for background and secondary research;
(10 Marks)
c) A set of quantitative research methods and techniques with your justifications;
(15 Marks)
d) A set of qualitative research methods and techniques with your reasons.
(15 Marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2018-19
Version 1

## PRINCIPLES OF MARKETING

NBS-4006Y

Time allowed: 2 hours

Answer THREE questions in total. TWO questions in SECTION A and ONE question in SECTION B

The TOTAL number of marks available for this paper is 100

Notes are not permitted in this examination

Do not turn over until you are told to do so by the Invigilator

## Section A

(Total Marks for Section A is 40 MARKS)
Answer ANY TWO of the following questions. Each question carries $\mathbf{2 0}$ MARKS.

1. Digital technologies enable firms to supplement and complement traditional marketing communication and promotional techniques.
a) Explain and discuss the relevance of three digital and online marketing techniques and specifically how they encourage customer interaction and engagement. Please make specific reference to real life examples within your answer.
(10 Marks)
b) Using these digital and online marketing techniques, discuss how they can complement, support and enhance the experience of traditional marketing communication methods for customers.
(10 Marks)
2. Describe the importance of marketing research to an organisation.
a) Discuss the different stages of a typical research process. (10 Marks)
b) Provide an overview of the different types of research methods and approaches, suggesting at least two different real-life scenarios when they could be applied.
(10 Marks)
3. Apply the 7Ps of marketing to a service based company of your choice.
a) Describe the different components (Ps) and how they relate specifically to the current position of this company, versus their competitors.
(10 Marks)
b) Make recommendations as to which specific Ps may best help them facilitate growth in the future, with clear explanations.
(10 Marks)
4. Marketing is a managerial practice and process that brings together a range of markets, customers, and businesses for mutual benefit.
a) Describe how you understand the core marketing concepts and their importance to the marketing process?
(10 Marks)
b) Choose two core marketing concepts and relate them to a real-life example of your choice, clearly explaining their significance.
(10 Marks)

## Section B

(Total Marks for Section B is 60 MARKS)
Answer ANY ONE of the following two questions. Each question carries $\mathbf{6 0}$ MARKS.
5. You have been appointed as the product manager with the responsibility of marketing a new low calorie carbonated soft drink, into UK-based vending machines, supermarkets and convenience stores. Using suitable examples from the existing low-calorie soft drinks industry, outline:
a) Your reasoning and rationale for the segmentation and targeting strategy that you will adapt that makes the best and most appropriate marketing approach for your product.
(30 Marks)
b) Your suggestions for an appropriate positioning strategy that will offer the most effective competition amongst other existing soft drinks brands of a similar nature.
(30 Marks)
6. Analyse the various stages of a typical marketing planning process and the relevant frameworks and theoretical models that need to be considered at each stage of the process - using examples from real-life business where possible to illustrate how each of these stages/relevant frameworks might work in practice.
a) In particular you should define what marketing planning is and detail the steps involved in the four key stages of the planning process, i.e. Goal setting, Analysing the current situation, Creating the marketing strategy and Allocating marketing resources and Monitoring.
(30 Marks)
b) Discuss which theoretical frameworks are most appropriate to help businesses decide the future of each individual product and brand and that helps simplify a company's competitive situation into two simple variables - products and markets.
(20 Marks)
c) Suggest three marketing objectives for a product/brand of your choice that could help them to promote growth and increase sales over the next year.

## END OF PAPER

## Generic Feedback RE: NBS-4006Y Principles of Marketing Exam, May 2019

I have the following comments on the individual questions as general feedback, which should help you to understand some of the common errors and positive inputs.

## Section A

1. Digital technologies enable firms to supplement and complement traditional marketing communication and promotional techniques.
a) Explain and discuss the relevance of three digital and online marketing techniques and specifically how they encourage customer interaction and engagement. Please make specific reference to real life examples within your answer. [10 Marks]

Answer: In general this section of the question was answered fairly well, with three digital and online marketing techniques being outlined, mostly by drawing from sensible current examples. Only a few students provided an introduction that discussed the relevance of digital and online marketing techniques. Digital marketing techniques utilised to drive search and purchase behaviours, could have included: search engine optimisation (SEO) blogging and video blogging (vlogging), branded applications (Apps) webinars and livestreaming, Ai bots, as well as more established e-mail campaigns. Online techniques include: websites and social media marketing - where they should specifically discuss the relevance of specific social media types, i.e. Facebook, Twitter and/or Instagram and their specific aims. Limited reference was made to the two-way interactive purpose of digital technologies and the conversational style communication generated via social media. Almost no students made reference to customer engagement and relationship marketing literature or in relation to cross device usage and the need to ensure that correct formatting is applied to ensure ease of use.
b) Using these digital and online marketing techniques, discuss how they can complement, support and enhance the experience of traditional marketing communication methods for customers [10 Marks]

Answer: This question was less well answered and lacked a detailed discussion that specifically explained how many of these methods are supplementing, complementing, and enriching traditional communication methods, as marketers find ways to embrace and adapt digital marketing techniques. Students were also less able to use examples to demonstrate how these technologies add to the efficiency (reduced cost) and effectiveness (broader awareness) of current marketing campaigns. A well written answer clearly outlined how digital technologies such as websites and social media sites could complement and enhance messages, images and brands within static advertisements such as billboards to strengthen the marketing campaign and increase awareness and engagement. Better answers included a discussion of specific case study examples.
2. Describe the importance of marketing research to an organisation.
a) Discuss the different stages of a typical research process [10 marks]

Answer: This part of the question was generally well answered with many students correctly recounting the seven stages of the marketing research process (Fahy and Jobber, 2015:98), i.e. Define the problem (or opportunity), Design the research, Design the data collection forms, Specify the sample, Collect the data, Analyse the data and Write the research report and present its findings. The better answers included specific examples drawn from reallife case-studies where research has been used prior to product launches or development. The weaker answers just listed the stages without explanation or examples.
b) Provide an overview of the different types of research methods and approaches, suggesting at least two different real-life scenarios when they could be applied [10 marks]

Answer: Most students discussed the different types of research including primary, secondary, qualitative and quantitative with examples of both. Better answers suggested real-life case-study examples, where such methods could be applied, such as when considering launching a new product.
3. Apply the 7Ps of marketing to a service based company of your choice.
a. Describe the different components (Ps) and how they relate specifically to the current position of this company, versus their competitors [10 marks]

Answer: The first part of the question was generally quite well answered and most students could recount the 7Ps (Product, price, place, promotion, people, physical evidence and processes) without too many issues. Although many people confused physical evidence (Intangibility in service, ambience, image and brand) with place (store location) and also many students described people in terms of customers, when it refers to the quality of interaction between customer and employee, relationships, service provision. The better answers included more analysis of real-life case-studies, including a discussion about competitors.
b. Make recommendations as to which specific Ps may best help them facilitate growth in the future, with clear explanations [10 marks]

Answer: This part of the question was less well answered mainly because some students were unsure what a service-based company is. For example some students discussed Apple and Starbucks, both these companies are more product-focussed. The Apple music streaming service is applicable, but focussing on the product-orientated aspects of their portfolio was not appropriate. Spotify and British Airways were sensible examples.
4. Marketing is a managerial practice and process that brings together a range of markets, customers, and businesses for mutual benefit.
a. Describe how you understand the core marketing concepts and their importance to the marketing process? [10 marks]

Answer: Most students were adept at listing the core marketing concepts, the core ideas and concepts that underpin marketing as a practice. These ideas should have included:

- Needs, wants, and demands: different states of felt deprivation, wants shaped by culture and personality, and demands backed by buying power
- Marketing offers: which can be products, services, brands, experiences, or any kind of tangible and intangible offers around which firms shape a value proposition
- Value and Satisfaction: differences between the benefits of owning a product and the cost of obtaining it and the difference between expectations and actual experience of a product resulting in satisfaction or dissatisfaction
- Exchange, Transaction, and Relationships: when at least two people exchange something of equivalent value. A transaction is a trade between two parties while relationships imply a more long lasting bond between firms and businesses
- Markets: different types of market structures that bring together sellers, buyers, and intermediaries
b) Choose one core marketing concept and relate it to a real-life example of your choice, clearly explaining its significance [10 marks]

Answer: The second part of the answer was less well answered. The answer required students to refer to one of the above and outline briefly a market structure for an organisation, such as a supermarket for example and provide insights into what needs, wants and demands may refer to in relation to a fastfood outlet for example or a mobile phone producer, such as Samsung.

