

REV-01  
BSZ/19/24

2023/12

**B.Sc. ZOOLOGY  
FIFTH SEMESTER  
FISH & FISHERY  
BSZ-503**

**SET  
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

( Objective )

Time: 30 mins.

Marks: 20

*Choose the correct answer from the following:*

*1 × 20 = 20*

- Glazing is dipping the frozen fish in water so that:
  - Finally, a layer of hard ice surrounds the fish
  - Crystal surrounds the fish
  - Water vapour surround the fish
  - No formation of ice is there
- Excess salting allows growth of salt-tolerant bacteria causing:
  - White eye spoilage of fish
  - Pink eye spoilage of fish flesh
  - Both a and b
  - Violet disease of fish
- In cold smoking of fishes first:
  - A temperature of 38°C is raised from a smokeless fire
  - The temperature is lowered from smoked fish
  - Temperature is lowered from 80°C
  - None of the above
- A fish is of good market value if it weighs:
  - 9 gm and above
  - 70 gm and above
  - 750 gm and above
  - 11 gm
- In composite fish culture a feeding rate of:
  - 2-3% of body weight is generally recommended
  - 5% of body weight of fish is generally recommended
  - 9% of body weight of fish is generally recommended
  - 10% of body weight of fish is generally recommended
- In the traditional system of carp culture the yield varied in the range of 60-600 Kg/ha/yr while with composite fish culture, the yield is:
  - 4000Kg/ha/yr
  - 200 Kg/ha/yr
  - 300 kg/ha/yr
  - None of the above
- Whirling disease in *Cirrhinus mrigala* (Ham) observed by Maheswari (1986) has been attributed to a protozoan parasite:
  - Myxosomacerebralis*
  - Myxoma centres*
  - Mysilis centralis*
  - All of the above
- Dactylogyrus is found on the gills and can be distinguished from Gyrodactylus by the presence of.....
  - Two pairs of eyes at the anterior end
  - Two pairs of eyes at the posterior end
  - Three pairs of eyes at the anterior end
  - Four pairs of eyes at the anterior end

9. Hexamita in fishes is caused by intestinal flagellated protozoa that attack the .....
  - a. Lower intestine
  - b. Upper intestine
  - c. Gall bladder
  - d. Urethra
10. BOD an indicator of concentration of micro-organisms reveals the impact of.....
  - a. Oxygen loading
  - b. Nitrogen deficiency
  - c. Oxygen deficiency
  - d. Nutrient loading
11. Which type of scales is observed in *Labeo rohita*?
  - a. Cycloid
  - b. Ctenoid
  - c. Ganoid
  - d. None of the above
12. Which among these is one of the techniques of producing hybrid disease free fishes?
  - a. Electroporation
  - b. Electrification
  - c. Electrical shift
  - d. None of the above
13. A row of gill lamellae can together be called as:
  - a. Hemibranch
  - b. Holobranch
  - c. Hylabranch
  - d. None of the above
14. Which part is responsible for providing protection to the gills?
  - a. Gill raker
  - b. Gill lamellae
  - c. Gill branch
  - d. Gill arch
15. Which among these fishes exhibit the longest type of migration?
  - a. *Anguilla*
  - b. *Heteropneustes*
  - c. *Cirrhinus*
  - d. *Hilsa*
16. As per Muller's classification, Marsipobranchii are also known as:
  - a. Cephalochordates
  - b. Cyclostomes
  - c. Sharks
  - d. Bony fishes
17. *Heteropneustes fossilis* is a primarily..... fish.
  - a. Herbivorous
  - b. Carnivorous
  - c. Omnivorous
  - d. Detritus feeder
18. Which category of fishes exhibits the function of osmoregulation more properly?
  - a. Dipnoi
  - b. Elasmobranch
  - c. Clupids
  - d. All of the above
19. Labyrinthine organ found in the Climbing perch is in the form of:
  - a. 1 pair of rosettes
  - b. 2 pair of rosettes
  - c. 3 pair of rosettes
  - d. 4 pair of rosettes
20. Total movement of myomeres from anterior to posterior position is observed in .....movement.
  - a. Anguiliform
  - b. Carangiform
  - c. Clueiform
  - d. None of the above

**(Descriptive)**

Time : 2 hr. 30 mins.

Marks : 50

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

- |   |          |
|---|----------|
| 1. Write short notes on:  | 5+5=10   |
| a) Osmoregulation in elasmobranch   |          |
| b) Migration in fishes  |          |
| 2. Write down in detail about all the classifications of fish.  | 10       |
| 3. What is fish preservation? Mention some methods of fish preservation and add a note on "Canning process of fish preservation".   | 1+5+4=10 |
| 4. Discuss some of the fish diseases prevalent in India citing suitable examples.   | 10       |
| 5. Elucidate in detail about the Inland Freshwater capture fishery resources of India.  | 10       |
| 6. What is composite fish culture? Outline some of the objectives and principles of composite fish culture and highlight some important aspects of Composite fish culture in India. | 1+2+7=10 |
| 7. Discuss briefly about the role of water quality in aquaculture.  | 10       |
| 8. What are transgenic fishes? Write down about the process of carrying out the transgenesis in fishes.   | 2+8=10   |

== \*\*\* ==