

Roll No.

Total Pages : 2

CMDE/D-23

4409

CLIMATOLOGY

Paper–M–GEO–101

Time allowed : 3 Hours]

[Maximum Marks : 70

Note : Attempt **five** questions in all, selecting **one** question from each unit. Question No. **1** is compulsory. All questions carry equal marks.

Compulsory Question

1. Write short notes in 25-30 words each on the following topics:
 - (i) Synoptic Climatology.
 - (ii) Stephen Boltzmann Law of Radiation.
 - (iii) Polar Front Jet Stream.
 - (iv) La Nina.
 - (v) Non-adiabatic Cooling.
 - (vi) Occluded Front.
 - (vii) Aridity Index.

7×2=14

UNIT-I

2. What is the basis of stratification of atmosphere? Discuss the characteristics and significance of troposphere. 14
3. What are the factors influencing distribution of temperature on the earth surface? Why does thermal equator shift more in northern hemisphere and continents? 14

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UNIT-II

4. What are the factors controlling atmospheric motion? Discuss the atmospheric features associated with formation of geostrophic and gradient winds. 14
5. Critically evaluate the theories related to origin of Monsoon. What are the atmospheric conditions associated with performance of SW Monsoon in South Asia? 14

UNIT-III

6. Differentiate between condensation and precipitation. Discuss the theories explaining occurrence of precipitation from cold and warm clouds. 14
7. How do the air masses form? What is the basis of their classification? What are the circumstances leading to modification of air masses? 14

UNIT-IV

8. Compare and contrast the basis and criteria of climatic classification devised by Koeppen and Thornthwaite. 14
9. Is climate change a myth or truth? What are the evidences used in construction of past climates? 14

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