

2016

**GEOGRAPHY — HONOURS****Third Paper****Full Marks – 100***The figures in the margin indicate full marks**Candidates are required to give their answers in their own words as far as practicable***Module – V****(Climatology)****Marks – 50****Category – A**Answer *any three* questions

1. Specify the causes for the increase of green house gases in the atmosphere?  
What are the adverse effects of such increase? 6+4
2. Explain the formation of atmospheric pressure belts. How are these related to the general circulation? 7+3
3. Give a reasoned account of nature, composition and layering of atmosphere with suitable diagrams. 6+4
4. Discuss the conditions favourable for the origin of tropical cyclones. How are these different from temperate cyclones. 10
5. Discuss Köppen's climatic classification of the world. What are its merits and demerits? 8+2

**Category – B**

6. Answer *any five* questions :
  - (a) State the role of water vapour and dust particles in the atmosphere. 2+2
  - (b) How is latitudinal heat balance maintained? 4
  - (c) Explain inversion of temperature in brief. 4
  - (d) Write a short note on the factors affecting insolation. 4
  - (e) Establish the role of Tibetan plateau in the formation of Westerly Jet 4

Wind.

**[Turn Over]**

- (f) Define airmass. How do they originate? 2+2
- (g) What is ITCZ? Why does it shift? 2+2
- (h) What is evapotranspiration? How is it different from evaporation? 2+2

### Module – VI

#### (Soil and Biogeography)

Marks – 50

#### Category – A

Answer *any three* questions

7. Distinguish between soil texture and soil structure. Briefly explain their role on crop productivity. 4+6
8. What are the different processes of soil erosion? Suggest various measures of soil conservation? 5+5
9. Bring out the consequences of deforestation. State the idea of land capability classification as postulated by R.E. Storie. 6+4
10. Explain the concept of bio-geochemical cycles. Illustrate nitrogen cycle in the soil. 4+6
11. What is biodiversity? Discuss the factors controlling biodiversity? 2+8

#### Category – B

Answer *any five* questions

12. (a) 'Soil is a dynamic body' — Discuss. 4
- (b) Distinguish between leachign and capillary action. 4
- (c) What are entisols and inceptisols? 2+2
- (d) Elaborate the idea of 'Biomass-Pyramid'. 4
- (e) Distinguish between 'Ecotone' and 'Niche'. 4
- (f) Highlight the characteristics of Taiga biome. 4
- (g) Distinguish between food chain and food web with suitable examples. 4
- (h) Bringout the laws of thomodynamics. 4