2009

M.Sc.

2nd Semester Examination

AQUACULTURE MANAGEMENT AND TECHNOLOGY

PAPER—AMT-2004

Full Marks : 40

Time : 2 Hours

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.

Illustrate the answers wherever necessary.

(Aquaculture Biotechnology)

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

(a) What is cryopreservation ?

(b) State the application of gynogenesis.

(c) What do you mean by fish vaccination ?

(d) What is endo-nucleolytic cleavage ?

(e) Differentiate between green and blue revolution.

(f) What is mono-sex culture ?

(g) Define transgenesis.

(h) What do you mean by bio-fermentation ?

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

(a) Write the principle of PCR and mention its uses.

(b) State the techniques of chromosomal manipulation.

(c) Define biofilter. State the uses of biofilter.

(d) Discuss the constraints of androgenesis.

(e) Give an account of the application of digital PCR.

(f) Explain the molecular expression of key enzymes of Metabolic importance.

(g) State the hormonal role on gonadal development.

(h) Describe the use of sex-steroids in sex-reversal.

3. Answer any *two* of the following : 8×2

(a) What do you mean by tissue culture ? Discuss the fish tissue culture based on :

(i) Preparation of a sterile work area.

(ii) Preparation of a cell suspension.

(b) Give an account of the application of biotechnological tools on aquaculture development. 8

(c) What do you mean by recombinant DNA ? Discuss the application of DNA finger printing in fish biology. 2+6

(d) Write short notes on : 2×4

(i) Factors of Sex control.

(ii) Fish vaccination techniques.

(iii) Principles and need of tissue culture.

(iv) Biofertilization.
