

M.Sc. ZOOLOGY
FOURTH SEMESTER
FISH & FISHERY BIOLOGY-II
MSZ-402 C

(Use separate answer scripts for Objective & Descriptive)

Duration : 3 hrs.

Full Marks : 70

[**PART-A : Objective**]

Time : 20 min.

Marks : 20

Choose the correct answer from the following:

1x20=20

1. Intensive aquaculture relies on technology to raise fish in artificial tanks:
 - a. At very high densities
 - b. At low densities
 - c. At high as well as low densities
 - d. At moderate densities
2. In districts of Barpeta, Bongaigaon and Kokrajhar rice fields are often connected by canal systems locally called as:
 - a. Dong
 - b. Pong
 - c. Bhong
 - d. Rong
3. For better management and easy operation recommended area for pens should be of:
 - a. 0.1 to 0.2 ha
 - b. 10 ha
 - c. < 20 ha
 - d. > 20 ha
4. Cage culture, in recent years, has been considered as a highly specialized and sophisticated modern:
 - a. Aquaculture technique
 - b. Eri-fish culture
 - c. Ichthyological technique
 - d. Seri-cum fish aquaculture
5. *Clarius magur* is also known as:
 - a. Walking catfish
 - b. Table fish
 - c. Flying fish
 - d. Rocky fish
6. Most commonly used breed for IFS in India is:
 - a. Indian eagle
 - b. The Indian runners
 - c. Indian rippler
 - d. None of the above
7. Rabbit excreta low in moisture and nitrogen content is a quality of:
 - a. Low plankton production.
 - b. Sustained plankton production
 - c. Low density of microbial fauna
 - d. None of the above
8. Aquaculture is the:
 - a. Controlled production, propagation and rearing of aquatic organisms in a controlled environment.
 - b. Uncontrolled production in aquatic media.
 - c. Culture of fish species only.
 - d. Culture of fish along with aquatic plants.
9. *Channa striatus* is also known as:
 - a. Snakehead fish
 - b. Climbing fish
 - c. Jumping fish
 - d. Rowing fish

10. Which of the following net is used to catch *Tenulosa ilisha*?
- Rampani net
 - Kharki net
 - Hela Jal
 - Ghagaria Jal
11. The optimum level of DO₂ for normal growth and reproduction of fishes in tropical waters is at:
- 0.3–0.8 mg/liter
 - <5.0 mg/liter
 - 5.0 mg/liter
 - 3.0 mg/liter
12. The whitening and stiffening of flesh of fish after salting is due to:
- High NaCl content.
 - Contamination of salt with Ca⁺⁺ and Mg⁺⁺.
 - Low content of NaCl.
 - Absence of Ca⁺⁺ and Mg⁺⁺ in the salt.
13. The normal ration of fish to ice is:
- 2:1
 - 1:1
 - 1:2
 - 2:3
14. 'CAVIAR' is the product obtained from:
- Salmon
 - Sturgeon
 - Shark
 - Tuna
15. Isinglass is prepared from:
- Stomach
 - Swim bladder
 - Liver oil
 - Scales
16. Which of the following is the main function of Urophysis in fishes?
- Sexual maturation
 - Lipid metabolism
 - Photoreception
 - Osmoregulation
17. The fish pathogenic disease characterize by the accumulation of fluid in the body cavity is:
- Dropsy
 - Asphyxiation
 - Epizotic ulcerative syndrome
 - Swim bladder infection (SBI)
18. The factor for faster spoilage in marine fishes is due to:
- Low ATP
 - Low phosphocreatine
 - Trimethylamine Oxide
 - High urea content in body fluid
19. The main reasons for production of transgenic fishes is to improve:
- Output : Input ratio
 - Demand : Production ratio
 - Input : Output ratio
 - Production : Demands ratio
20. Which of the following protein is rich in fish?
- Valine
 - Threonine
 - Tryptophan
 - Lysine

(**PART-B : Descriptive**)

Time : 2 hrs. 40 min.

Marks : 50

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

- What is composite fish culture? Outline some of the objectives in composite fish culture and highlight some important aspects of composite fish culture in India. 1+2+7=10
- What is integrated fish farming? Discuss in brief the different types of integrated fish farming practiced in India with suitable examples. 2+8=10
- 'Fish serves as healthfood for the affluent world' -----Elucidate. 10
- What is exotic fish? List the names of some exotic fishes introduced in India and highlight their impact on natural freshwater bodies. 2+8=10
- What is water pollution? Discuss the impact of water pollution on fisheries. 2+8=10
- Elucidate in detail about by products of fish and their economic importance. 10
- What is hybridization? What are the characteristic features of hybrid? How can artificial hybridization be carried out in fishes? Discuss some. 1+3+6=10
- Discuss the Induced breeding technique in fishes with suitable examples. 10

== *** ==