

**M. Sc. 3rd Semester Examination, 2024**

**FISHERIES SCIENCE**

**PAPER — FSC-302(Unit-1 & Unit-2)**

*Full Marks : 50*

*Time : 2 hours*

**Answer all questions**

*The figures in the right hand margin indicate marks*

*Candidates are required to give their answers in  
their own words as far as practicable*

**PAPER — FSC-302 (UNIT- 1)**

*( Fish Genetics & Biotechnology )*

**[Marks : 20]**

**1. Answer any two of the following :                    2 × 2**

**(a) Write about the necessity of selective  
breeding in IMCs.**

*( Turn Over )*

- (b) Write a note on Robertsonian rearrangement.
- (c) What do you mean by Intellectual Property Right (IPR) ?
- (d) What do you mean by sex reversal in fish ?
2. Answer any *two* of the following : 4 × 2
- (a) Explain the difference between mitotic & meiotic gynogenesis in fish.
- (b) Discuss the benefits and drawbacks of fish hybridization.
- (c) Write a note on evolutionary polyploids in carps.
- (d) What is transgenic fish ? Explain its importance in aquaculture. 2 + 2

3. Answer any *one* of the following :  $8 \times 1$

(a) Explain how the giant molecule of DNA packaged into a metaphase chromosome in Eukaryotic cell.

(b) Answer the following questions :

(i) Discuss the methods of production and significance of sterile fish.  $3 + 2$

(ii) Discuss different methods of production of monosex fish.  $3$

**PAPER – FSC-302 (UNIT-2)**

( *Aquaculture Engineering and Management* )

[Marks : 20]

4 . Answer any *two* questions from the following :  $2 \times 2$

(a) Differentiate between intensive and semi-intensive aquaculture.

(b) State on shrimp toilet and its importance in shrimp farming.

(c) What in IMTA ? State its importance.

(d) Write the advantage and disadvantage of cage farming.

5. Answer any *two* questions from the following :

4 × 2

(a) Give an account on the technological aspects and importance of Bioflock fish culture technology.

(b) Discuss the different soil and water quality standard for IMC farming in West Bengal.

(c) Discuss different types of fertilizers used in aquafarming and their importance.

(d) Write a note on bio-filter and its importance in aquaculture.

6. Answer any *one* question from the following :

8×1

(a) What do you mean by integrated fish farming ? Enlist different integrated fish farming practices in India. Give detailed account on any one of the system. 2 + 2 + 4

(b) Write down the pre requisite for aquafarm construction in an area. Give detailed idea about a shrimp ponds layout and components used for the farming management.

2 + 6

**[ Internal Assessment — 10 Marks ]**