## Section B

5. You have been appointed as the product manager with the responsibility of marketing a new low calorie carbonated soft drink, into UK-based vending machines, supermarkets and convenience stores. Using suitable examples from the existing low-calorie soft drinks industry, outline:
a. Your reasoning and rationale for the segmentation and targeting strategy that you will adapt that makes the best and most appropriate marketing approach for your product [30 marks]

Answer: Most students answered this question in Section B and many got a little bit confused with regards to low calorie and health. This led to many answers suggesting that the perfect customer segment were regular gym attendees, whereas arguably low calorie drinks are better than full-sugar, they are not healthy and should not be positioned in this way. Better answers drew from the materials, models and frameworks covered in the Marketing Segmentation and Positioning lecture. The answer required needed clear explanations as to the various methods of segmentation (i.e geographic, demographic, psychographic and behavioural), targeting (like how a company can evaluate the target segment, understand the segment attractiveness, explain some of the targeting strategies firms follow like undifferentiated, differentiated, concentrated) and positioning strategy (the various value propositions, tools like positioning maps) which allow marketers to position their products in favourable conditions against those of nearest competitors.
b. Your suggestions for an appropriate positioning strategy that will offer the most effective competition amongst other existing soft drinks brands of a similar nature [30 marks]

Answer: Building on the answers in the above section, students should have been able to suggest appropriate segmentation, targeting and positioning strategies for the given organisation. Excellent answers should also critique the segmentation, targeting and positioning strategies of the existing products such as Coca-Cola within the same industry using suitable examples.
6. Analyse the various stages of a typical marketing planning process and the relevant frameworks and theoretical models that need to be considered at each stage of the process - using examples from real-life business where possible to illustrate how each of these stages/relevant frameworks might work in practice.
a. In particular you should define what marketing planning is and detail the steps involved in the four key stages of the planning process, i.e. Goal setting, Analysing the current situation, Creating the marketing strategy and Allocating marketing resources and Monitoring [30 marks]
b. Discuss which theoretical frameworks are most appropriate to help businesses decide the future of each individual product and brand and that helps simplify a company's competitive situation into two simple variables - products and markets [20 marks]
c. Building on this analysis, suggest three marketing objectives for a product/brand of your choice that could help them to promote growth and increase sales over the next 12 months. [10 marks].

Answer: Some students drew from inappropriate models and frameworks covered in other modules here, such as Porter's five forces or Porter's generic strategies. The answer to this question relates specifically to the Marketing Planning lecture. In particular the answer required you to detail the component parts of the marketing planning process including: Goal setting (mission, corporate objectives), Analysing the current situation (marketing audit, SWOT analysis \& marketing assumptions), Creating the marketing strategy (marketing objectives and strategies, forecasts of expected results, create alternative plans) and Monitoring (marketing budget and detailed action plan). You then needed to identify the Ansoff Matrix and/or the Boston Consulting Group (BCG) Matrix and describe how they should be used to help organisations plan for their future. Excellent answers included referenced diagrams and specific reference to individual elements of the theoretical framework and how each part may influence decision-making. The final section requires the students to develop three marketing objectives, which could include terms such as: increasing awareness of a specific brand within 12 months, by 50\% for example. Most students did not have time to write three objectives or these were not SMART (specific, measurable, attainable, realistic and time-bound). Really good answers clearly linked the objectives to the intended target audience.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2016-17

## DIGITAL MARKETING AND THE SERVICE ECONOMY

NBS-5013Y

Time allowed: 2 hours

Answer TWO questions.

Each question is worth 100 marks.
The TOTAL number of marks available for this paper is 200.

Notes are not permitted in this examination.

Do not turn over until you are told to do so by the Invigilator.

1. 'Harnessing the power of search engines is considered vital and non-negotiable for enhancing a firm's online presence.'
a. Discuss the validity of the above statement through your understanding of search engine marketing. Outline the various search engine optimisation techniques that are available for firms.
b. Supplement the above answer with further understanding of the importance of link building to enhance a firm's digital presence. Use examples to illustrate all your answers.
2. A strong database is at the heart of relationship marketing and forms the basis of building effective ECRM systems.
a. Discuss your understanding of Relationship Marketing and the role of an effective database in an ECRM system?
b. What are the practical methods in which a database can be used to expand on further marketing communication techniques? How can a database continue to be effective and efficient for a firm? Use suitable examples wherever possible.
3. Why is the pricing of services considered challenging for the firm? Use examples in your answers.
4. 

a. "Service recovery is critical in services". Discuss this statement using examples of how service failures might impact on the present and future customers.
b. What service recovery strategies are available to overcome service failures?
5.
a. Apart from the traditional 4Ps of Product, Promotion, Place and Pricing, what are the extended Ps in service marketing? Give a brief description for each of the extended Ps.
b. Discuss these expanded Ps in relation to the cinema industry.

## Page 4

6. You are the Director of Revenue Management for a low cost airline in the UK called X-Air based out of the low cost terminal in London. At this month's management meeting, you are presenting the seat factor versus yield report for 10 flights operating between London and Paris in 2016. While presenting, the Director of Sales \& Marketing has the following questions:

(a) Which two flight numbers have the highest yield and which two flight numbers have the lowest yield for the year?
(b) Which two flight numbers have the highest seat factor and which two flight numbers have the lowest seat factor?
(c) In your opinion and based on the above report, which flights would you recommend for termination and why?
(d) In terms of revenue management principles, what service strategies would you recommend to the marketing department to further improve revenue for the company?

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2017-18

## DIGITAL MARKETING AND THE SERVICE ECONOMY

NBS-5013Y

Time allowed: 2 hours
Answer TWO questions

Each question is worth 100 marks

Candidates may use a standard calculator

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.
1.
a) Technology can be a critical strategic tool to help businesses build long-term relationships with customers. Using a select few academic references and suitable examples of your choice, discuss the importance of databases to a business organisation's relationship marketing strategies.
b) How can a database contribute to enhancing Customer Lifetime Value?
(40 Marks)
2.
a) Mobile users are seen as quite distinct and different from other online consumers. Using a select few academic references and suitable examples of your choice, discuss the nature and characteristics of mobile consumers that is influencing the growth of m -commerce.
(60 Marks)
b) How can businesses adapt their mobile marketing strategies to maximise mcommerce opportunities?
(40 Marks)
3.
a) Describe what is meant by "adequate service", "desired service", and "zone of tolerance".
b) Explain how these concepts might work in a museum.
4.

With digitisation, how are service firms executing their promotional campaigns in order to increase revenues?

## Page 3

5. 

a) What characteristics make the study of services different from products?
(20 marks)
b) Discuss how these different characteristics, in relation to the cinema industry, can be overcome.
6.

You are a revenue management consultant and your latest project concerns the revenues for a music concert that is taking place in two months' (60 days) time over a 3-day weekend period. The venue has a seating capacity of 50,000 and the organizers have offered for sale three-category of seats with the A category having 30,000 and both category B and C with 10,000 each. The categories and revenue table are illustrated below in Figure 1 and Table 1 respectively. The organizers are concerned that their revenues are not optimized with only two months to go.

Figure 1: Layout of Concert Hall

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| :---: | :---: | :---: |
| $\begin{aligned} & \text { O} \\ & \stackrel{\rightharpoonup}{0} \\ & 0 \\ & 0 \\ & \vdots \\ & \vdots \end{aligned}$ | $\begin{gathered} \underset{\sim}{0} \\ \stackrel{\rightharpoonup}{0} \\ \text { 0 } \\ \text { o } \\ \underset{\sim}{2} \end{gathered}$ | $\begin{aligned} & \pi \\ & 0 \\ & \stackrel{\sim}{0} \\ & \stackrel{3}{3} \end{aligned}$ |

Section C Section A

Table 1: Revenue and Seats sold at 60 days to go.

| Day \Revenue | Section A $(£)$ | Section B (£) | Section C (£) |
| :--- | ---: | ---: | ---: |
| Friday | $1,500,00$ | 480,000 | 270,000 |
| Saturday | $2,000,00$ | 400,000 | 300,000 |
| Sunday | 500,000 | 80,000 | 240,000 |
|  |  |  |  |
| Day $\backslash$ Seats Sold | Section A | Section B | Section C |
| Friday | 15,000 | 6,000 | 9,000 |
| Saturday | 20,000 | 5,000 | 10,000 |
| Sunday | 5,000 | 1,000 | 8,000 |

## Page 4

a) What is the average price sold for seats in Section $A, B$ and $C$ ?
b) To date, which are the most popular and least popular seats sold?
c) Why do you think there is less demand for the unpopular seats?
d) Based on the information provided by the management, what are the immediate issues that you can suggest to improve revenues and what other information would you think is necessary to make more informed decisions?

## END OF PAPER

## UNIVERSITY OF EAST ANGLIA

Norwich Business School
Main Series UG Examination 2018-19
Version 2

## DIGITAL MARKETING AND THE SERVICE ECONOMY

NBS-5013Y

Time allowed: 2 hours

Answer TWO questions

Each question is worth 100 marks

A calculator from the University approved list may be used.

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator.

