

Roll No.

D-1006**M. Sc. (Fourth Semester) (Main/ATKT)****EXAMINATION, May-June, 2020**

ZOOLOGY

Paper Third

(Optional Group—A)**[Fish (Ichthyology) Structure and Function]***Time : Three Hours]**[Maximum Marks : 80***Note :** Attempt all Sections as directed.**Section—A**

1 each

(Objective/Multiple Choice Questions)**Note :** Attempt all questions.

Choose the correct answer :

1. Placoderms originated in the :

- (a) Early palaeozoic era
- (b) Middle palaeozoic era
- (c) Late palaeozoic era
- (d) Mesozoic era

2. *Jamoytius* related to :

- (a) Cephalaspidomorphi
- (b) Pteraspidomorphi
- (c) Euphanerida
- (d) Anaspida

3. New name of order-ostariophyceae proposed by 'Berg' :

- (a) Osteolepiformes
- (b) Cypriniformes
- (c) Anguilliformes
- (d) Polypteriformes

4. Pterygopodial glands' found in :

- (a) Lamprey
- (b) Dipnoi
- (c) Teleostomi
- (d) Elasmobranchi

5. *Lamina propria* is a :

- (a) Gastric gland
- (b) Mucus secreting cell
- (c) Villi
- (d) Fold in serosa

6. Which family of Air-breathing fish family ?

- (a) Symbranchidae

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- (b) Acipenseriformes
 - (c) Pleuronectiformes
 - (d) None of the above
7. *Physoclistous* air bladder found in :
- (a) Toad fish
 - (b) *Amia*
 - (c) *Acipenser*
 - (d) *Lepidosteus*
8. Weberian ossicle-'Tripus' is derived from :
- (a) IInd vertebrae
 - (b) IIIrd vertebrae
 - (c) IVth vertebrae
 - (d) Vth vertebrae
9. 'Type II' kidneys are found in :
- (a) Clupeidae
 - (b) Belonidae
 - (c) Lophidae
 - (d) Cyprinidae
10. Main lateral line canal is supplied by :
- (a) Oculomotor nerve
 - (b) Vagus nerve
 - (c) Trochlear
 - (d) None of these

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11. 'Luminous organs' generally present in fishes which found in :
- (a) Freshwater
 - (b) Pelagic
 - (c) Deep sea
 - (d) None of the above
12. "Camouflage" related to :
- (a) Colour change
 - (b) Permanently colouration
 - (c) Colour for aggressive purpose
 - (d) None of the above
13. "Stridulatory" sound produced by :
- (a) Swim bladder muscles
 - (b) Swimming movements
 - (c) Friction of teeth
 - (d) Pharyngeal apparatus
14. "Weak endoskeleton" is adaptation of :
- (a) Hill stream fishes
 - (b) Deep sea fishes
 - (c) Surface feederfishes
 - (d) None of the above

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15. "Glyptothorax" is :
- A deep sea fish
 - A hill steam fish
 - A luminous fish
 - A poisonous fish
16. "Alimental migration" means migration for :
- Climatic condition
 - Osmoregulation
 - Food and Water
 - Reproduction
17. 'Altruism behaviour' related to :
- Migration
 - Coloration
 - Reproduction
 - Parental care
18. 'Spent phase' of testis in fishes :
- January to March
 - April to June
 - July to August
 - October to December
19. 'Demersal eggs' of fishes means :
- Buogant eggs
 - Planktonic eggs
 - Thin, non-adhesive membrane eggs
 - Heavy, hard adhesive membrane eggs

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20. TTX is :
- Tetrodotoxin
 - Trydotoxin
 - Try Taluinxylin
 - Tetrataluinxylin

Section—B

2 each

(Very Short Answer Type Questions)

Note : Attempt all questions in two or three sentences.

- Write any *two* characters and *two* examples of pleurotremata fishes.
- What is Bony-ridge scale of fishes ? Draw well labelled diagram of any *one* bony ridge scale.
- Write difference between physostomous and physoclistous swim bladder.
- Define Acoustico-Lateralis system and give its any *two* functions.
- Give the name of amino acids which consists in *Luciferine*.
- Give the formula of GaSI and GSI.
- What is ovoviviparity ?
- Write any *two* name of Deep sea fishes.

Section—C

3 each

(Short Answer Type Questions)

Note : Attempt all questions in 75 words.

- Write any *three* differences between Ostracoderm and Placoderm.

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2. Write specialized characters of Holocephali.
3. Explain osmoregulatory activity in freshwater and marine teleosts.
4. Draw labelled diagram of Weberian apparatus.
5. Explain the biochemical reaction in luminous organs for bioluminescence.
6. Write the type of sonic mechanism in fishes.
7. What is fecundity ? Give example of any *two* fish fecundity.
8. Write differences between poisonous and venomous fish.

Section—D

5 each

(Long Answer Type Questions)

Note : Attempt all questions 150 words.

1. Give a detailed account on characters, classification distribution and specialised features of *Dipnoi*.

Or

Explain the adaptive modification in digestive tract of fishes.

2. Explain the accessory respiratory organs of fishes their origin, location, structure and significance with proper diagrams and example.

Or

Describe the origin, evolution, type, occurrence, structure and significance of Air-bladder in fishes.

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3. What is adaptation ? Describe deep-sea adaptation in fishes.

Or

Explain the sound producing organ in fishes their structure, mechanism and significance.

4. Give a detailed account on female reproductive organ, seasonal morphohistological changes in teleost ovary and their environmental and hormonal regulation.

Or

What is Ichthyotoxicity ? Explain their type, structure of venom apparatus, chemical composition of fish toxin and their importance.

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