

2021

Time - 3 hours

Full Marks - 60

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

Figures in the right hand margin indicate marks.

Candidates are required to answer

in their own words as far as practicable.

Draw labelled diagrams wherever necessary.

GROUP – A

1. Fill in the blanks. (all)

[1 × 8

(a) The infective stage of *P. vivax* is _____.

(b) The connecting link between plant and animal kingdom is _____.

(c) The totipotent cells of sponges are known as _____.

(d) Skeletal secreting cells of sponges are _____.

(e) *Heliophora* is commonly known as _____.

(f) The vector of elephantiasis is _____.

(g) The larva of poriferans is _____.

(h) _____ type of nutrition is seen in *Euglena*.

[2]

GROUP – B

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

- (a) What is palmella stage in reproduction of Euglena ?
- (b) What is plasmotomy ?
- (c) What is exflagellation ?
- (d) What is corallite ?
- (e) What are flame cells ?
- (f) What are mehlis's gland ?
- (g) What is Ookinete ?
- (h) What are cnidoblasts ?
- (i) What is pseudocoel ?
- (j) What is strobilization ?

GROUP – C

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

[2 × 8

- (a) Amoebiasis
- (b) Spicules in sponges
- (c) Metagenesis in Obelia

- (d) Evolutionary Significance of ctenophora
- (e) Fascioliasis
- (f) Filariasis
- (g) Nocturnal periodicity
- (h) Erythrocytic schizogony
- (i) Cercaria larva
- (j) Conjugation in Paramecium

GROUP – D

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

- 4. Describe locomotion in Protozoa. [6]
- 5. Describe canal system in sponges. [6]
- 6. Discuss polymorphism in Cnidaria. [6]
- 7. What are coral reefs ? Give an account of various forms of coral reefs. [6]
- 8. Give an account of life cycle of *Taenia Solium*. [6]
- 9. Give an account of life-cycle of *Ascaris lumbricoides*. [6]
- 10. Write an essay on parasitic adaptations in helminthes. [6]

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GROUP – A

1. Fill in the blanks. (all) [1 × 8]
- (a) Oxidation of nitrites to nitrates is done by _____.
 - (b) The formula for exponential population growth is _____.
 - (c) The median value of 3, 4, 2, 5, 7, 8 is _____.
 - (d) The recently discovered ecosystem is _____.
 - (e) Loss of energy from one trophic level to next higher trophic level is _____.
 - (f) In a population unrestricted reproductive capacity is called _____.
 - (g) Measurement of diversity among communities is known as _____.

[2]

- (h) If there are ten values, each equal to 10, then standard deviation of these values is _____.

GROUP – B

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

- (a) What is a food web ?
- (b) What is carrying capacity ?
- (c) What are keystone species ?
- (d) What is photoperiodism ?
- (e) What is Red Data Book ?
- (f) What is ecessis ?
- (g) What is ecotone ?
- (h) Define null hypothesis.
- (i) Find the mean deviation of 12, 15, 18.
- (j) What is lunar periodicity ?

GROUP – C

3. Write notes on any eight of the following within 75 words each. [2 × 8

- (a) Food chains
- (b) Nitrogen fixation

- (c) Laws of limiting factors
- (d) Survivorship curve
- (e) Dispersal and dispersion
- (f) r- and k- strategies
- (g) Applications of χ^2 -test
- (h) Simple random sampling
- (i) Age ratio
- (j) Differentiate between autoecology and synecology.

GROUP – D

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

- 4. Explain energy flow in ecosystem. [6]
- 5. Discuss temperature as an ecological factor. [6]
- 6. Discuss the role of density dependent and independent factors in population regulation. [6]
- 7. Explain various types of interspecific competitions with examples. [6]
- 8. Define and describe various characteristic features of community. [6]
- 9. Explain ecological succession with example. [6]
- 10. Explain student's t-test with suitable example. [6]