Answer TWO questions

1. Discuss the importance of User Experience (UX) as delivered through a website design in meeting both user needs and achieving business objectives. Using 2 or 3 examples of popular websites of your choice, discuss how UX is related to ideas of online customer journey, funnel, and conversion rates.
(100 marks)
2. Discuss the relative importance of various types of traffic building methods to a website. Using 2 or 3 examples of popular websites of your choice, discuss why it is important to balance various methods in order to build consistent, high quality traffic to a website, with special focus on search methods and affiliates
(100 marks)
3. 

(a) What are self-service technologies? Give 3 examples and provide brief explanations to what these examples are.
(20 marks)
(b) With the advancement of digital innovation, we find increasing use of consumer participation in service delivery. What strategies can service firms employ to encourage more consumer participation?
(80 marks)
4.
(a) Apart from the 4Ps in marketing, what are the additional Ps in service marketing?
(20 marks)
(b) Explain how these additional Ps might translate into managing a retail website such as a pharmacy.
(80 marks)
5. You are the head of customer service department at a low cost airline. You have been asked by your CEO to look into the declining satisfaction scores of the company. After careful examination, you are aware that the airline's "service recovery is a main issue". How might you address this problem? Discuss this answer using examples of how service recovery strategies are able to overcome customer satisfaction.
6. You are a revenue manager consultant and your latest client is concerned about one of their restaurant in the city. They are unable to understand their revenues against their capacity, and it was mentioned to them that they have been turning away customers during the peak hours.

You have asked for the restaurant's capacity usage and some performance indicators for the last three months (Figure 1). They inform you that their seating capacity is 100 and that most of their customers arrive in groups of 5 or less. Their busiest periods are during lunch between 1230hrs -1400hrs, Friday dinners and also weekends during dinner.

Figure 1 Average Occupancy for the last 60 days by day of week

| From | 1130 | 1230 | 1330 | 1430 | 1530 | 1630 | 1730 | 1830 | 1930 | 2030 | 2130 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| To (Time) | 1230 | 1330 | 1430 | 1530 | 1630 | 1730 | 1830 | 1930 | 2030 | 2130 | 2230 |
| MON | $12 \%$ | $33 \%$ | $42 \%$ | $12 \%$ | $6 \%$ | $8 \%$ | $21 \%$ | $30 \%$ | $33 \%$ | $7 \%$ | $3 \%$ |
| TUE | $6 \%$ | $35 \%$ | $43 \%$ | $3 \%$ | $2 \%$ | $7 \%$ | $15 \%$ | $31 \%$ | $28 \%$ | $6 \%$ | $3 \%$ |
| WED | $12 \%$ | $39 \%$ | $31 \%$ | $5 \%$ | $4 \%$ | $8 \%$ | $16 \%$ | $34 \%$ | $26 \%$ | $8 \%$ | $2 \%$ |
| THU | $10 \%$ | $38 \%$ | $33 \%$ | $4 \%$ | $5 \%$ | $8 \%$ | $19 \%$ | $37 \%$ | $27 \%$ | $9 \%$ | $4 \%$ |
| FRI | $9 \%$ | $55 \%$ | $54 \%$ | $7 \%$ | $7 \%$ | $12 \%$ | $39 \%$ | $54 \%$ | $50 \%$ | $38 \%$ | $13 \%$ |
| SAT | $22 \%$ | $42 \%$ | $43 \%$ | $33 \%$ | $24 \%$ | $32 \%$ | $37 \%$ | $53 \%$ | $48 \%$ | $26 \%$ | $9 \%$ |
| SUN | $18 \%$ | $40 \%$ | $40 \%$ | $30 \%$ | $19 \%$ | $22 \%$ | $29 \%$ | $28 \%$ | $14 \%$ | $3 \%$ | $0 \%$ |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Party Size |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | $>9$ | Total |
| Avg Spent $£$ per table | 18.56 | 27.90 | 41.50 | 53.60 | 61.88 | 72.63 | 90.45 | 104.68 | 122.40 |  |  |
| Avg Meal Duration | 32.04 | 51.38 | 53.21 | 54.14 | 56.81 | 60.29 | 62.40 | 75.80 | 92.67 |  |  |
| Lunch Usage | $3 \%$ | $53 \%$ | $21 \%$ | $15 \%$ | $4 \%$ | $1 \%$ | $1 \%$ | $1 \%$ | $1 \%$ | $100 \%$ |  |
| Dinner Usage | $7 \%$ | $45 \%$ | $16 \%$ | $26 \%$ | $1 \%$ | $5 \%$ | $0 \%$ | $0 \%$ | $0 \%$ | $100 \%$ |  |

Restaurant Capacity = 100. Table Mix $2 \times 10$ seats (20), $\mathbf{3 \times 8}$ seats (24), $10 \times 4$ (40) seats and $8 \times 2(16)$ seats.
(a) At what period of the day is the restaurant capacity least utilised? (10 marks)
(b) What is the average spent per/person for dining parties of $2,3,4$ and 5 ? Show calculation
(c) Do you think if the restaurant's current table mix is optimised to meet the demand that it has generated? Why is that so?
(20 marks)
(d) How would you advise the restaurant owners in terms of applying both revenue management and services marketing strategies to improve its revenues?

# MARKETING COMMUNICATIONS 

NBS-5020Y

Time allowed: 2 hours

Answer TWO questions only

All questions carry equal marks

Notes are not permitted in this examination

Do not turn over until you are told to do so by the invigilator

1. In order to improve the effectiveness of advertising campaigns, marketing academics have developed a number of theoretical models to explain how consumers engage with an advertisement and process its brand message.

a) Critically discuss how consumers - according to the Elaboration Likelihood Model (e.g. Petty and Cacioppo, 1986) - would process this specific image taken from Marks \& Spencer's \#LeadingLadies advertising campaign.
b) Discuss how our understanding of consumers' engagement with this specific image taken from Marks \& Spencer's \#LeadingLadies advertising campaign would differ when using Narrative Transportation Theory (e.g. Escalas, 2007).

## Page 3

2. Sponsorship has an increasingly important place within the corporate marketing communication mix -
a) Explain why this might be and discuss what sponsorship is and how it works using relevant real-life examples.
b) Outline three different forms of sponsorship in detail and critically discuss their individual advantages and disadvantages.
(25 marks)
3. Regulation of advertising practices in the UK is through a combination of government legislation and a voluntary code of conduct (through bodies such as the Advertising Standards Authority).

Using the UK regulatory framework, discuss what legal and ethical considerations advertisers must take into account in their marketing communications efforts, offering relevant real-life examples.
(50 marks)
4. Since its inception in the 1990's, experiential and event-marketing has become an essential element of the communication strategy of brands such as Red Bull, Adidas and the French railway company SNCF.
a) Discuss in detail what event-marketing is and how it could be useful in strengthening consumer-brand relationships for companies like these.
b) Compare and contrast experiential marketing strategies based on events with those based on theme parks and brand lands (such as the World of Coca-Cola, Legoland or VW's Autostadt) in terms of communicating brand values and building lasting consumer-brand relationships.

## END OF PAPER

## MARKETING COMMUNICATIONS

NBS-5020Y

Time allowed: 2 hours

Answer TWO questions only.

All questions carry equal marks.

Notes are not permitted in this examination

Do not turn over until you are told to do so by the invigilator

1. In order to improve the effectiveness of advertising campaigns, marketing academics have developed a number of theoretical models to explain how consumers engage with an advertisement and process its brand message.

a) Critically discuss how consumers - according to the Elaboration Likelihood Model (e.g. Petty and Cacioppo, 1986) - would process this specific advertisement for the James Bond film "Thunderball".
b) Discuss how our understanding of consumers' engagement with this specific advertisement for the James Bond film "Thunderball" would differ when using Narrative Transportation Theory (e.g. Escalas, 2007).
(25 Marks)
2. By drawing on your own personal experiences with your group project, discuss in detail the creative process of designing an advertisement, and bringing to life a clear UCP for a brand. Alongside the creative process, what other issues must be considered for an advertising campaign to be successful?
3. "Public relations covers a wide variety of activities designed to affect both public opinion and the opinion of specific stakeholders, whose support a company needs" (Ouwersloot and Duncan, 2008).
a) Critically evaluate the role of public relations within the contemporary marketing communications mix.
(25 marks)
b) A major role of public relations involves dealing with negative events affecting the brand or company. Discuss the basic rules of good crisis communications by supporting your answer with appropriate examples.
4. Product placement is commonly seen as a special form of sponsorship that is mutually beneficial to both marketers and TV or film productions.
a) Describe in detail the different types of product placements that are available to brand managers and critically evaluate their individual advantages and limitations. Give relevant real-life examples.
(25 Marks)
b) Many cultural critics argue that both product placement and celebrity endorsements are recent marketing phenomena by which marketers seek to manipulate vulnerable audiences into buying products they neither need nor want. Is that true? Discuss their argument critically.
(25 Marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2016-17

