2012

M.Sc.

3rd Semester Examination

AQUACULTURE MANAGEMENT & TECHNOLOGY

PAPER—AMT-304

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.

(Immunology, Vaccination and Diagnostic Equipments)

1. Write in brief on any *four* of the following : 2×4

(a) What is immuno stimulant? Mention names of 4 (four) such products commercially available in West Bengal.

(b) Mention the important use of Zeolite in fish pond.

(c) What is HPLC? Write its application.

(d) Define epitope and paratope.

(e) Define T-Lymphocyte.

(f) Write a note on phagocytosis.

(g) What are the differences between RPM and RCF?

(h) Mention four oxigenerator components available in market with their company name.

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

(a) What do you mean by Sanitizer? Enlist six sanitizers commercially available in West Bengal.

(b) Write in brief on non-specific defence mechanism in fish.

(c) Discuss in brief on the fish disease in relation to human health.

(d) Write down the fate of aquaculture chemicals.

(e) State the different cells associated with fish immunity.

(f) Describe the defence mechanism of shrimp against pathogens.

(g) Write a note on ultra centrifugation and its application.

(h) Add a note on fish 'health certification'.

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

(a) (i) "All immunogens are antigens but all antigens are not immunogens"—Explain.

(ii) Discuss the requirement for immunogenicity.

(iii) Add a note on the different domains observed in IgG molecule.

(iv) Write notes on immunological adjuvants.

2+2+2+2

(b) (i) What do you mean by traditional and commercial aquaculture medicine ?

(ii) Define probiotics. Name some soil and water probiotics used in shrimp farming pond.

(iii) Add a note on the mode of action of feed probiotics.

3+3+2

(c) (i) Write down principle of Electrophoresis.

(ii) What are the uses of Acrylamide, Bis-acrylamide and chain initiator used in SDS-PAGE ?

(iii) State the principle of Isoelectric focusing (IEF) and its application.

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

(d) (i) State the general principle of fish vaccination.

(ii) Discuss different techniques of fish vaccination, mention their merits & demerits.

(iii) Name two fish vaccine available in the market.

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