

M. Sc. (GEOGRAPHY) (MSCGG)

Term-End Examination

June, 2024

MGG-005 : CLIMATOLOGY

Time : 3 Hours

Maximum Marks : 100

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

Section—A

1. Answer any **five** of the following questions in about **150** words each : 5×4=20
 - (i) Differentiate between weather and climate.
 - (ii) Define hydrological cycle. Mention any *two* conditions.
 - (iii) Define gradient. What is the correlation between pressure gradient and wind speed ?

P. T. O.

- (iv) Differentiate between Af and Am type of climate of Koppen.
- (v) Explain briefly Intertropical Convergence Zone (ITCZ).
- (vi) What is 'Nowcast' ?
- (vii) What is 'Trends Method' of weather forecasting ?

Section—B

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

- (i) Explain briefly the physical climatology and the regional climatology.
- (ii) Describe any *three* factors affecting the amount of insolation received at a place.
- (iii) Explain briefly any *two* types of fronts with neat sketches.
- (iv) Discuss any *two* bases of 1931 climate classification of Thornthwaite.
- (v) Write a note on the relationship between climate and biodiversity.

- (vi) Explain any *four* factors affecting the horizontal distribution of temperature of the earth.
- (vii) Explain the phenomenon of El Nino Southern Oscillation (ENSO) and its effects. Draw a neat sketch to support your answer.

Section—C

Note : Answer any *five* of the following questions in about *500* words each. 5×10=50

3. Give a detailed description of vertical structure of atmosphere based on temperature with suitable diagram.
4. What are planetary winds ? Discuss different types of planetary winds with diagram.
5. Discuss briefly the origin and mechanism of monsoon with special reference to India. Also discuss how affects monsoons in India.

Support your answer with appropriate diagram.

6. Define air mass. Discuss the characteristics of major air masses classified based on their source regions.
7. Explain any *three* approaches to climatic classification. Give at last one example under each approach.
8. Discuss the different theories of climate change.
9. Discuss briefly different types of air pollution. What are the adverse effects of air pollution on the earth ?