## MARKETING COMMUNICATIONS

NBS-5020Y

Time allowed: 2 hours

Answer TWO questions only

ALL questions carry EQUAL marks

Notes are not permitted in this examination

Do not turn over until you are told to do so by the invigilator

1. In order to improve the effectiveness of advertising campaigns, marketing academics have developed a number of theoretical models to explain how consumers engage with an advertisement and process its brand message.

a) Critically discuss how consumers - according to the Elaboration Likelihood Model (e.g. Petty and Cacioppo, 1986) - would process this specific image of pop singer Justin Timberlake taken from the Givenchy Play Sport men's fragrance advertising campaign.
b) Compare and contrast how our understanding of consumers' engagement with this specific image taken from the Givenchy Play Sport men's fragrance advertising campaign_would differ when using Narrative Transportation Theory (e.g. Escalas, 2007).
(25 Marks)
2. Product placement is commonly seen as a special form of sponsorship that is mutually beneficial to both marketers and TV or film productions.
a) Describe in detail the different types of product placements that are available to brand managers and critically evaluate their individual advantages and limitations. Give relevant examples.
(25 Marks)
b) Many cultural critics argue that both product placement and celebrity endorsements are recent marketing phenomena by which marketers seek to manipulate vulnerable audiences into buying products they neither need nor want. Is that true? Discuss their argument critically.
(25 Marks)
3. "Public relations covers a wide variety of activities designed to affect both public opinion and the opinion of specific stakeholders, whose support a company needs" (Ouwersloot and Duncan, 2008).
a) Critically evaluate the role of public relations within the contemporary marketing communications mix.
(25 marks)
b) A major role of public relations involves dealing with negative events affecting the brand or company. Discuss the basic rules of good crisis communications by supporting your answer with appropriate examples.

## Page 4

4. Regulation of advertising practices in the UK is through a combination of government legislation and a voluntary code of conduct (through bodies such as the Advertising Standards Authority).
a) Using the UK regulatory framework, discuss what legal considerations advertisers must take into account in their marketing communications efforts, offering relevant examples.
(25 marks)
b) Offer a critical analysis of the ethical considerations advertisers must take into account in their marketing communications efforts, using real-life examples.
(25 marks)

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2017-18

## MARKETING COMMUNICATIONS

NBS-5020Y

Time allowed: 2 hours

Answer TWO questions only.

All questions carry equal marks.

Notes are not permitted in this examination

Do not turn over until you are told to do so by the invigilator

1. In order to improve the effectiveness of advertising campaigns, marketing academics have developed a number of theoretical models to explain how consumers engage with an advertisement and process its brand message.

a) Critically discuss how consumers - according to the Elaboration Likelihood Model (e.g. Petty and Cacioppo, 1986) - would process this specific image taken from a magazine advert for the 2014 'Live in Levi's' campaign.
b) Compare and contrast how our understanding of consumers' engagement with this specific image - taken from a magazine advert for the 2014 'Live in Levi's' campaign - would differ when using Narrative Transportation Theory (e.g. Escalas, 2007).
(25 Marks)
2. Sponsorship has an increasingly important place within the corporate marketing communications mix -
a) Explain why this might be and discuss what sponsorship is and how it works using relevant real-life examples.
b) Outline three different forms of sponsorship in detail and critically discuss their individual advantages and disadvantages.
(25 marks)
3. Using the examples of real advertising campaigns, outline in detail the three distinct 'types' of advertising. In doing so, discuss critically how their application in marketing practice may differ from what the textbook theory says.
4. Since their inception in the 1990s, experiential and event-marketing has become an essential element of the communication strategy of brands such as Red Bull, Adidas and the French railway company SNCF -
a) Discuss in detail what event-marketing is and how it could be useful in strengthening consumer-brand relationships for companies like these.
b) Compare and contrast experiential marketing strategies based on events with those based on theme parks and brand lands (such as the World of CocaCola, Legoland or VW's Autostadt) in terms of communicating brand images and building lasting consumer-brand relationships.

## END OF PAPER

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2018-19
Version 1

## MARKETING COMMUNICATIONS

NBS-5020Y

Time allowed: 2 hours

Answer TWO questions only.

All questions carry equal marks.

Notes are not permitted in this examination

Do not turn over until you are told to do so by the invigilator

1. In order to improve the effectiveness of advertising campaigns, marketing academics have developed a number of theoretical models to explain how consumers engage with an advertisement and process its brand message.

a) Critically discuss how consumers - according to the Elaboration Likelihood Model (e.g. Petty and Cacioppo, 1986) - would process this specific image taken from an online advert for Rolex watches as part of their 'Extraordinary Achievements' campaign in 2009 (this one commemorating a Rolex being worn by Chuck Yeager, the first test pilot to break the sound barrier in 1947).
(25 marks)
b) Compare and contrast how our understanding of consumers' engagement with this specific image - taken from an online advert for Rolex watches as part of their 'Extraordinary Achievements' campaign in 2009 - would differ when using Narrative Transportation Theory (e.g. Escalas, 2007).
2. 

a) Critically analyse how direct marketing methods are similar to and different from mass marketing communication methods?
(25 marks)
b) Discuss using appropriate examples, how direct marketing methods can supplement and complement mass marketing communications.
3. Product placement and celebrity endorsement are commonly seen as special forms of sponsorship that are equally beneficial to marketers, producers and the stars themselves.
a) Describe in detail the set of product placements and celebrity endorsements that are available to brand managers. Critically evaluate their options by comparing the individual advantages and limitations of each with relevant examples.
b) Many cultural critics argue that both product placement and celebrity endorsements are recent marketing phenomena by which marketers seek to manipulate vulnerable audiences into buying products they neither need nor want. Is that true? Critically analyse the extent that you agree/disagree with this view.
4. "Public relations covers a wide variety of activities designed to affect both public opinion and the opinion of specific stakeholders, whose support a company needs" (Ouwersloot and Duncan, 2008).
a) Critically evaluate the role of public relations within the contemporary marketing communications mix.
b) A major role of public relations involves dealing with negative events affecting the brand or company. Discuss the basic rules of good crisis communications by supporting your answer with appropriate examples.

## UG Examination Feedback

## NBS-5020Y - MARKETING COMMUNICATIONS - 2018-19

Structure and content of the examination -
The examination had one section. Students were required to choose any two questions from the choice of four. The questions were as follows -

1. In order to improve the effectiveness of advertising campaigns, marketing academics have developed a number of theoretical models to explain how consumers engage with an advertisement and process its brand message.
a) Critically discuss how consumers - according to the Elaboration Likelihood Model (e.g. Petty and Cacioppo, 1986) - would process this specific image taken from an online advert for Rolex watches as part of their 'Extraordinary Achievements' campaign in 2009 (this one commemorating a Rolex being worn by Chuck Yeager, the first test pilot to break the sound barrier in 1947).
(25 Marks)
b) Compare and contrast how our understanding of consumers' engagement with this specific image - taken from an online advert for Rolex watches as part of their 'Extraordinary Achievements' campaign in 2009 - would differ when using Narrative Transportation Theory (e.g. Escalas, 2007).
(25 Marks)

1a) $85 \%$ of students answered this question since similar questions had been set in previous exams. The best answers gave some context to the Elaboration Likelihood Model as a multiple effects model and how it differs from the traditional hierarchy of effects models. Most students were able to draw out the model and explain the central cognitive route and its MAO factors and the emotional peripheral route. The best answers gave explained why different people process the advert differently and at different times whilst referring only to the Rolex advert given. The very best responses picked up the multitude of persuasive cues present: the record setting plane and ladies watch, the scarf, the colours (subdued, romantic sky blue to Rolex green), the strong female model and her defiant pose, the bright sky and vapour trails (indicating the sky's the limit? to 'extraordinary achievements').

1b) Narrative Transportation Theory was generally well answered though some students gave examples from other advertising campaigns when the question specifically asked to keep to the Rolex advert. The best answers identified how consumers would engage with the various characters in the advert, both the woman pilot model and the record breaker himself, Chuck Yeager and compared the NTT and ELM models with weighted evidence.
2.
a) Critically analyse how are direct marketing methods are similar to and different from mass marketing communication methods?
(25 Marks)
b) Discuss using appropriate examples, how direct marketing methods can supplement and complement mass marketing communications.
(25 Marks)

2a) Few students attempted to answer this question since it was relatively new to the module content. The first part asked you to demonstrate knowledge and understanding of direct marketing methods, its approaches, characteristics, and methods before comparing and contrasting it with those of mass communication methods. The best answers then used a compare and contrast approach with clear examples of each and how they showed either similarity or difference. Then they should proceed to compare and contrast this with mass marketing methods.

