

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

**SET  
A**

[USE OMR FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

( Objective )

Marks: 20

Choose the correct answer from the following:

1×20=20

- The International workshop on Cage and Pen Culture was held on:  
a. 1979  
b. 1980  
c. 1981  
d. 1982
- The better management and operation of pen culture is from .....area.  
a. 0.1 to 0.2 ha  
b. 0.2 to 0.3 ha  
c. 0.3 to 0.4 ha  
d. 0.4 to 0.5 ha
- Which among these is not a feasible form of freezing the fishes after catch?  
a. With vinegar  
b. With alginate jelly  
c. With ascorbic acid  
d. With water
- Drying does not affect:  
a. Weight  
b. Nutritive value  
c. Digestibility of flesh  
d. Taste
- Cold smoking is achieved by a smokeless fir of initial temperature:  
a. 73 C  
b. 50 C  
c. 38 C  
d. 113 C
- The All India coordinated research project (AICRP) on composite and exotic carp culture was initiated in the year:  
a. 1961  
b. 1971  
c. 1962  
d. 1972
- Is pen culture a synonymous to enclosure or cage culture?  
a. Yes  
b. No  
c. Only in ponds  
d. Only in rivers
- Which tail is characteristic of sharks?  
a. Homocercal  
b. Protocercal  
c. Heterocercal  
d. Pirocercal
- The primary food of *Labeo rohita* is:  
a. Algae  
b. Arthropod  
c. Plants  
d. Detritus
- The primary use of electric organs is not related to:  
a. Food capture  
b. Territorial fight  
c. Defense  
d. Reproduction

11. The scales of *Latimeria* may be generally of:
  - a. Cosmoid and Cycloid
  - b. Cycloid and Ctenoid
  - c. Ctenoid and Ganoid
  - d. Ganoid only
12. *Gadusia chapra* feeds on planktons with the help of:
  - a. Gill arch
  - b. Gill rakers
  - c. Hemibranch
  - d. All of the above
13. In Elasmobranchii, exoskeleton is:
  - a. Bony
  - b. Cartilaginous
  - c. Semi bony
  - d. None of the above
14. The present day spiny eels belong to the division of:
  - a. Euteleostei
  - b. Clupeomorpha
  - c. Elopomorpha
  - d. Osteoglossomorpha
15. Which category of fishes shows characterization of eyes present on dorsal surface but a little apart?
  - a. Coccostei
  - b. Acanthodii
  - c. Elasmobranchii
  - d. None of the above
16. What are the fish sanctuaries related to?
  - a. In situ hybridization
  - b. Ex situ hybridization
  - c. Hybridization
  - d. None of the above
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 ]

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|--|--------|
| 1. How is pen culture a more sustainable form of aquaculture? Explain with advantages and disadvantages.                           | 10     |
| 2. What are the various techniques involved in post processing of fishes? Describe in brief about each with suitable examples.     | 6+4=10 |
| 3. What are the implications of fish behaviour in relation to migratory behaviour?   | 10     |
| 4. Write down about the various classification describing fishes from ancient to modern age.                                       | 10     |
| 5. Write down and explain the steps involved in composite aquaculture.   | 10     |
| 6. Write a note on Hypophysation technique of fishes.  | 10     |
| 7. What are the various forms of fin rays involved in locomotory purpose of fishes? Explain each with diagrammatic representation. | 5+5=10 |
| 8. Write an elaborate note about the process of genetic manipulation in fishes for enhanced growth and quality.                    | 10     |

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