

**ANEKANT EDUCATION SOCIETY'S
TULJARAM CHATURCHAND COLLEGE OF ARTS, SCIENCE AND COMMERCE
AUTONOMOUS INSTITUTE**

QUESTION BANK

Class: M.Sc. (Semester – I)

Paper Code: ZOO:4103

Paper : III – Fresh Water Zoology

Credit: 2

Contributed by: Dr. Maheshkumar D. Kharat

Contribution for MCQs: Prof.

DEFINE AND SHORT ANSWER QUESTIONS:

- 1) What are endangered species.
- 2) Define Biogeochemical cycle.
- 3) Define population.
- 4) What are the biomes.
- 5) Define ecosystem.
- 6) Enlist the two properties of ephemeral water bodies.
- 7) Enlist the names of major river systems in India.
- 8) What is nitrite-nitrite ratio.
- 9) Enlist the three importance of water.
- 10) What is the role of CO₂ in aquatic life?
- 11) Write two chemical properties of water.
- 12) Write two physical properties of water.
- 13) What is depth of water.
- 14) Define water buoyancy.

- 15) Define Limnology
- 16) Define Lotic habitat.
- 17) Define Lentic habitat.
- 18) What is the locomotory adaptation.
- 19) What is life cycle.
- 20) What are biological changes in freshwater.
- 21) Enlist four economic importance of freshwater molluscs.
- 22) Enlist four economic importance of freshwater reptiles.
- 23) Enlist the source of freshwater pollution.
- 24) Write four effects of sewage water pollution on freshwater animals.
- 25) What is primary productivity?

SHORT NOTES AND SHORT ANSWER QUESTIONS:

- 1) Write a note on Ground water.
- 2) Explain the animal locomotion on the water surface.
- 3) Write a note on Limnology.
- 4) Explain water and light interactions.
- 5) Write a note on Lotic habitat.
- 6) Enlist the importance of the chemical conditions to aquatic life.
- 7) Describe biomes and Habitat diversity.
- 8) Explain the interrelationship between microbes and animals.
- 9) Define population and explain community ecology.
- 10) Describe importance of wild life management.
- 11) Explain the impact of human on natural environment.
- 12) Comment upon physiography of India.
- 13) Write an essay on Indian forest.

- 14) Describe consumptive value of biodiversity.
- 15) Write a on major threats to biodiversity.
- 16) Describe eco-development for biodiversity conservation.
- 17) Describe consumptive value of biodiversity.
- 18) Describe protective adaptations in rotifers.
- 19) Give diagnostic features of fairy shrimps.
- 20) Give adaptations of crocodiles.
- 21) Describe adaptations for respiration in freshwater insects.
- 22) Describe importance of pH in aquatic life.
- 23) Describe lentic habitat.
- 24) Write a note on Diagnostic features of temporary rainwater pool.
- 25) Write a note on life cycle of frog.
- 26) Explain lotic habitat.
- 27) Give importance of tadpole in life cycle of frog.
- 28) Thermal stratification.
- 29) Protective adaptations in freshwater protozoa.
- 30) Describe protective adaptation of Crustaceans.

LONG ANSWER QUESTIONS:

- 1) Discuss important wetlands of India and comment on their conservation.
- 2) Define ecosystem. Explain development and evolution of ecosystems.
- 3) What is agro-biodiversity? Explain the importance of agro-biodiversity.
- 4) What is biodiversity distribution? Add a note on India as a megadiversity Nation.
- 5) Describe biological changes in river due to sewage pollution.
- 6) Define lentic habitat. Describe aquatic environment of lakes and ponds.
- 7) Define ecosystem. Give an account of biotic and abiotic components of ecosystem.
- 8) What is water pollution? Describe domestic waste water and sewage pollution.
- 9) Describe oligotrophic lake
- 10) What is the source of water pollution? Explain in details of sources of chemical waste.

- 11) What is global warming? Describe the present situation on environmental condition and its effect on global warming.
- 12) What is particulate matter? Describe different types of particulate matter and add a note on their effects.
- 13) Define lotic habitat. Describe the major river systems in India with present status.
- 14) What is adaptation? Describe adaptations in fresh water reptiles with examples.
- 15) What do you know about bioindicators? Describe bioindicators with suitable examples with their roll in aquatic pollution.
- 16) Give an account of recent development of control strategies of water pollution and its effect on zooplanktons.
- 17) Give the ecological significance amphibia. Describe life cycle of frog.
- 18) Describe any four physical conditions of water.
- 19) Describe any four chemical conditions of water.
- 20) Define lentic habitat. Describe aquatic environment of bogs lakes and succession of lakes.