2b) The second part of the question was asking you to demonstrate how direct marketing can supplement and complement mass marketing methods. The intention here was for you to show how advertising such as TV ads can have direct buy button facilities, competitions, phone-ins etc. while personalised approaches like emails, newsletters, and direct mail can signpost customers to mass media approaches like radio and TV ads, websites etc. The best answers went on to explain that integrating both approaches can ensure that pull and push methods work consistently together.
3. Product placement and celebrity endorsement are commonly seen as special forms of sponsorship that are equally beneficial to marketers, producers and the stars themselves.
a) Describe in detail the set of product placements and celebrity endorsements that are available to brand managers. Critically evaluate their options by comparing the individual advantages and limitations of each with relevant examples.
b) Many cultural critics argue that both product placement and celebrity endorsements are recent marketing phenomena by which marketers seek to manipulate vulnerable audiences into buying products they neither need nor want. Is that true? Critically analyse the extent that you agree/disagree with this view

3a) $70 \%$ of students answered this question. Good answers related their answers to classical conditioning and the special form of sponsorship in the question and went on to outline the three key types of product placement - creative, on-set and generic product placement and two or three examples of celebrity endorsement in different fields The best answers gave examples which enabled them to compare and contrast product placement with celebrity endorsement.

3b) Students were allowed to argue for or against both product placement and celebrity endorsements being about the manipulation of vulnerable audiences. Good answers gave some detailed examples of celebrity endorsements and differentiated celebrity endorsement from product placement in terms of vulnerability. The best answers dipped into standards codes and ethical issues, defined vulnerable audiences and showed a clear conclusion using real examples (from advertisements, media websites, blogs and influencers).
4. "Public relations covers a wide variety of activities designed to affect both public opinion and the opinion of specific stakeholders, whose support a company needs" (Ouwersloot \& Duncan 2008).
a) Critically evaluate the role of public relations within the contemporary marketing communications mix.
(25 marks)
b) A major role of public relations involves dealing with negative events affecting the brand or company. Discuss the basic rules of good crisis communications by supporting your answer with appropriate examples.
(25 marks)

4a) About 70\% of students answered this question again and most gave an accurate list of the role of PR in the marketing communications mix. The best answers were more about giving critical analysis than plain description.

4b) was less well answered in that only a few people understood that planning was paramount to good crisis communications though some good examples were given in this section. The best answers gave a new example for every step of crisis management communications - pre-, post- and during the crisis.

The stats look like this -


# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2016-17

## CONSUMER BEHAVIOUR

NBS-6008Y

Time allowed: 2 hours

Answer ANY TWO questions

Each question is worth 100 marks

The TOTAL number of marks available for this paper is 200

Notes are not permitted in this examination

Do not turn over until you are told to do so by the Invigilator

## Page 2

1. Emotions occupy an important role in the Hierarchy of Communications Effects in mediating the effectiveness of consumer learning processes and consumer responses to marketing communications.
i. In the context of emotions, discuss and explain the concept of 'flow' and its relevance in marketing such as service industries and consumer experience, using suitable examples of your choice.
ii. Using a range of practical examples of your choice, discuss the various ways in which emotions play a role in creating and shaping consumer meaning in consumption processes, and how they are deployed by marketers to their advantage in marketing practice.
2. The consumer decision making process almost reaches its culmination with the purchasing stage, thereby determining the effectiveness of the marketing communication processes.
i. Drawing from relevant theoretical underpinnings and using appropriate practical examples of your choice, discuss aspects of new product buying and consumer adoption which have implications for marketers trying to introduce innovations into the market.
ii. Following on from the above, discuss how new product buying applies to technology markets, using suitable examples of your choice. (50 marks)
3. Over the past few decades, marketing practice is perceived to have moved significantly away from product-dominated perspectives towards one that is centred increasingly on ideas and experiences. Correspondingly, consumer behaviour is increasingly perceived to be less about possession and ownership of goods and more about the acquisition of experiences and pleasure-seeking opportunities.
i. Using appropriate examples of your choice and drawing from relevant theoretical underpinnings, critique the role of hedonism and experiential consumption in understanding modern marketing and consumer behaviour.
ii. Related to the above, discuss the influence of postmodernism on marketing, the emergence of postmodern marketing, and its influence on cultural perspectives in consumer research in the form of Consumer Culture Theory (CCT) body of work.
4. Grant McCracken's 1986 paper in the Journal of Consumer Research is a landmark in understanding the cultural meaning of consumer society and how meaning moves through a culturally constituted world in the form of cultural systems and consumer goods down to the individual consumer.
i. Drawing from selected examples of your choice such as leisure, entertainment, food, fitness, health, lifestyle etc. critically discuss how this understanding of a culturally constituted consumer world manifests itself as a meaning making system through cultural systems and individual consumer goods.
ii. Support your answer with further theoretical underpinnings that highlight the role of cultural mechanisms such as myths, rituals, and the concept of sacred and profane in this meaning making system, and illustrate your answer within your chosen contextual examples.
(50 marks)
5. Consumer micro-cultures have emerged as a distinct field of academic research in consumer behaviour over the past few decades and hold much theoretical and practical interest for researchers and marketers alike.
i. Using select academic references to support your point of view, analyse the emergence of consumer micro-cultures as a consumer phenomenon in the context of our consumerist society over the past few decades.
(40 marks)
ii. Following on from above, critically comment on the emergence of fandom as an important consumer micro-culture and the role of fan-consumers as value co-creators.
(60 marks)

TURN OVER

## Page 4

6. This question assesses your understanding of macro-level perspectives in consumer behaviour. Therefore if you are opting for this question as one of your two choices in this exam, you are required to choose ANY ONE of the sub-options here. You can choose to answer the question on (a) Organisational Consumer Behaviour (OR) you can choose to answer the question on (b) Big Data.
(a) In the context of organisational consumer behaviour, managing long-term relationships amongst B2B customers is of critical importance. In particular, the relationship between FMCG brand marketers and supermarket retail chains are especially fascinating. Both brand marketers and retailers have to account for factors such as tough trading conditions within the retail sector, intense competition amongst branded products, fast-changing shopping habits, and growing pressures to satisfy the needs of price and value conscious consumers. Under these circumstances, all organisations face significant challenges in maintaining their market orientation within the B2B context.
i. With the above understanding, draw from relevant academic literature and peer-reviewed journals, and discuss the challenges for firms in maintaining and nurturing brand loyalty and (B2C) customer 'intimacy' while balancing relationship specific adaptation of their interactions with other B2B customers.
(50 marks)
ii. llustrate your discussion above with appropriate examples, by drawing upon business news in recent months, which have highlighted the delicate balance in relationships between FMCG brand marketers and supermarket retail chains, as both engage in intense competition for customer loyalty.
(50 marks)
(b) Big Data comprises of a range of overt and covert, structured and unstructured, consumer-citizen generated data sources that is transforming industries around the world. The impact of this transformational effect is being felt in the disruption of many traditional industries and the shaping of new forms of market structures and marketplaces.
i. Critically comment on the implications of Big Data for customer experience in areas of business processes, customer insights, and customised products and services.
ii. Draw from examples of your choice in industries such as pharma, healthcare, retail banking, financial services, food etc. to illustrate your commentary.

## END OF PAPER

The Consumer Behaviour exam held on Monday the $5^{\text {th }}$ of June accounted for $50 \%$ of overall module weighting. The exam was taken by 106 current and 1 RAS student, making a 107 in total. The module average score for the exam was 69.67 which for the first time in the last three years exceeded the coursework average of 67.30. This enabled the overall module average to stand at a high of 67.95 making it one of the highest performing modules in terms of student achievements across the School, placing it in the top 5\% percentile. In the past students have tended to relax a little bit for the consumer behaviour exam causing them to put in less than their best effort for revision. Timetabling scheduling has also had an adverse impact causing exam averages to fall. Students were extensively briefed about this possibility this year and it is heartening to note that all students took the exam revision very seriously. There was major disruption for exam preparation caused by Blackboard crashing for several hours the night before the exam but revision files were distributed via email and social media to students, thus mitigating the impact.

The students had attempted a wide choice of questions from all 7 exam topics so the choice was evenly distributed. It was also particularly heartening to note that many students had attempted some of the more challenging exam topic questions of culture, micro-cultures, and hedonism, postmodernism and experiential consumption which draw extensively from social and cultural perspectives in consumer behaviour and where the theoretical grounding comes largely from topend academic journals such as Journal of Consumer Research Students demonstrated a good range of reading and theoretical grounding, particularly drawing from not only the text book but also a wide range of high ranking academic journals and were able to produce high quality analytical critical work. This was reflected in the top end of the grades with 83 students ( 25 in 2:1 and 58 on a $1^{\text {st }}$ ) scoring $60 \%$ and above. At the lower end of the scale, students demonstrated less critical and analytical thinking and restricted themselves to basic understanding and reproduction of lecture slides and other teaching material but this was enough to fetch them a pass grade. The marks spectrum ranged from 42 at the lowest to 94 at the highest. The external examiner also reflected on this performance and commented that there was "some excellent work at the top end of the scale, comprehensively referenced and very well argued. Lower marked answers lacking in depth and detail but still showed basic understanding, so rightly there were no failing marks".

