

# B.Sc. 6<sup>th</sup> Semester (Honours) Examination, 2021

## Subject: ZOOLOGY

Course ID: 62616

Course Code: SH/ZOO/603/DSE-3

### Course Title: Fish and Fisheries

Full Marks: 25

Time: 1 Hr 15 Min.

*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*

## UNIT- I

1. Answer *any five* of the following questions: (1×5=5)

- a) What do you mean by semi-intensive culture of fish?
- b) Name two bacterial fish diseases and causative organisms associated with the diseases.
- c) What do you mean by Morphometric analysis?
- d) Give the scientific name of a fish in which Electric organ is found.
- e) What is the role of TMAO in Salt Adaptation in Marine Elasmobranch?
- f) What do you mean by Sustainable Aquaculture?
- g) What are shell fishes?
- h) What is bioluminescence?

## UNIT II

2. Answer *any two* of the following questions: (5×2=10)

- a) Differentiate between Physostomous and Physoclistous type of swim bladder. What is Rete mirabile?  
Briefly describe the role of swim bladder in maintaining the buoyancy of a fish. (2+1+2=5)
- b) What is composite fish farming? Write the principles of composite fish farming. Briefly describe about the pen culture of fish. (1+2+2=5)

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Date \_\_\_\_\_

- c) Write the use of gene editing technologies for the production of Transgenic fish. Write the benefits of using Zebra fish as a model organism in research. (2+3=5)
- d) Write short note on hydrodynamics of fish. 5

### UNIT III

**3. Answer any one of the following questions: (10×1=10)**

- a) Differentiate between Induced breeding and Hypophysation. Write the advantages of Induced breeding technique in increasing the production of inland fishery. Briefly describe about the following steps of Induced breeding techniques: (2+2+2×3=10)
  - i) Collection of Pituitary gland.
  - ii) Sexual Dimorphism and Selection of Breeders.
  - iii) Injection of Pituitary extract
- b) Make a comparison of the extensive, semi-intensive and intensive culture of fish. What are the principles of poly culture? 6+4

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