

M.A./M.Sc. 1st Semester Examination, 2023

GEOGRAPHY

PAPER – GEO-101

Full Marks : 50

Time : 2 hours

Answer **all** questions

The figures in the right hand margin indicate marks

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

PAPER – GEO-101.1

(Geotectonics)

GROUP – A

Answer any **two** questions from the following :

2 × 2

1. What is geomagnetic field reversal ?

2. What is a half-life($t_{1/2}$) of a radioactive element ?
3. What is magnetic hysteresis ?
4. Define eustatic adjustment.

GROUP – B

Answer any two questions from the following :
4 × 2

5. Describe the classes of remanent magnetism.
6. '*Our solar system evolves from a primordial rotating disc of dust and gas cloud to concentric rings*' – Write a brief note on this statement for understanding the formation of planets in our solar system.
7. Write the implication of radioactivity (weak force) in the principles of absolute dating.

8. Bring out the evidence of Neo-tectonics from the geomorphic signatures of the coastal fringe at India.

GROUP – C

Answer any **one** question : 8 × 1

9. How does the idea of palaeomagnetism connect with sea floor spreading which eventually explains the tectonic movements at the earth's surface.
10. Discuss the role of plate tectonic theory in explaining orogenesis at the plate boundaries.

PAPER – GEO-101.2

(*Geomorphology*)

GROUP – A

Answer any **two** questions from the following : 2 × 2

1. Define magnitude-frequency relation of geomorphic events.

2. What is meant by flux-boundary condition ?
3. Define repose angle.
4. What is unit stream power ?

GROUP – B

Answer any **two** questions from the following :
4 × 2

5. Explain the nature of scale-dependency in geomorphology.
6. Examine the role of weathering in reducing shear strength of soil and rocks.
7. Assess geomorphic significance of river terrace.
8. What are the impacts of landuse conversion on a river system ?

GROUP – C

Answer any **one** questions from the following :

8 × 1

9. Elucidate the nature of entrainment and transport by a river with the help of Shields diagram.
10. Examine the role of geomorphology in hazard management with special reference to flood.

[Internal Assessment – 10 Marks]
