

This question paper contains **3** printed pages]

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S. No. of Question Paper : **12863**

Unique Paper Code : **42237913**

Name of the Paper : **DSE-Aquatic Biology**

Name of the Course : **B.Sc. (H) Zoology/Life Science**

Semester : **VI (CBCS-LOCF)**

Duration : **3 Hours**

Maximum Marks : **75**

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt *five* questions in all.

Question No. **1** is compulsory.

Draw diagrams wherever necessary.

1. (a) Define the following :

1×5=5

(i) Watershed

(ii) Estuary

(iii) Plankton

(iv) Aquaponics

(v) Limnology

P.T.O.

(b) Differentiate between the following :

2×5=10

- (i) Photic and aphotic zones
- (ii) Oligotrophic and eutrophic lakes
- (iii) Marine and freshwater ecosystems
- (iv) Nekton and benthos
- (v) Glacial and volcanic lakes

(c) Define and write the significance of the following :

2×4=8

- (i) Secchi disc
- (ii) Coral reefs
- (iii) Salinity
- (iv) Ramsar sites

(d) Match the following :

1×4=4

- | | |
|---------------------------|--------------------------------------|
| (i) Tectonic lakes | (a) formed due to crustal movements |
| (ii) Van Dorn bottle | (b) mixing of fresh and marine water |
| (iii) Estuarine ecosystem | (c) major marine pollutants |
| (iv) Oil spill | (d) water sampling device |

2. Describe the formation and types of coral reefs and briefly outline the major threats to their conservation.

3. (a) Explain the origin and classification of lakes. 7
- (b) Describe the thermal stratification and vertical distribution of oxygen in lakes. 5
4. Discuss the major threats to freshwater systems, including pollution, dam construction, and fragmentation. How can aquatic resources be managed sustainably ? 8+4=12
5. Describe the major aquatic biomes with suitable examples. Discuss the adaptations of organisms inhabiting freshwater and marine environments. 6+6=12
6. What is the importance of the marine ecosystem ? Discuss the methods for the management of marine aquatic resources. 6+6=12
7. Write short notes on any *three* of the following : 3×4=12
- (a) Thermal pollution in water bodies
- (b) Dissolved nutrients (nitrates and phosphates)
- (c) Marine biodiversity and conservation
- (d) Water quality assessment