I thank the students for their hard work and wish them all the best for their future.

# UNIVERSITY OF EAST ANGLIA 

Norwich Business School
Main Series UG Examination 2017-18

## CONSUMER BEHAVIOUR

NBS-6008Y

Time allowed: 2 hours

Answer ANY TWO questions

Each question is worth 100 marks
The TOTAL number of marks available for this paper is 200

Notes are not permitted in this examination

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In addressing each question and its sub-sections, draw upon a select few and relevant theoretical concepts of your choice, support them with a select few practical examples of your choice, and strengthen your arguments with a select few references drawing from your academic reading and research of your choice.

1. Consumer motivations are a complex area of study, drawing upon a range of theoretical concepts, psychoanalytical disciplinary perspectives, psychosexual, personality, and trait theories.
a. Identify and discuss how psychoanalytical perspectives and concepts underpin the marketing of specific types of products, brands, and services in a way they appeal to consumers.
(30 marks)
b. Drawing on the above discussion, analyse the wider impact of psychoanalytical perspectives and concepts in influencing marketing practices across sectors, industries, and consumer segments.
(30 marks)
c. Building on the practical insights from above, critically analyse the role and relevance of psychoanalytical perspectives in understanding consumer behaviour and evaluate this against other relevant disciplinary understandings.
(40 marks)
2. Disciplinary perspectives from the field of psychology are a dominant force in consumer behaviour, and influence several areas of marketing research, theory, and practice. The Hierarchy of Communications Effect (HOCE) Model is an important tool that builds on various psychological concepts to explain how consumers are 'shaped' through and respond to marketing practices.
a. Identify and discuss how concepts from psychological perspectives found in the HOCE model can help explain the way specific types of products, services, brands, and experiences are marketed to consumers.
(30 marks)
b. Use your discussion to analyse and comment on the wider implications for psychological understanding of marketing practices across sectors, industries, and consumer segments.
(30 marks)
c. Use your practical insights to critically analyse and evaluate the dominant role and relevance of psychological perspectives in the field of consumer behaviour. Is this dominance justified or are there are other disciplinary perspectives that are more suited to explain the changing nature of marketing?
3. In analysing the process of how consumers go about making decisions - from framing a 'problem' through till post-purchase evaluation and post-use behaviours, it is often difficult to distinguish between rational assumptions and irrational thinking.
a. Discuss how a range of behaviours, approaches, thinking, and contexts can influence consumers through the various processes of decision making.
(30 marks)
b. Analyse how these variables can influence how consumers adapt to products, trends, and innovations in the marketplace.
(30 marks)
c. Critically analyse and evaluate how these various approaches and behaviours influence the way consumers derive value from the marketplace and build relationships within marketing.
4. Postmodern influences in marketing and the growth of the experience society, has drawn attention to hedonistic, experiential, symbolic, and sociocultural aspects of consumption. It has sharpened focus on sociological perspectives in consumer behaviour and shaped understanding of consumption processes as identity-driven projects.
a. Discuss how a range of products, services, brands, and experiences, can feed identity-driven consumer behaviour.
(30 marks)
b. Analyse the wide ranging impact of identity-driven consumer behaviour in shaping markets and marketing practices across sectors, industries, and consumer segments.
c. Critically analyse and evaluate the importance of sociological perspectives and identity-driven consumption in understanding consumers and marketplace cultures.

## TURN OVER

5. Cultural and anthropological perspectives in consumer behaviour are especially critical in sharpening our understanding of consumption as a meaning making system that is shaped through consumer and marketplace cultures, and the cultural meaning of a consumer society.
a. Discuss how a range of products, brands, and services can be understood through cultural mechanisms of consumer behaviour as outcomes of a meaning making system.
(30 marks)
b. Analyse the impact of culture through macro-, micro-, and sub-cultural perspectives on the marketplace and how it has shaped marketplace systems across sectors, industries, and consumer segments.
(30 marks)
c. Critically analyse and evaluate the importance of culturalanthropological perspectives in shaping our understanding of culture as a meaning making system and critique its relevance against other dominant perspectives such as psychology.
6. This question assesses your understanding of macro-level perspectives in consumer behaviour. Therefore if you are opting for this question as one of your two choices in this exam, you are required to choose ANY ONE of the sub-options here. You can choose to answer the question on (6.1) Organisational Consumer Behaviour (OR) you can choose to answer the question on (6.2) Big Data.
6.1. In the context of organisational consumer behaviour, managing longterm relationships amongst B2B customers is of critical importance. In particular, the relationship between FMCG brand marketers and supermarket retail chains are especially fascinating. Both brand marketers and retailers have to account for factors such as tough trading conditions within the retail sector, intense competition amongst branded products, fast-changing shopping habits, and growing pressures to satisfy the needs of price and value-conscious consumers. Under these circumstances, all organisations face significant challenges in maintaining their market orientation within the B2B context.
i. With the above understanding, draw from relevant academic literature and peer-reviewed journals, and discuss the challenges for firms in maintaining and nurturing brand loyalty and (B2C) customer 'intimacy' while balancing relationship specific adaptation of their interactions with other B2B customers.
(50 marks)
ii. Illustrate your discussion above with appropriate examples, by drawing upon business news in recent months, which have highlighted the delicate balance in relationships between FMCG brand marketers and supermarket retail chains, as both engage in intense competition for customer loyalty.
(50 marks)
(OR)
6.2. Big Data comprises of a range of overt and covert, structured and unstructured, consumer-citizen generated data sources that is transforming industries around the world. The impact of this transformational effect is being felt in the disruption of many traditional industries and the shaping of new forms of market structures and marketplaces.
i. Critically comment on the implications of Big Data for customer experience in areas of business processes, customer insights, and customised products and services.
ii. Draw from examples of your choice in industries such as pharma, healthcare, retail banking, financial services, food etc. to illustrate your commentary.

## END OF PAPER

A total of 67 scripts were marked with one absentee and one student in the process of intercalating.

Average grade was 67.47 which compared favourably with the average for the coursework which was 67.37 showing even performance between both assessments each of which counted for $50 \%$ of module weighting. The marks distribution was 37 students scoring between 70-100; 13 students between 60 and 69; 12 students between 50 and 59; and 5 students between 40 and 49 . Lowest score was 41 and highest was 90 .

Scripts scoring 70\% and above showed good engagement with the revision materials provided. There was an equal balance in the way students constructed the answers across application, analysis and critique. Scripts that scored 80 and above were able to demonstrate a logical progression in the way the answers were constructed, using a clutch of examples to develop the argument across how theoretical concepts are applied in practice in marketing, how they develop as products and services, how they shape the marketplace, their analysis of marketplace practices, and their ability to critique the relevance of these perspectives by comparing and contrasting them to other disciplinary perspectives in evaluating their importance in consumer behaviour. This set of scripts was also remarkable for its engagement with not only key academic literature but also extensive additional research and reading.

Students whose grades were in the 70s and those who scored in the high 60s demonstrated this ability to a lesser extent.

Scripts in the 50s struggled to engage with concepts. These scripts were very descriptive and although students had made an appreciable effort to read the lecture notes and provide a few examples, the ability to apply these concepts, analyse them, critique perspectives, much less demonstrate additional reading was notably absent.

Grades in the low 40s were of weak quality with very little evidence of having engaged with basic reading material.

Cultural perspectives and Big Data proved to be the most popular choices of exam questions.

## CONSUMER BEHAVIOUR

NBS-6008Y

Time allowed: 2 hours

Answer ANY TWO questions

You are advised to spend an equal amount of time on each question.
All questions are equally weighted.
Each question is worth 100 marks

The TOTAL number of marks available for this paper is $\mathbf{2 0 0}$

## Notes are not permitted in this examination

Do not turn over until you are told to do so by the Invigilator

## ANSWER ANY TWO OF THE FOLLOWING QUESTIONS

In addressing each question and its sub-sections, draw upon a select few and relevant theoretical concepts of your choice, support them with a select few practical examples of your choice, and strengthen your arguments with a select few references drawing from your academic reading and research of your choice.

