

U.G. 3rd Semester Examination - 2019**GEOGRAPHY****[HONOURS]****Course Code : GEO(H)CC-05-T****Climatology**

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 : $2 \times 3 = 6$

- a) What is normal *lapse rate*?
- b) Specify two salient characteristics of Ionosphere.
- c) Define *solar constant*.
- d) What is meant by ozone hole?
- e) What is *aurora australis*?

[Turn over]

2. Answer any one of the following questions : $4 \times 1 = 4$

- a) Highlight the major characteristics of atmospheric layering based on composition.
- b) How is the insolation influenced by latitudes?

3. Answer any one of the following questions :

$10 \times 1 = 10$

- a) Explain the different types of inversion of temperature.
- b) Bring out the concept of heat budget of the atmosphere.

Unit-II

(Atmospheric Phenomena, Climate Change and Climatic Classification)

(Marks : 40)

4. Answer any seven of the following questions :

$2 \times 7 = 14$

- a) What is meant by *occlusion*?
- b) How does doldrum form?
- c) What do you understand by *jet maxima*?
- d) What do you mean by latent heat of condensation?

- e) Differentiate *frontogenesis* from *frontolysis*.
- f) Define wet *adiabatic lapse rate*.
- g) State the characteristics of BSh climate.
- h) Distinguish between *barotropic* and *baroclinic* condition.
- i) How does *stability* differ from *instability* of the atmosphere?
- j) What is *supercooled droplet*?
- k) Define *dew point*.

5. Answer any four of the following questions :

4×4=16

- a) How does jet stream influence the Indian monsoon?
- b) Bring out the bases of climatic classification of Köppen.
- c) Highlight the major determinants of the air mass modification.
- d) Distinguish between *warm* and *cold* fronts.
- e) Enunciate the circulation of planetary wind with illustration.
- f) State the major forms of condensation.

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

10×1=10

- a) Critically discuss the Ice Crystal theory of precipitation.
 - b) Explain the mechanism of formation of mid latitude cyclones.
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