

U.G. 4th Semester Examination - 2025

GEOGRAPHY

[MAJOR]

Course Code : GEOG-MJ-T-4

(Climatology, Soil and Biogeography)

[NEP-2020]

Full Marks : 60

Time : 2½ Hours

The figures in the right-hand margin indicate marks.

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

1. Answer any ten of the following: 2×10=20
- i) Define Climatology.
 - ii) Define lapse rate.
 - iii) What is meant by front?
 - iv) What is MONEX?
 - v) What is dew point?
 - vi) Distinguish between condensation and precipitation.
 - vii) What is meant by climate change?
 - viii) What are greenhouse gases?
 - ix) Distinguish between eluviation and illuviation.

[Turn over]

- x) What is soil pH?
- xi) Mention the objectives of soil classification.
- xii) What is the significance of energy flow in an ecosystem?
- xiii) Differentiate biome from biosphere.
- xiv) State the location of Taiga biome.
- xv) Why is biogeochemical cycle significant?

2. Answer any four of the following: $5 \times 4 = 20$

- i) Explain the mechanism of inversion of temperature.
- ii) Explore the earth's heat budget with a schematic diagram.
- iii) Evaluate the role of jet stream in monsoon circulation.
- iv) How is podzol soil formed?
- v) State the climate and vegetation characteristics of Tropical rain forest biome.
- vi) Define biodiversity and specify the threats to biodiversity.

3. Answer any two of the following: $10 \times 2 = 20$

- i) Discuss planetary wind system with a diagram and state its significance.

- ii) Evaluate the Bergeron-Findeisen Theory in the formation of precipitation.
- iii) Bring out the properties of soil with reference to texture and organic matter.
- iv) Analyse the mechanism with diagram and significance of nitrogen cycle.