

M.Sc. 2nd Semester Examination, 2011

**AQUACULTURE MANAGEMENT AND
TECHNOLOGY**

PAPER — AMT-203

Full Marks : 40

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

(Fish Breeding and Hatchery Management)

1. Write in brief on *four* of the following : 2 × 4
- (a) What do you mean by absolute and relative fecundity?
 - (b) State the merits and demerits of cross breeding.
 - (c) State the induced breeding of prawn.

(2)

- (d) Mention the specification of breeding and hatching hapa.
 - (e) Define translocation.
 - (f) Mention the chemical structure of Adenine, Guanine, Cytosine and Thymine.
 - (g) What do you mean by sterile fish?
 - (h) Define selective breeding.
2. Write on any *four* of the following : 4 × 4
- (a) Discuss about the management of Multiple Spawner.
 - (b) Write down the principle of Cryopreservation of Carp milt.
 - (c) Explain the concept of Glass Jar Hatchery.
 - (d) Discuss on the Genetic code?
 - (e) Write down the principle of 'dry' and 'wet' bundh breeding.

- (f) State the role of hormonal regulation in Induced breeding of IMC.
- (g) Enumerate the factors responsible for fecundity of fish.
- (h) Fish seed transport. Write in brief.

3. Answer two of the following :

8 × 2

(a) (i) What do you mean by multiple breeding ?

(ii) Mention the selection criteria of a multiple Spawner.

(iii) Briefly describe inbreeding and cross breeding.

(iv) Add a note on advantages and disadvantages of multiple breeding.

$$1\frac{1}{2} + 1\frac{1}{2} + 3 + 2$$

(b) (i) What do you mean by hatchery ?

(ii) Enlist the different types of hatchery used in India.

(4)

(iii) Design the following parts of an Eco-hatchery for production of 30 lakh spawns per breeding :

(I) Breeding pool

(II) Incubation pool.

$$1\frac{1}{2} + 1\frac{1}{2} + 5$$

(c) (i) Enlist the different synthetic hormone used in induced breeding of fish. Mention their dosages.

(ii) How would you minimise the mortality during transportation of fish seed ?

(iii) Add a note on the need of genetically improved stock in fisheries.

$$2\frac{1}{2} + 3 + 2\frac{1}{2}$$

(d) (i) What do you mean by hybridization of fish ?

(ii) Discuss in details on the 'diploid hybrid' and 'Triploid hybrid'.

(iii) Add a note on advantages and disadvantages of fish hybridization.

$$1\frac{1}{2} + 4 + 2\frac{1}{2}$$