

**MASTER OF SCIENCE IN
GEOGRAPHY (MSCGG)
Term-End Examination
June, 2026**

MGG-005 : CLIMATOLOGY

Time : 3 Hours

Maximum Marks : 100

Note : *All Sections are compulsory. Marks are indicated against each question.*

Section—A

1. Answer any *five* of the following questions in

about **150** words each :

5×4=20

(i) What are 'Regional Climatology' and

'Descriptive Climatology' ?

(ii) Differentiate between weather and climate.

- (iii) Define wind. Explain any *three* forces responsible for the direction of wind flow.
- (iv) Define 'air mass' and 'source regions' of air masses. List any *four* groups of air masses divided on the basis of thermodynamic classification.
- (v) Explain the term 'Precipitation Effectiveness'.
- (vi) Discuss briefly various sources of climatological data.
- (vii) Discuss the role of radiosondes and radars in weather forecasting.

Section—B

2. Answer any *five* of the following questions in about **250** words each : 5×6=30

- (i) Explain ionosphere and its layers in detail.

- (ii) Explain the following terms :
 - (a) Insoation
 - (b) Convection
 - (c) Radiation
 - (d) Advection
- (iii) Explain the shifting of pressure belts with suitable diagram.
- (iv) Discuss the 'generic' and 'genetic' approach of climatic classification.
- (v) Explain the terms 'thermal efficiency' and 'potential evapotranspiration'.
- (vi) Describe the spatial distribution with sketch and climatic characteristics of hot deserts of the world.
- (vii) Discuss the harmful effects of any *four* primary air pollutants.

Section—C

Note : Answer any *five* of the following questions in about **500** words each :

$$5 \times 10 = 50$$

3. Explain temperature inversion and discuss the conditions that lead to inversion of temperature in detail.
4. Define 'condensation' and 'hygroscopic nuclei'. Discuss stability and instability of the atmosphere in detail.
5. Explain the origin and mechanism of monsoon with reference to India.
6. Explain the four different types of fronts.
7. Mention the broad climatic types given by Koppen. Discuss in detail 'A' type of climate and its sub-types given by Koppen.

8. Elaborately explain the *four* different theories of climate change.
9. What is 'Applied Climatology' ? Discuss the effect of climate on water resources and biodiversity.

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