



Total pages: 02

**PG (CBCS)**  
**M.Sc. Semester- I Examination, 2023**  
**FISHERIES SCIENCE**  
**PAPER: FSC 103**

**(ANATOMY AND PHYSIOLOGY OF FIN FISH AND SHELL FISH AND  
 FISHERIES TECHNOLOGY AND HARBOUR ENGINEERING)**

Full Marks: 40

Time: 2 Hours

The figures in the right-hand margin indicate full marks.  
 Candidates are required to give their answers in their own words as far as practicable.

**Write the answer for each unit in separate sheet**

**FSC 103.1: ANATOMY AND PHYSIOLOGY OF FIN FISH AND SHELL FISH**

**GROUP-A**

Answer any **TWO** of the following questions:

2×2=4

1. Distinguish between gastric and agastric fish.
2. What are the major differences between pouched gill and septal gill?
3. Define ram ventilation with example.
4. What do you mean by Synchronous hermaphroditism? Give an example.

**GROUP-B**

Answer any **TWO** of the following questions:

2×4=8

1. Describe the osmoregulatory mechanism in fishes inhabiting in hypotonic water.
2. Describe the structural view of the gills of elasmobranch fishes with diagram.
3. Draw and describe the process of oogenesis in fish.
4. Give a brief account of arterial system of any teleost fish.

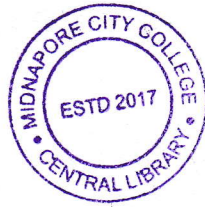
**GROUP-C**

Answer any **ONE** of the following questions:

1×8=8

1. Enumerate the key hormones produced by the pituitary glands in fishes. Explain the specific functions of these hormones. 4+4
2. Explain the general structure of gills in bony fish with suitable diagram. Write a note on excretory system of any shell fish? 5+3

(P.T.O.)



**FSC 103.2 FISHERIES TECHNOLOGY AND HARBOUR ENGINEERING**

**GROUP-A**

Answer any **TWO** of the following questions: **2×2=4**

1. Write name of two common fishing crafts used in Maharashtra Coast.
2. What is a 'bow' of a fishing boat?
3. What do you mean by Longitudinal Centre of Buoyancy (LCB)?
4. What is net sonde?

**GROUP-B**

Answer any **TWO** of the following questions: **2×4=8**

1. Give a brief account on advanced communication system used in marine fishing vessels.
2. Briefly explain the factors responsible for designing a fishing crafts.
3. Mention the ecological impact of bottom trawling.
4. Write a short note on mesh size regulation.

**GROUP-C**

Answer any **ONE** of the following questions: **1×8=8**

1. Write a note on the waste management in fishing harbour. Discuss the primary factors considered in the site selection for a construction of a fishing harbour. **4+4**
2. What is the purpose of By-catch Reduction Devices (BRD) in commercial fishing operations? Explain how BRDs work to minimize unintended catch in fishing gear. Add a note on safety measures used in fishing vessels. **2+3+3**

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