

M.Sc. ZOOLOGY
THIRD SEMESTER
FISH AND FISHERY BIOLOGY-I
MSZ-303 C
[USE OMR SHEET FOR OBJECTIVE PART]

**SET
A**

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

(Objective)

Marks: 20

Choose the correct answer from the following:

1×20=20

- A continuous dorsal, caudal and anal fin is found in the order:
 - Pleuronectiformes
 - Anguilliformes
 - Echeniformes
 - Perciformes
- In carnivorous fishes, the stomach is:
 - Sac like and thick walled
 - Reduced in size
 - Gizzard like
 - Totally absent
- Why herbivorous fishes have longer intestines?
 - Retain food for digestion
 - Contains more plant diet
 - Contains detritus more in quantity
 - None of the above
- Planktophagus fish have higherthan do fish having other feeding habits.
 - Lead
 - Proteins
 - Fats
 - Arginine
- Which hypothesis is not mostly believed in origin for hill stream fishes?
 - Accidental arrival
 - Extent of specialization to current of water
 - Colonization of sluggish streams
 - Feeding pattern
- The mighty river Brahmaputra, draining the Eastern Himalayas, along with 47 tributaries has a combined length of.....
 - 9000 km
 - 4000 km
 - 2000 km
 - 1000 km
- Total catchment area of River Brahmaputra is about.....
 - 2 lakh square km
 - 3 lakh square km
 - 4 lakh square km
 - 5 lakh square km
- Which among these fishes has additional filaments attached to the longer gill filaments for enhanced respiration?
 - Clarias* sps.
 - Garra* sps.
 - Channa* sps.
 - Wallago* sps.
- Mudskippers, an estuarine mud flat dwelling fish is mostly dependent upon.....
aerial respiration system.
 - Buccopharyngeal epithelium
 - Air bladder
 - Integumentary system
 - Alimentary canal

10. Which fish among these has 'two rosette fans' as part of their accessory respiratory system?
- Clarias* sps.
 - Anabas* sps.
 - Trichogaster* sps.
 - Wallago* sps.
11. Elasmobranchs are also commonly known as:
- Chondrichthyes
 - Osteichthyes
 - Holocephali
 - Dipnoan
12. The air bladder arises from:
- Ventral wall of Foregut
 - Dorsal wall of Foregut
 - Ventral wall of Midgut
 - Dorsal wall of Midgut
13. Which among these fishes have complete set of plate like teeth structures specific to their feeding habit?
- Mystus seenghala*
 - Channa marulius*
 - Hilsa ilisha*
 - Cirrhinus mrigala*
14. Where do you find vomerine teeth in *Clarias* sps?
- Upper roof of buccal cavity
 - Lower roof of buccal cavity
 - Lateral sides of buccal cavity
 - Whole of buccal cavity
15. The fluctuation in population size of *Channa punctatus* in Deepor Beel, Guwahati cannot be attributed to:
- Intra specific competition
 - Mortality
 - Food availability
 - Human interference
16. $P = c/r$ is the method to estimate population of a certain species in a aquatic system includes:
- Abundance
 - Total catch
 - Dead : Population
 - Unrelated to population
17. If a fish living in a pond tends to urinate a lot more, then it can be considered thatthan surroundings.
- Salt concentration is higher
 - Salt concentration is equal
 - Salt concentration is lower
 - Depends upon water intake
18. Posteriorly fused kidneys are found in:
- Sea horse
 - Mugils
 - Eels
 - Pipe fish
19. Leaf-like body is generally found in, a hill stream fish species.
- Balitora*
 - Xenentodon*
 - Heteropneustes*
 - Hilsa*
20. Which cell organelle is usually found in proximal segment of fresh water teleost?
- Mitochondria
 - Lysosome
 - Golgi apparatus
 - None of the above

(Descriptive)

Time : 2 hr. 30 mins.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

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| 1. Write a detailed note on the classification of fishes with importance on the evolutionary trends. | 10 |
| 2. Write down the modifications of alimentary canal in freshwater cyprinid teleost. | 10 |
| 3. Mention the various morphological modifications and adaptations in hill stream fishes. Also put forward suitable examples. | 10 |
| 4. Elucidate in detail about the digestive physiology in fishes. | 10 |
| 5. Write a note on the Fisheries of the River Brahmaputra. | 10 |
| 6. Write and describe with diagrammatic representation about the various forms and shapes of kidneys in teleost. | 10 |
| 7. What are accessory respiratory organs? Mention in detail their role and importance with respect to the habits and habitats of fishes. | 5+5=10 |
| 8. Write a note on pigmentation and coloration in fishes. | 10 |

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