

## Limnology Question Paper

### PART-A

[10]

I. Fill in the blanks

(10×0.5=5)

- a) Mean depth of a lake can be calculated by dividing the volume of the lake by its.....
- b) The most abundant dissolved gas present in running waters is .....
- c) Planktonic life history stages of non-planktonic organisms are called.....
- d) The region of water body where density decreases rapidly with depth is known, as.....
- e) The reciprocal of the logarithm of the normality of free hydrogen ions is called.....
- f) Super saturation of dissolved oxygen may lead to..... problem in fish pond.
- g) Autotrophic plants..... contain whereas heterotrophs depend on .....
- h) The word 'plankton' was first used by .....

2. Match the following:

(10×0.5=5)

#### Group-A

#### Group B

- |                       |                              |
|-----------------------|------------------------------|
| a) Cyanobacteria      | i) Floating macrophyte       |
| b) Climate change     | ii) Light                    |
| c) Primary production | iii) Lake                    |
| d) Kolleru            | iv) Blue green algae         |
| e) Water hyacinth     | v) Carbon dioxide            |
| f) Zooplankton        | vi) Narrow range of salinity |
| g) Lotic environment  | vii) Thermocline             |
| h) Euryhaline         | viii) River                  |
| i) Metalimnion        | ix) Copepod                  |
| j) Stenohaline        | x) Wide range of salinity    |

### THE PART-B

[20]

3. State whether the following statements are True or False. (10×1 = 10)

- a) When the concentration of free hydrogen ions increases the value of pH increases.
- b) Lower side of secchi - disc is painted white.
- c) Plants which are continuously submerged in water are called as marginal weeds.
- d) The more remote a lake from the equatorial region lesser the light penetration.

e) The most characteristic feature of the freshwater benthos is the presence of insect larvae and adults.

f) Hypolimnion is greatly affected by the events taking place in the epilimnion.

g) The depth at which the compensation zone occurs is constant for all water bodies.

h) Light is one of the important factors influencing the vertical distribution of plankton.

i) Running water bodies are rich in plankton.

j) The most abundant dissolved gas present in running waters is oxygen.

4. Explain the following. (10×1 = 10)

a) Zonation of lake

b) Ecological succession

c) Thermal stratification

d) Artificial enrichment

e) Epilimnion

f) Primary productivity

g) Eutrophication

h) Periphyton

i) Standing crop Benthos

PART-C Answer the following questions. (Any Six)

[6×5=30]

5. What are aquatic macrophytes? Give a note on the zonation of aquatic macrophytes.

6. Define primary productivity & explain methods of measuring productivity. How lakes are formed? Classify lakes based on productivity.

8. Classify benthos and explain briefly the role of benthos in aquatic ecosystems.

9. Describe the characteristic features of a riverine environment.

10. Write briefly the role of oxygen & carbon dioxide on fish life.

11. Explain in brief the nitrogen cycle in aquatic environment.

12. Write short notes. (Any One) (1×5)

a) Ideal pH & its importance in aquatic life. b) Vertical distribution of zooplankton.