

2023

Time - 3 hours

Full Marks - 60

*Answer **all groups** as per instructions.*

Figures in the right hand margin indicate marks.

Draw labelled diagrams wherever necessary.

GROUP - A

1. Fill in the blanks. (all)

[1 × 8

- (a) Lakes poor in nutrient matter are _____.
- (b) The main nitrogen reservoir in the biosphere is _____.
- (c) Law of minimum was proposed by _____.
- (d) The thermocline lies in _____ layer of lake.
- (e) Taxol derived from pacific yew is used in the treatment of _____.
- (f) A form of symbiosis in which both species benefited is _____.

[2]

- (g) The transition zone between two communities is called _____.
- (h) The measures of dispersion can never be _____.

GROUP - B

2. Answer any eight of the following within two or three sentences each. [1½ × 8

- (a) What is denitrification ?
- (b) What is lentic ecosystem ?
- (c) What is Gloger rule ?
- (d) What is commensalism ?
- (e) What is intraspecific competition ?
- (f) What is succession ?
- (g) What is primary data ?
- (h) What is median ?
- (i) What is a non parametric test ?
- (j) What is alpha diversity ?

[3]

GROUP - C

3. Write notes on any eight of the following within 75 words each.

[2 × 8

- (a) Food web
- (b) Differences between nitrification and denitrification
- (c) Shelford's law of tolerance
- (d) Cyclomorphosis
- (e) Photokinesis
- (f) Endangered species
- (g) Parasitism
- (h) Climax community
- (i) Histogram
- (j) Merits and demerits of Arithmetic Mean

GROUP - D

Answer **any four** questions within 500 words each.

4. Describe the structure of an ecosystem by taking the example of pond ecosystem. [6

P.T.O.

5. What is biogeochemical cycle ? Describe nitrogen cycle with diagram. [6]
6. Explain light as an ecological factor. [6]
7. Briefly explain competition. Add a note on Lotka Voltera model of competition. [6]
8. Briefly describe about theories relating to climax community. [6]
9. What are the different methods of sampling ? [6]
10. Explain Chi-square test and its applications. [6]