

2023

**BFSC 4th Semester Examination**

**Shellfish Hatchery Management**

PAPER — BFSC-404

Full Marks : 50

Time : 2 hours

*The figures in the right-hand margin indicate marks.*

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

*Illustrate the answers wherever necessary.*

1. Answer **any ten** from the following questions :  
2×10=20

(a) What are the breeding seasons of  
*P. monodon* in West Bengal?

(b) What are the key factors to consider in the  
site selection of a shellfish hatchery?

(c) Write the scientific names of two edible  
oysters found in West Bengal.

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(Turn Over)



( 2 )

- (a) State two environmental factors that can impact shellfish hatchery operations.
- (b) What is spat settlement?
- (c) State two potential benefits of effective shellfish hatchery management.
- (d) What is the function of x-organ sinus gland complex of crustaceans?
- (e) What is the function of Methyl Farnesoate (MF) hormone?
- (f) What are the common disinfectants used in shrimp hatchery?
- (g) Write two names of pearl oyster.
- (h) How does temperature influence the growth and development of shellfish larvae in a hatchery setting?
- (i) What are the common larval feeds used in *P. monodon* hatcheries?
- (j) Write the names of two common pathogen associated with shellfish hatcheries.
- (k) Name the different larval stages of *penaeus monodon*.
- (l) When do the *Penaeus monodon* and *Penaeus indicus* get matured?

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(Continued)

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2. Answer any six from the following questions :

6×5=30

- (a) Write a short note on maturation stages of *Penaeus monodon*.
- (b) Discuss briefly the eyestalk ablation technique.
- (c) Write the status of shellfish seed production in India.
- (d) Illustrate briefly the brood stock management practice of *Penaeus monodon*.
- (e) What is optimum water quality parameters required for shrimp hatchery?
- (f) Write a note on the food of larval shellfish.
- (g) What are the differences of quality between natural and hatchery produced seeds?
- (h) Write a note on seed resources of *Scylla serrata*.
- (i) Give an account of life cycle of any lobster.
- (j) Write an account of breeding and hatchery management of *Macrobrachium rosenbergii*.

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