

SEMESTER III

MAJOR COURSE – MJ 4
STRUCTURAL GEOLOGY & GEOMORPHOLOGY
MODEL QUESTION PAPER – SET 1

Full Marks: 75 Time: 3 Hours

GROUP A

Q1. Choose the correct answer. (5 × 1 = 5)

1. Which term represents the angle that a rock bed makes with the horizontal? (a) Strike (b) Dip (c) Trend (d) Pitch
2. Stress is defined as: (a) Force per unit area (b) Change in volume (c) Rate of erosion (d) Density
3. An upward-arched fold is called: (a) Syncline (b) Anticline (c) Monocline (d) Basin
4. Which is an exogenic process? (a) Folding (b) Faulting (c) Weathering (d) Crustal uplift
5. A U-shaped valley is commonly produced by: (a) River erosion (b) Glacial erosion (c) Wind erosion (d) Wave erosion

Q2. Answer any ONE. (5 marks)

- (a) Explain the concepts of stress and strain in rocks.
- (b) Write a short note on strike and dip.

Q3. Answer any ONE. (5 marks)

- (a) Write a short note on strike and dip.
- (b) Explain the concepts of stress and strain in rocks.

GROUP B

Answer any FOUR questions. Each carries 15 marks. (4 × 15 = 60)

- Q4.** Describe the effects of topography on structural features. Explain the use and importance of topographic and structural maps. **(15 marks)**
- Q5.** Define folds and discuss their geometric and genetic classification with suitable diagrams. **(15 marks)**
- Q6.** Define faults and explain their geometric and genetic classification. Describe normal, reverse and strike-slip faults. **(15 marks)**
- Q7.** Describe foliation and lineation. Explain axial-plane cleavage and their tectonic significance. **(15 marks)**
- Q8.** Define geomorphology and discuss the interaction between endogenic and exogenic processes. Explain uplift and denudation. **(15 marks)**
- Q9.** Describe weathering and the major landforms produced by it. Add suitable examples. **(15 marks)**
- Q10.** Explain fluvial processes and landforms, including erosion, transportation and deposition. **(15 marks)**
- Q11.** Discuss glacial and periglacial processes and the characteristic landforms produced by them. **(15 marks)**
- Q12.** Explain aeolian and coastal processes and describe their major landforms. **(15 marks)**
- Q13.** Discuss sea-level change, drainage development and long-term landscape evolution with special reference to the Himalayas. **(15 marks)**