U.G. 3rd Semester Examination - 2019

GEOGRAPHY

[HONOURS]

Course Code : GEO(H)CC-05-T

Climatology

Full Marks : 60 Time : $2\frac{1}{2}$ 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 : $2\times3=6$

   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*?

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 latitutes?

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 : $10 \times 1 = 10$

a) Critically discuss the 'Ice Crystal theory of precipitation.

b) Explain the mechanism of formation of mid latitude cyclones.