

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

SET
A

Duration: 1hr. 30 mins.

Full Marks: 35

Time: 15 mins.

(Objective)

Marks: 10

Choose the correct answer from the following:

1×10=10

- In a *Cirrhinus mrigala*, the alimentary canal can be divided into three parts, except for:
 - Fat absorptive zone
 - Water and ion absorptive zone
 - Protein absorptive zone
 - Carbohydrate Fat absorptive zone
- How many pairs of branchial arches are modified for chewing & breaking down of food particles in teleost?
 - 01
 - 02
 - 03
 - Depends upon the species
- Which among the following statements are correct for accessory respiratory organs?

Statement I: Labyrinthine organ in *Anabus* develops from the first gill arch.
Statement II: Four pairs of fans develop in *Heteropneustes fossilis*.
Statement III: For alimentary canal respiration, the gut inner surface is of mucus secreting cells.
Statement IV: In *Boleophthalmus*, folding of capillaries in buccopharyngeal epithelium is sometimes observed.

 - I, II, III
 - I, II, IV
 - II, III, IV
 - All are correct
- Which among these is an omnivorous fish?
 - Puntius sarana*
 - Ctenopharyngodon idella*
 - Cirrhinus reba*
 - Channa punctatus*
- Which among the following replacing bones are not found in the otic region of a *Labeo rohita*?
 - Pro-otic
 - Pterotic
 - Post-otic
 - Ophisthotic
- Which among these fish species has a good affinity for cutaneous respiration?
 - Anguilla*
 - Mastacembelus*
 - Clarias*
 - Misgurnus*
- Which among these parts of a marine teleost includes elongated mitochondria?
 - Proximal segment
 - Ciliated segment
 - Renal corpuscle
 - None of the above

8. The urine production of freshwater fishes as per their body weight per day is:
- | | |
|--------------|--------------|
| a. 13 - 17 % | b. 10 - 15 % |
| c. 9 - 13 % | d. 5 - 12 % |
9. The urostyle is process present near to the:
- | | |
|----------------------------|--------------------|
| a. Dorsal region | b. Caudal region |
| c. Lateral region of skull | d. Temporal region |
10. As per Muller's classification, modern cephalochordates are also known as:
- | | |
|----------------|-------------------|
| a. Teleostei | b. Elasmobranchii |
| c. Leptocardii | d. Acanthoidii |

(Descriptive)

Time : 1 hr. 15 mins.

Marks : 25

[Answer question no.1 & any two (2) from the rest]

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|--|-----------|
| 1. Write short notes on: | 2.5+2.5=5 |
| a) Pigmentation and coloration in fishes. | |
| b) Osmoregulation in elasmobranchs. | |
| 2. Write in detail about all the different forms of classification of fishes with details of each type and at least one example. | 10 |
| 3. Discuss about the major parts and functionaries of the skeletal system of modern day teleost. | 10 |
| 4. Write short notes on: | 5+5=10 |
| a) Physiology of digestion in teleost. | |
| b) Accessory respiratory organs in fishes. | |
| 5. Write short notes on <i>any two</i> of the following: | 5+5=10 |
| a) Length weight relationship | |
| b) Gonado-somatic index | |
| c) Index of preponderance | |

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