

**U.G. 3rd Semester Examination - 2021****GEOGRAPHY****[HONOURS]****Course Code : GEO-H-CC-T-05****(Climatology)****[New Syllabus under CBCS]**

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.***UNIT-I****(Elements of the Atmosphere)****(Marks : 20)**1. Answer any **three** of the following questions:

2×3=6

- a) What is thermal equator?
- b) What is Van Allen belt?
- c) What is solar constant?
- d) Differentiate homosphere from heterosphere.
- e) State the significance of mesosphere.

2. Answer any **one** from the following: 4×1=4

- a) Bring out the significance of Ozone Layer.
  - b) Specify the salient features of vertical distribution of temperature in earth's atmosphere.
3. Answer any **one** from the following: 10×1=10
- a) Explain the heat budget of the atmosphere with necessary illustrations.
  - b) Discuss the causes and consequences of inversion of temperature.

**UNIT-II****(Atmospheric Phenomena, Climate Change and Climatic Classification)****(Marks : 40)**4. Answer any **seven** of the following questions:

2×7=14

- a) What is Ferrel's law?
- b) What is occlusion?
- c) Define dew point.
- d) What is shrieking sixties?
- e) State the significance of baroclinic conditions determining the state of atmosphere.

*[Turn over]*

- f) Differentiate the *Af* climate from *Df* climate.
- g) Distinguish between hail and sleet.
- h) What is tornado?
- i) Define latent heat.
- j) What is azores high?
- k) Distinguish between cloud and fog.

5. Answer any **four** of the following questions :

$$4 \times 4 = 16$$

- a) Distinguish between stability and instability.
- b) Mention the major modifications of air mass.
- c) Specify the salient structure of a mid-latitude cyclone with necessary illustration.
- d) Compare westerlies and jet stream.
- e) State the bases of climatic classification of Thornthwaite.
- f) Discuss the determining factors of frontogenesis.

6. Answer any **one** of the following questions :

$$10 \times 1 = 10$$

- a) Critically evaluate the Bergeron-Findeisen theory of precipitation.
- b) Discuss the monsoon circulation and mechanism with reference to India.

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