BIRKBECK COLLEGE
(University of London)

BSc EXAMINATION

SCHOOL OF SCIENCE

STRUCTURAL GEOLOGY 2 THEORY

EASC018H6

15 Credits

Friday 22 May 2020 09:30-12:30

Time allowed: 3 hours

INSTRUCTIONS

Answer THREE questions from the six questions provided.

ALL QUESTIONS CARRY EQUAL MARKS.

Candidates must NOT bring any supplementary material into the examination.

Calculators are NOT permitted.

1. Give an account of inversion tectonics, showing how styles of structural inversion change with distance into the foreland of collision zones.

2. Discuss the involvement of fluids during the earthquake cycle.

3. Discuss the structural evolution of the Western Alps and use this to draw conclusions about the processes that dominate continental deformation during collision.

4. Describe the processes that change slip-rates on normal faults. Show how slip-rate changes influence the locations of earthquake activity across normal fault systems, seismic hazard, and the localisation of plate boundaries.

5. Discuss the processes involved in lithospheric extension, giving details of the following:
(a) the geometries expected in the lower crust;
(b) thermal histories and subsidence histories.

6. Discuss the restoration of thrust belts to their pre-shortening geometries.