MCQs:

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Class: M.Sc. (Semester – I)

Paper Code: ZOO:4103

Paper: III – Ichthyology

Credit: 2

Contributed by: Prof. Anjum Mulla

ONE SENTENCE ANSWER QUESTIONS:

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| 1) Give two examples of Chondrichthyes. | 13) Define migration. |
| 2) Give two examples of Osteichthyes. | 14) Define Catadromous. |
| 3) Define phylogeny. | 15) Define Anadromous. |
| 4) Give different types of scales. | 16) Define spawning. |
| 5) Define pigmentation. | 17) Chromatophore. |
| 6) Define digestion. | 18) Function of pituitary gland. |
| 7) Role of gills. | 19) Define respiration. |
| 8) Role of air bladder. | 20) What is Buoyancy? |
| 9) Role of swim bladder. | 21) Define Excretion. |
| 10) Glomerular kidney. | 22) Define Osmoregulation. |
| 11) A glomerular kidney. | 23) What is gonads? |
| 12) Role of skin. | 24) Give two orders of Chondrichthyes. |
| | 25) Give two orders of Osteichthyes. |

SHORT NOTES:

- 1) Give the characters of cyclostome with examples.
- 2) Phylogeny of fishes.
- 3) Types of scales in fishes.
- 4) Give the structure and function of skin of fishes.
- 5) Discussion types of food in fishes.
- 6) Give an account of Osmoregulation in fishes.
- 7) Structure and functions of gills in fishes.
- 8) Explain role of swim bladder in fishes.
- 9) Describe catadromous migration.
- 10) Describe anadromous migration.
- 11) Describe structure of gonads.
- 12) Give an account of fish migration.
- 13) Describe seasonal changes of gonads in fishes.
- 14) Parental care in fishes.
- 15) Role of skin and gills in fishes.
- 16) Describe mechanisms of buoyancy in fishes.
- 17) Describe chromatophore of fishes.
- 18) Describe corpuscles of fishes.
- 19) Describe role of pituitary gland in fishes.
- 20) Describe food and feeding habits of fishes.
- 21) Lateral line system.

22) Thyroid gland.

LONG ANSWER QUESTIONS:

1. Describe any one order from class Chondrichthyes with two examples.
2. Describe any one order from class Osteichthyes with two examples
3. Explain morphometric measurements in fishes.
4. Describe anatomical modifications in digestive system of fishes.
5. Write an account of water and salt balance in euryhaline fishes.
6. Describe the different endocrine glands in fishes.
7. Differentiate and explain the orders petromyzontia and myxinoidea.
8. Describe the structure and function of air bladder found in fishes.

MCQs:

1. Adaptive radiation in fishes started about number of million years ago:
(a) 1200 (b) 500 (c) 1000 (d) 1500
2. The fish remained buried in the mud and sand is:
(a) Ostracoderms (b) Lamprey (c) Hag Fishes(d) Sharks
3. The number of semicircular canals in Gnathostomes are:
(a) 2 (b) 3 (c) 4 (d) 5
4. The extinct body fishes are:
(a) Chondrichthyes (b) Osteichthyes (c) Placoderms (d) Acanthodians
5. Cartilaginous fishes are:
(a) Placoderms (b) Acanthodians (c)Chondrichthyes (d) Osteichthyes
6. Placoid scales are present in:
(a) Salmons (b) Lamprey (c) Sharks (d) Hag Fishes

7. Rat fishes are:
(a) Salmons (b) Lamprey (c) Sharks (d) Chimeras
8. Number of species of Osteichthyes are:
(a) 10, 000 (b) 15, 000 (c) 20, 000 (d) 25,000
9. Large rostrum is found in:
(a) Paddle fishes (b) Lamprey (e) Sharks (d) Chimeras
10. The number of chambers in the heart of fishes are:
(a) 1 (b) 2 (c) 3 (d) 4
11. The major osmoregulatory organ in fishes is:
(a) Gills (b) Kidney (c) Liver (d) Stomach
12. Some elasmobranchs have modified pelvic fin for copulation called:
(a) Penis (c) Cloaca (c) Clasper (d) None
13. Which of the following fishes is viviparous?
(a) Salmons (b) Lamprey (c) Sharks(d) Chimeras
14. Parental care by males is found in
(a) Hippocampus(b) Labeo(c) Anabes (d) none of these
15. Sharks and rays can be distinguished by
(a) The nature of their scales
(b) The position of the mouth
(c) The position of gill slits
(d) The kind of the tail fin
16. Which of the following does not have lateral line organs?
(a)Whale (b) Tadpole(c) Aquatic urodeles(d) Common Indian dog fish
17. Fishes swim in water because they have

- (a)Lungs (b) Air bladders(c) Cartilaginous skeleton(d) Fins
18. Which of the following is not characteristic of Chondrichthyes?
- (a)Placoid scales
- (b) Heterocercal tail fin
- (c) Ventrally placed mouth
- (d)Operculum
19. Torpedo, the electric ray, could give a shock of about
- (a) 10 volts(b) 100 volts(c) 50 volts(d) 150 volts
20. Homocercal tail fin with symmetrical upper and lower lobes is present in
- (a) Scoliodon(b) Electric ray(c) Whale(d) Lung fish
21. Salmon is an example of
- (a) Anadromous migration
- (b) Catadromous migration
- (c) Cartilaginous fish
- (d) None of these
22. The pair of fins seen on either side of cloaca of fishes are the
- (a) Pelvic fins(b) Cloacal fins (c) Anal fins(d) Caudal fins
23. The fish used to control spread of malaria is
- (a) Pterois (b) Fistularia(c) Gambusia (d)None of these
24. Anadromous fishes are those which
- (a) Live in sea water and migrate to fresh water rivers and lakes for breeding
- (b) Live in fresh water and migrate to sea for breeding
- (c) Both (a) and (b)
- (d) None of these

25. The function of swim bladder in fishes is mainly

- (a) Sound production
- (b) Respiratory
- (c) Locomotion
- (d) Hydrostatic

26. A fish is characterised by the presence of

- (a) Pharyngeal gills
- (b) Paired fins
- (c) Dermal scales
- (d) All of these