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Or

Explain types of freshwater habitats and their ecosystem.

2. What is Eutrophication ? Explain its causes and mechanism.

Or

Write short notes on : **(any two)**

- (a) Trophic levels,
 - (b) Zonation,
 - (c) Management of fresh water bodies.
3. Explain in detail distribution of heat in lakes.

Or

Explain Transmission and absorption of light in lake water.

4. Explain Nitrogen cycle of lakes.

Or

Explain sulphur cycle.

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G-3/312(B)/21

Roll No.....

M.Sc. III Semester Examination, April-2021

BOTANY

Paper IV

(Limnology-I)

Time : 3 Hours]

[Maximum Marks : 80

Note : All questions are compulsory. Question Paper comprises of 3 sections. **Section A** is objective type/Multiple Choice questions with no internal choice. **Section B** is short answer type with internal choice. **Section C** is long answer type with internal choice.

SECTION 'A'

(Objective Type Questions)

Choose the correct answer :

1 × 10 = 10

1. What type of ecosystem are contained within the study of limnology and oceanography ?
 - (a) Freshwater and marine
 - (b) Desert and Tundra
 - (c) Forest and grassland
 - (d) Tropical and Savannas
2. Eutrophication of water bodies leading to killing of fishes is mainly due to nonavailability of :
 - (a) Food
 - (b) Light
 - (c) Essential mineral
 - (d) Oxygen
3. What is evaporation ?
 - (a) Water freezes
 - (b) Water vapours meets cold air and changes back into liquid

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- (c) Water gets warm and changes from liquid from water to water
- (d) Plants take in water from soil
4. What are the drops of water that form on cool surfaces during the night called ?
- (a) Rain (b) Snow
- (c) Steam (d) Dew
5. 95% of earth water is stored in its :
- (a) Rivers (b) Oceans
- (c) Glaciers (d) Underground aquifers
6. Water is a :
- (a) Polar solvent (b) Non-polar solvent
- (c) Amphopatheic solvent
- (d) Non-polar uncharged solvent
7. A single water molecule can form how many hydrogen bonds at a time ?
- (a) 1 (b) 2
- (c) 3 (d) 4
8. Range of pH scale is :
- (a) 7-10 (b) 0-10
- (c) 0-14 (d) 7-14
9. What does every food chain start with :
- (a) Producer (b) Sum
- (c) Consumer (d) Decomposer

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10. In carbon cycle flow of energy is :
- (a) bidirectional (b) lieaar
- (c) cyclic (d) irreversibly

SECTION 'B'

51/2 × 4 = 22

(Short Answer Type Questions)

Note : Answer the following questions in 250 words.

1. What is limnology ? Write its branches and scope.

Or

Explain types of lakes and habitat in lakes.

2. Explain food chain and food web.

Or

Explain energy flow in fresh water ecosystem.

3. What is turbidity, salinity and total dissolved solids of water ? How it is important for determination of quality of water ?

Or

Explain flow of water, surface and internal water movements.

4. Write notes on seasonal change in dissolved gases.

Or

Write a note on hardness of water.

SECTION 'C'

12 × 4 = 48

(Long Answer Type Questions)

Note : Answer the following questions in 500 words.

1. Explain characteristics of water and Hydrological cycle.

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P.T.O.