1. Ideas borrowed from psychoanalytical, psychosexual, personality, and trait theories, are useful tools in shining a spotlight on the inner motivations, desires, and conflicts that drive consumer behaviour.
a. Trace the pathway of a few of these concepts in applying how they drive consumers to buy certain types of products and brands.
(30 Marks)
b. Based on this application, analyse how these behaviours influence marketing practices across business sectors and consumer market segments.
(30 Marks)
c. Building on this, critically analyse the role of psychoanalytical perspectives in influencing consumer behaviour and related marketplace cultures.
(40 Marks)
(TOTAL: 100 Marks)
2. Psychology dominates consumer research and plays out through cognitive, affective, and behavioural aspects of consumer decision making.
a. Identify a select few concepts in psychology and apply them to show how these can influence consumers in the way they make purchasing decisions for specific products, brands, services, and experiences.
(30 Marks)
b. Based on this application, analyse how these consumer decisions inspire marketing practices across sectors and segments.
(30 Marks)
c. Building on this, critically analyse and justify the contribution of psychological disciplinary perspectives in influencing consumer behaviour and related marketplace cultures.
3. A critical interrogation of the actual nature of consumer decision making can throw up a host of puzzling complexities and irrationalities.
a. Using the stages of the decision making process as a guide, illustrate how the buying decision behind a product or brand can be subject to many different assumptions, influences, and irrationalities.
(30 Marks)
b. Drawing from your illustration, discuss and analyse how marketers can respond to these behaviours through their marketplace innovations.
(30 Marks)
c. Building on this, critically analyse how decision making perspectives supplement and complement other related disciplinary perspectives in explaining influences on consumer behaviour and related marketplace cultures.
(TOTAL: 100 Marks)
4. The postmodern society has heralded the Age of Image, Age of Identity, and Age of Hedonism in marketing where a consumer's social profile and demographic characteristics inform conventional market segmentation practices but also subvert and resist marketer efforts to pigeonhole them according to their profile.
a. Illustrate how elements of a consumer's demographic profile can shape a consumer's quest for identity through hedonistic, experiential, and symbolic purchases of products and brands?
(30 Marks)
b. Develop this illustration further by analysing how hedonic, experiential, and identity-driven consumption has transformed the marketplace and marketing practices across a range of industries.
c. Building on this, critically analyse the contribution of postmodern and sociological disciplinary perspectives in adding a new dimension to our understanding of consumers and marketplace cultures.
(40 Marks)
(TOTAL: 100 Marks)
5. Disciplinary influences from culture and anthropology related research has transformed our understanding of the relationship between culture, society, and economy, and add new meaning to consumer and marketplace cultures.
a. Apply a few select concepts in cultural mechanisms to show how these are reflected as consumer purchases and decisions.
(30 Marks)
b. Expand on this application by analysing these decisions as part of a wider understanding of marketplace cultures and consumption as a meaning making system through marketer practices.
(30 Marks)
c. Building on this analysis, critique the contribution of global / macro-, micro-, and sub-cultural perspectives in widening our understanding of consumption cultures, from the standpoint of other related disciplinary influences.
(40 Marks)
(TOTAL: 100 Marks)
6. This question assesses your understanding of macro-level perspectives in consumer behaviour. Therefore if you are opting for this question as one of your two choices in this exam, you are required to choose ANY ONE of the sub-options here. You can choose to answer the question on (6.1) Organisational Consumer Behaviour (OR) you can choose to answer the question on (6.2) Big Data.
6.1. Developments in technology and dramatic changes in the global retailing landscape have led many researchers to argue that definitive distinctions between B 2 B and B 2 C are disappearing, and that what is emerging is one seamless customer-user experience across multiple, omniscient platforms and channels.
i. Given the above context, draw from relevant academic literature and industry websites, and use appropriate business examples to illustrate and analyse the challenges inherent in B2B and B2C marketing in building customer intimacy and engagement through their marketing efforts.
(50 Marks)
ii. Building on this analysis, critique the industrial/consumer marketing dichotomy and its outdated justification, and show how both fields can unite around common philosophies, approaches, and orientations.
(50 Marks)
(TOTAL: 100 Marks)

## (OR)

6.2. Big Data is transforming marketing strategies through more data-driven practices and protocols, greater application of AI-powered analytics, and machine learning applications, which in turn emphasises the importance of marketers collecting and assimilating consumer data at every point of contact.
i. Given the above context, draw from relevant academic literature and industry websites, and use appropriate examples from a select range of industries and sectors to illustrate and analyse the potential of Big Data in improving marketing-customer engagement.
(50 Marks)
ii. Building on this analysis, critique the balance of Big Data contribution towards Customer Value Analytics on the one hand and New Product Innovation on the other and suggest other areas of data-driven marketing value addition.

## END OF PAPER

A total of 66 scripts were marked (some difference between number of coursework submissions and exams owing to differences in students intercalating and inclusion of exchange students).

Average grade was 58.40909 which was consistent with the average for the coursework which was 59.33 showing even performance between both assessments each of which counted for $50 \%$ of module weighting. The marks distribution was 6 students scoring between 70-100; 32 students between 60 and 69; 15 students between 50 and 59 ; 12 students between 40 and 49; and 1 fail. Lowest score was 30 and highest was 80 .

Scripts scoring 70\% and above showed good engagement with the revision materials provided. There was an equal balance in the way students constructed the answers across application, analysis and critique. These scripts were able to demonstrate a logical progression in the way the answers were constructed, using a clutch of examples to develop the argument across how theoretical concepts are applied in practice in marketing, how they develop as products and services, how they shape the marketplace, their analysis of marketplace practices, and their ability to critique the relevance of these perspectives by comparing and contrasting them to other disciplinary perspectives in evaluating their importance in consumer behaviour. This set of scripts also demonstrated competent engagement with not only key academic literature but also additional research and reading.

Students whose grades were in the 60s demonstrated this ability to a lesser extent.

Scripts in the 50s struggled to engage with concepts. These scripts were very descriptive and although students had made an appreciable effort to read the lecture notes and provide a few examples, the ability to apply these concepts, analyse them, critique perspectives, much less demonstrate additional reading was notably absent. It was especially striking that students demonstrated an inability to read and understand the question clearly. Most students 'explained' theory and reproduced lecture notes rather than showing how these applied in contemporary marketing practice.

Grades in the low 40s were of weak quality with very little evidence of having engaged with basic reading material or having accessed any of the extensive support material provided in the form of revision lectures and podcasts.

Cultural perspectives and Big Data proved to be the most popular choices of exam questions.

This module carried an extensive set of support material. Apart from lecture slides, a useful recap set of slides, and all supporting reading material arranged in separate folders for each lecture topic, there were also an extensive range of video shorts that explained ideas and concepts in detail. This was a new innovation this year in the module with extensive additional inputs in the form of creating hundreds of short videos that explained concepts in depth.

Each seminar was designed in the form of an assessment workshop, mapping out the various questions in the exam and learning outcomes as short in-class exercises applying those concepts that were tested in the exam. Formative feedback was provided after each workshop.

For the exam, support was provided as usual in the form of an extensive set of exam instructions - a four part series - detailing how to approach the question, writing techniques, critical thinking techniques - as well as bespoke set of revision slides and podcasts for EACH exam question - seven in all - seven podcasts and seven set of slides.

## MARKETING: SOCIAL RESPONSIBILITY AND THE LAW

NBS-6011Y

Time allowed: 2 hours

Answer TWO questions.
Write EACH answer in a SEPARATE booklet.
EACH question is worth 50 marks
The TOTAL number of marks available for this paper is 100

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator
1.
a) Critically evaluate the business case for adopting a socially responsible approach to marketing, and
b) Describe how organisations can demonstrate their corporate social responsibility to consumers, shareholders and other stakeholders.
(20 marks)
2. Susan Linn, director of the Campaign for a Commercial-Free Childhood, claimed in the Guardian in 2014:
"There's no moral, ethical, or social justification for marketing any product to children. Advertising, in and of itself, is harmful to children. Marketing targets emotions, not intellect. It trains children to choose products not for the actual value of the product, but because of celebrity or what's on the package. It undermines critical thinking and promotes impulse buying."
a) Explain how advertising is regulated in the UK
(25 marks)
b) Describe the additional measures which regulate advertising to children and consider whether these are effective?

Use cases and examples to illustrate your answer.
3. The OFT's mission statement is as follows:
"The OFT's mission is to make markets work well for consumers. Markets work well when businesses are in open, fair and vigorous competition with each other for the consumer's custom. Our job is to make sure that consumers have as much choice as possible across all the different sectors of the marketplace. When consumers have choice they have genuine and enduring power."
a) Explain why you think the OFT wants to make markets work well by promoting open, fair and vigorous competition in the marketplace. What can you say about the structure of the market and its likely income on consumer choice and prices. List the different market structures that were covered in the lectures and explain briefly how they impact the market outcome.
(25 marks)
b) List those types of anti-competitive market conduct that are illegal in the UK. Link them to the market structures where they are most likely to happen.
(15 marks)
c) Imagine that you are the owner of a small business that gets involved in a cartel. What does this mean? What may be the legal consequences of your behaviour? What do you need to do to avoid these sanctions?

