2008

AQUACULTURE MAN. & TECH.

PAPER—AMT-2003

Full Marks : 40

Time : 2 hours

Answer **Q. No. 1** and any **three** from the rest

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 *five* of the following: 2×5

(*a*) What do you mean by absolute and relative fecundity of a fish ?

(*b*) How would you differentiate the male and female fish in IMC ?

(*c*) Induced breeding of prawn.

(*d*) Physico-chemical characteristics of fish seed transportation water.

(*e*) Enlist the names of enzyme involved in DNA replication.

(*f*) Differentiate A-DNA, B-DNA and Z-DNA.

(*g*) Sex-linked gene in fish.

(*h*) Calculate the amount weight of brooder required for production of 25 lakh spawn.

(*i*) Specification of hatching hapa.

(*j*) Non-cryogenic preservation of sperm in IMC.

2. (*a*) Discuss the different methods of collection of fish seed from the natural source.

(*b*) What are the different transportation system of fish seed used in India ?

(*c*) How would you minimise the mortality during transportation of fish seed ? 4 + 4 + 2

3. (*a*) What do you mean by multiple breeding ?

(*b*) How would you care the multiple spawner ?

(*c*) Mention the advantages and disadvantages of multiple breeding.

(*d*) Explain inbreeding and cross breeding. 2 + 3 + 2 + 3

4. (*a*) What do you mean by transgenic fish?

(*b*) Mention the advantages and disadvantages of transgenic fish.

(*c*) Discuss the prospect of transgenic fish in Indian aquaculture.

(*d*) Add a note on selective breeding of fish. 2 + 3 + 3 + 2

5. (*a*) What do you mean by a hatchery?

(*b*) Enlist the different units of a carp hatchery.

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

(*i*) Breeding pool

(*ii*) Incubation pool

(*iii*) Overhead water tank. 2 + 2 + 6

6. Write short notes on any *two* of the following: 5 x 2

(*i*) Health management of carp brood stock

(*ii*) Alternate inducing agent for carp breeding

(*iii*) "Carp hybridization improve aquaculture development." Explain

(*iv*) Bundh breeding in West Bengal.
