

UNIVERSITY COLLEGE LONDON

EXAMINATION FOR INTERNAL STUDENTS

MODULE CODE : GEOLGG10

ASSESSMENT : GEOLGG10A
PATTERN

MODULE NAME : Tectonic Geomorphology

DATE : 05-May-15

TIME : 10:00

TIME ALLOWED : 2 Hours 30 Minutes

GEOLM010 TECTONIC GEOMORPHOLOGY

*Answer **Question 1** and **TWO OTHER** questions. All questions carry equal marks. Where a question comprises more than one part, all parts carry equal weighting unless otherwise stated. Illustrate your answers using diagrams and case histories.*

COMPULSORY

1. Describe four of the following, using examples and illustrations where appropriate:
 - a) Mountain front sinuosity index [25%]
 - b) The utility of hypsometry. [25%]
 - c) Two relative dating methods. [25%]
 - d) The impact of orographic precipitation on river behaviour. [25%]
 - e) How tectonics may cause a river to show both detachment and transport-limited behaviour. [25%]
 - f) Three hydraulic scaling relationships for a river in equilibrium [25%]

ANSWER TWO QUESTIONS ONLY FROM THE FOLLOWING:

2. The principles of parallax trigonometry underpin methods used to map and study surface terrains. Calculate the height of the BT tower (ignoring the antenna) from the following stereopair of aerial images, which were taken from an elevation of ~660m (Supplement 1).
3. Discuss how critical wedge theory, which links mountain belt height and width to rates of tectonic accretion or erosion, can be used to understand feedbacks between climate and tectonics.
4. Explain how erosion histories, based on apatite thermochronometry data, can be used to test rift landscape models.
5. Explain why denser rocks may occupy higher elevations in a landscape.

END OF PAPER