## Page 3

4. Your best friend Ben has set up a small business, designing and selling jewellery in his shop in Suffolk and through his website. He has developed a distinctive style and is gaining an excellent reputation for the appearance and quality of his work. He believes that his brand is increasing in value, and wants to protect this.
a) Explain to your friend what can and cannot be registered as a Trade Mark (30 marks)
b) Describe what protection UK law provides to brands by the registration of trade marks.
(20 marks)

## END OF PAPER

## MARKETING: SOCIAL RESPONSIBILTY AND THE LAW

NBS-6011Y

Time allowed: 2 hours

Answer TWO questions.
Write EACH answer in a SEPARATE booklet.
EACH question is worth 50 marks
The TOTAL number of marks available for this paper is 100

Notes are not permitted in this examination.

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1. The ASA website claims that: "the ASA is here to make sure all advertising, wherever it appears, meets the high standards laid down in the advertising codes."
a) Explain how advertising is regulated in the UK
(25 marks)
b) How effective do you think the ASA is in achieving effective voluntary control of advertising?

Use cases and examples to illustrate your answer.
2. You have recently been appointed as marketing assistant in a company specialising in the manufacture and sale of designer handbags. The company has become aware that fake copies of their most popular designs are being sold online. Also a well-known high-street store has been selling a similar version under its own label and at significantly lower price.
a) With reference to examples and decided cases, explain the difference between copying and counterfeiting, and the impact these activities have on consumers, brands, and society generally.
(25 marks)
b) What practical measures can your company take to protect the exclusivity of their brand?
(25 marks)
3. In view of the recent growth in internet sales, and distance selling generally:
a) Outline the measures in place (both legal and self-regulatory) to protect consumers who shop by phone, mail order, internet or digital TV. Your answer should include consideration of protection of personal information, and marketing and promotional messages.
(40 marks)
b) What particular problems are associated with enforcing these measures?
(10 marks)
4. You are the sales advisor of one of the main UK mobile telecommunication service providers. The company you work for sells both online and on the high street. The key products you offer are mobile telecommunication packages (pay monthly phone contracts and pay as you go deals) and a wide range of handsets.

You want to make sure that your prices are attractive to customers so you advise your sales team about the possible pricing strategies that you could adopt. Explain how different means of advertising prices would suit some of your products more than others (online vs. high street; phone contract vs. handset, etc). When referring to price advertising practices also explain how they work and how they may contribute to increasing your sales. Make sure you explain the legal aspects of these advertising practices, with a particular focus on what is illegal. Refer to relevant legislation as much as possible and explain how you can 'frame' your prices to boost your sales and comply with the law at the same time.

## END OF PAPER

## MARKETING: SOCIAL RESPONSIBILITY AND THE LAW

NBS-6011Y

Time allowed: 2 hours

Answer TWO questions.
Write EACH answer in a SEPARATE booklet.
EACH question is worth 50 marks
The TOTAL number of marks available for this paper is 100

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1. Consider whether direct-to-consumer advertising of prescription only drugs should be allowed in the UK. What are the likely effects on the health system? Use examples to illustrate your answer where appropriate.
2. 'According to the "doing well by doing good" proposition, firms have a corporate social responsibility to achieve some larger social goals, and can do so without a financial sacrifice.' (Karnani 2007)
a) Critically analyse this statement and explain how and why views on the business case for corporate social responsibility have changed in recent history.
b) How can firms measure and demonstrate their commitment to CSR to consumers?

Use examples to illustrate your answer.
3. You work as a marketing trainee for Cute'n'slender Ltd, a company selling slimming products online and to the retail sector. Your manager, Steve Shifty, would like you to work on an advertising project to promote a meal replacement shake, which he claims will make dieters feel full for longer and help burn fat. He tells you that the product was purchased from a company in Venezuela, at a knock-down price because they were unable to provide any paperwork with the product. He assures you it is quite safe because it is extremely popular in South America.

Steve is very excited because he believes the company can make a great deal of money from this product, but you have concerns about the implications of selling a product which has no paperwork.

Using appropriate evidence, prepare a report for Steve Shifty, identifying the ethical and legal issues, and advising him of the most appropriate course of action

Page 3
4. The Committees of Advertising Practice (CAP), who write and maintain the UK Advertising Codes, make the following claim on their website: "Admired around the world for its creativity, the UK advertising industry sets the standard in successful self-regulation."
a) Explain how advertising is regulated in the UK
a) Describe what additional safeguards are in place to protect vulnerable consumers from exploitation by marketers.

## END OF PAPER

## MARKETING: SOCIAL RESPONSIBILITY AND THE LAW

NBS-6011Y

Time allowed: 2 hours

Answer TWO questions.
Write EACH answer in a SEPARATE booklet

Each question is worth 50 marks
The TOTAL number of marks available for this paper is 100

Notes are not permitted in this examination.
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1.
a) Critically analyse the business case for corporations acting in a socially, ethically and environmentally responsible way.
(30 marks)
b) Describe how organisations can effectively demonstrate these actions to their stakeholders
(20 marks)
Use relevant examples to illustrate your answer.
2. Successful girl band the Saucy Girls entered into a contract with Scotty Scooters Ltd. Scotty Scooters agreed to sponsor the Saucy Girls' world tour in exchange for royalties and endorsement rights in relation to a new motorised scooter called Saucy Scotty. Additionally, each band member was given a personalised scooter for their own use. At the time the contract was formed, the Saucy Girls comprised 4 band members.

Before the contract was formed Suzi Jameson informed the other band members and their agent, Dan, of her intention to leave the band in 2 months time. Neither the band nor Dan informed Scotty Scooters of her intention. In the weeks before the contract was formed, negotiations took place between Dan and Scotty Scooters, and the four girls took part in some informal photo shoots for the promotional campaign.

Suzi has now left the band and Scotty Scooters is claiming that they would not have entered into the contract if they had known that one of the members had already expressed an intention to leave. They say that the Saucy Girls represented by their words and conduct that it would continue to comprise 4 members. Scotty Scooters Ltd claims that it has suffered losses as a result of the band's misrepresentation.

Dan has come to you for advice. Explain to him:
a) The difference between a contract term and a representation
(30 marks)
b) Whether Scotty Scooters Ltd may have a valid claim for misrepresentation
(20 marks)
Use relevant cases and statutes to support your answer.
3. Polly and Nadia are art and design students who have created a new range of original hand-made greetings cards and labels. They plan to sell them online, at craft fairs, and in small galleries. They are currently developing a distinctive brand image and logo and have come to you for advice on how to legally protect their designs.

Advise Polly and Nadia:
a) How copyright law will prevent unauthorised exploitation or copying of their cards and labels.
(20 marks)
b) What action they should take to protect their brand image and logo.
(20 marks)
c) How can they enforce these intellectual property rights in the UK courts?

Use relevant cases and statutes to support your answer.
(10 marks)
4.
a) Explain how advertising is regulated in the UK
b) Choose one type of controversial product - e.g. alcohol, tobacco, pornography, junk food etc. Explain what additional measures are in place to protect the public from advertisements for these products, and why they are necessary.
(25 marks)
Use relevant examples to illustrate your answer.

## END OF PAPER

## MARKETING: SOCIAL RESPONSIBILITY AND THE LAW

NBS-6011Y

Time allowed: 2 hours

Answer TWO questions.
Write EACH answer in a SEPARATE booklet.

Each question is worth 50 marks
The TOTAL number of marks available for this paper is 100

Notes are not permitted in this examination.
Do not turn over until you are told to do so by the Invigilator

1. You are working as a campaign manager for an international pressure group, whose mission is to promote sustainability and corporate responsibility to businesses. Your target organisation is a large fashion and cosmetics retailer which sells a range of low-cost imported products in high-street outlets across the UK.
a) Write a report to the board of directors, making a strong business case for taking a more socially responsible approach to their marketing and operations.
(30 marks)
b) Explain how the retailer could demonstrate and evidence its socially responsible activities in order to gain a competitive advantage.
(20 marks)
Use relevant examples to illustrate your answer.
2. Your friend Nita has recently returned from visiting family in India where she was offered an exotic range of skin care products at a very low price. She has always liked the idea of being self-employed and this seems like an ideal opportunity for a new business. She plans to import and sell these products on Norwich market, and to advertise and sell them online.

Advise Nita on the legal and ethical implications of her suggested business plan.

Use relevant cases and statutes to support your answer.
(50 marks)
3. Your Uncle Ben has set up a small business called "Ben le Bijoutier", designing and selling jewellery in his shop in Suffolk and through his website. He has developed a distinctive style and is gaining an excellent reputation for the appearance and quality of his work. He believes that his brand is increasing in value, and wants to protect this.
a) Explain to Ben what can and cannot be registered as a Trade Mark
(30 marks)
b) Describe what protection UK law provides to brands by the registration of trade marks.
4.
a) Explain how the Advertising Standards Authority regulates advertising in the UK, and how this self-regulatory system is backed-up by legal measures.
b) What particular measures are in place to regulate the practice of comparative marketing? Why are these measures necessary?

Use relevant examples to illustrate your answer.


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