



**WEST BENGAL STATE UNIVERSITY**  
B.A./B.Sc. Honours 6th Semester Examination, 2021

**GEOADSE04T-GEOGRAPHY (DSE3/4)**

**HYDROLOGY AND OCEANOGRAPHY**

Time Allotted: 2 Hours

Full Marks: 50

*The figures in the margin indicate full marks.  
Candidates are required to give their answers in their own words as far as practicable.  
All symbols are of usual significance.*

**CATEGORY-A**

**Answer any *two* questions from the following within 600 words each** 10×2 = 20

1. Give a brief account of the global hydrological cycle. How does change in climate affect the global hydrological cycle? 6+4
2. Discuss the significance of drainage basin as a hydrological unit. Assess the components of surface runoff. 6+4
3. How can the theory of Plate tectonics explain relief differentiation of the ocean floors? What is meant by halocline? 8+2

**CATEGORY-B**

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

4. Illustrate the principles of watershed management. 5
5. Differentiate between porosity and permeability. 5
6. Describe how geomorphology controls groundwater storage. 5
7. Explain the movement of groundwater with Darcy's Law. 5
8. Define a water mass and discuss its classification. 5
9. Discuss the significance of a T-S diagram. 5
10. Explain the sources of heat in the ocean water. 5

**CATEGORY-C**

**Answer any five questions from the following within 50 words each**

**2×5 = 10**

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|-----|---|---|
| 11. | Define evapotranspiration.                                  | 2 |
| 12. | What is a unit hydrograph?                                  | 2 |
| 13. | Define hydraulic head.                                      | 2 |
| 14. | What is a perched water table?                              | 2 |
| 15. | What is transform fault?                                    | 2 |
| 16. | What is meant by the physical properties of sea water?      | 2 |
| 17. | Write the names of two dominant salts found in ocean water. | 2 |
| 18. | Define a thermocline layer.                                 | 2 |
| 19. | What is a pycnocline?                                       | 2 |

**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.*

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