PG/IIS/AMT-203/13

M.Sc. 2nd Semester Examination, 2013

AQUACULTURE MANAGEMENT AND TECHNOLOGY

(*Fish Breeding and Hatchery Management*)

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

1. Answer any *four* of the following : 2 × 4

    (*a*) Write a note on different stages of fish Oocytes.

    (*b*) What do you mean by absolute and relative fecundity ?

    (*c*) What are the traits used for selective breeding ?

(d) Mention different units of a ECO hatchery complex.

(e) Explain heterosis and hybrid vigour.

(f) State the advantages of fish hybridization.

(g) Enlist the types of fish hatchery.

(h) Distinguish between paracentric and pericentric inversion.

2. Write any *four* questions of the following :   4 × 4

(a) Describe the annual cyclical changes of fish ovary.   4

(b) What do you mean by hypophysation technique ? Add a note on multiple breeding.
                                                        2 + 2

(c) Mention about different methods used for fish seed transportation.   4

(d) Write a note on pleiotropy in fish.   4

(e) Distinguish between inter-specific and intergeneric hybridization in fish. Explain with examples. 4

(f) What are the techniques currently used for the analysis of fish chromosomes ? 4

(g) Explain in detail about the evolution of fish karyotypes. 4

(h) What is chemical mutagen ? Briefly discuss about gene mutation. 4

3. Answer any *two* : 8 × 2

(a) Illustrate the role of gonadotropins in the reproduction of teleost fish. 8

(b) Give an account of different ovulating agents and their range of dose used in breeding the fish. 5 + 3

(c) Discuss about different types of hybridization in fish. Give an account of the advantages and disadvantages of it. 5 + 3

(*d*) What do you mean by eco-hatchery? Discuss briefly about different components of a carp hatchery complex. Add a note on the management practices adopted for maximum spawn recovery. $2 + 3 + 3$

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