

2025

M.Sc. 1st Semester Examination

GEOGRAPHY

Paper : GEOC405X1

(Geotectonics and Geomorphology)

Full Marks : 35

Time : One Hour Thirty Minutes

The figures in the margin indicate full marks.

*Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

Answer any *five* questions : 2×5=10

1. If the temperature of a star T (K), what would be the luminosity of the star?
2. What is a decay rate, used in absolute dating methods?
3. What are isotopes?
4. What are the Van Allen belts?
5. Define boundary condition.
6. Define dynamic metastable equilibrium.
7. What is meant by boundary friction?
8. Define safety factor.

P.T.O.

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Group - B

Answer any *three* questions : $4 \times 3 = 12$

9. Briefly discuss the post-deposition remanent magnetism for paleomagnetic study.
10. Explain the magnetic hysteresis loop with a neat, labelled diagram and discuss its important parameters.
11. A sample of fossil contains 12.5% of its original ^{14}C . What is the estimated age of this sample? The half-life of carbon-14 is approximately 5,717 years.
12. Elucidate different stresses involved in physical weathering.
13. Explore possible areas of application of geomorphic knowledge in flood management.

Group - C

Answer any *one* question : $8 \times 1 = 8$

14. Explain how paleomagnetic polar wandering curves are used to reconstruct past continental positions.
15. Elucidate how the hydro-geomorphic properties of the river channel change from source to mouth.

Internal Assessment - 5 marks
