



WEST BENGAL STATE UNIVERSITY
B.A./B.Sc. Honours PART-II Examinations, 2018

GEOGRAPHY-HONOURS

PAPER-GEOA-III

Time Allotted: 4 Hours

Full Marks: 100

*The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.*

Group-A

(CLIMATOLOGY)

Category-A

- Answer any **two** questions from the following within 600 words each 10×2 = 20
1. Describe the planetary wind system with special reference to tri-cellular model. Illustrate your answer with diagrams. 10
 2. Discuss the variations in atmospheric composition with height, latitude and season. 10
 3. Discuss the origin and characteristics of tropical cyclone with diagrams. What is a typhoon? 8+2
 4. What is condensation? Outline the atmospheric processes that may cause cooling and subsequent condensation of water vapour. 10

Category-B

- Answer any **four** questions from the following within 150 words each 5×4 = 20
5. Discuss the major factors that affect the Heat Budget of the atmosphere.
 6. Explain how ground inversion of temperature occurs.
 7. Why do isotherms shift north and south from season to season?

8. Distinguish between warm occluded and cold occluded front.
9. What are ENSO events? Mention its significance.
10. Distinguish between barotropic and baroclinic condition of the atmosphere.
11. Assess the importance of hygroscopic nuclei in raindrop formation.

Group-B

(Soil Geography)

Category-A

Answer any *one* question from the following within 600 words 10×1 = 10

12. Describe the different soil forming factors responsible for the development of soil profiles. Mention the role of eluviation and illuviation on profile development. 7+3
13. Bring out the principles of genetic system of soil classification. Identify the major merits and demerits. 6+4

Category-B

Answer any *four* questions from the following within 150 words each 5×4 = 20

14. Establish the relationship between soil texture and soil moisture.
15. How does soil degradation take place in an urban area?
16. Distinguish between Solum and Regolith with diagrams.
17. Discuss the characteristics of laterisation.
18. How does soil pH affect plant nutrition?
19. Distinguish between hardpan and duricrust.
20. What is Podzolisation?

Group-C

(Bio-Geography)

Category-A

Answer any *one* question from the following within 600 words 10×1 = 10

21. Define Habitat. “In the biosphere materials follow a circular path while flow of energy is unidirectional” — Explain with suitable examples. 3+7
22. Discuss the significance of biogeography. Elucidate the salient features of different trophic levels of forest ecosystem. 3+7

Category-B

Answer any *four* questions from the following within 150 words each 5×4 = 20

23. Define the characteristics of “ecotone” and “niche”.
24. What do you understand by second law of thermo-dynamics in an ecosystem?
25. Outline the faunal characteristics of Taiga biome.
26. Differentiate between Nitrification and Nitrogen fixation.
27. Highlight the strategies of wildlife conservation in India.
28. Explain energy pyramid with a diagram.
29. Explain the mechanism of nitrogen fixation.

