



**WEST BENGAL STATE UNIVERSITY**  
B.A./B.Sc. Honours Part-II Examination, 2022

**GEOGRAPHY**

**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. How is Nor'wester formed in the month of April in Bengal? Explain the origin and nature of monsoon wind at the time of its onset in relation with the upper air wind circulation. 3+7
2. Explain the mechanism of raindrop formation in the light of Bergeron-Findeisen concept. What is freezing nuclei? 8+2
3. Classify the world climate based on Thornthwaites 1948 system. Highlight two demerits of Thornthwaite's system. Discuss briefly the characteristics of "BSh" climate zone following Koppen. 5+2+3
4. What is heat equator? Describe the Coriolis force and centrifugal force in relation to wind circulation with proper diagram(s). 2+8

**CATEGORY-B**

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

5. Describe katabatic and anabatic wind.
6. Explain the Heat Budget with suitable diagram.
7. What is the role of ozonosphere in the atmosphere?
8. How does a mountain barrier cause the variability of precipitation?
9. What are the bases of Koppen's classification of world climate?
10. Why are hot desert located in the western part of the continents in the tropics?

11. How does stability and instability of atmosphere relate with temperature lapse rate?

**GROUP-B**  
**(SOIL GEOGRAPHY)**

**CATEGORY-A**

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

12. Briefly discuss Cation Exchange Capacity (CEC) and pH component of soil that influences the soil characteristics. 5+5
13. Define soil erosion. Identify the various causes and consequences of soil erosion. 2+8

**CATEGORY-B**

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

14. Differentiate between azonal and intra-zonal soil.
15. Discuss the importance of soil moisture for plant growth.
16. Mention the importance of eluviation and illuviation process for soil development.
17. What is entisol and what are its characteristics?
18. Highlight the major soil groups following the USDA classification.
19. Describe the different types of soil structure.
20. What is surface and sub-surface soil horizon?

**GROUP-C**  
**(BIO-GEOGRAPHY)**

**CATEGORY-A**

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

21. What are the different trophic levels of food chain? Explain different types of food pyramid. 4+6
22. Distinguish between biosphere and ecosystem. Specify the salient features of a desert ecosystem with suitable examples. 2+8

**CATEGORY-B**

**Answer any *four* questions from the following within 150 words each**

5×4 = 20

23. Define with example:
  - (i) Threatened species
  - (ii) Vulnerable species
  - (iii) Endangered species.
24. Elucidate the concept of biome.
25. What has the Indian Government been doing to save tigers?
26. Outline the faunal characteristics of Tropical rainforest.
27. Distinguish between in-situ and ex-situ conservation measures with suitable examples.
28. Distinguish between Reserve Forest and Protected Forest with suitable examples from India.
29. How is carbon cycle of the earth maintained?

**N.B. :** *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

—×—