# 2013

## M.Sc.

## 3rd Semester Examination

## AQUACULTURE MANAGEMENT & TECHNOLOGY

**PAPER—AMT-302**

*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.*

**(Microbiology and Public Health Fishery)**

**1.** Write short notes on any *four* of the following : 2×4

(a) Oxidation pond.

(b) Chemical oxygen demand.

(c) Thermal pollution.

(d) Magnetosome.

(e) Trickling filter.

(f) Sex pilli.

(g) Emergent aquatic macrophytes.

(h) Dimorphism in fungi.

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

(a) Write a note on sewage-fed fisheries in India.

(b) State the importance of probiotic in aquaculture.

(c) What is eutrophication? Discuss its impact on aquatic biota.

(d) Describe different sources of aquatic pollution.

(e) What do you know about disease triangle concept?

(f) Describe how the two different kinds of continuous culture systems, the chemostat and turbidostat, operate.

(g) Compare the structure and chemistry of the cell walls of Gram-positive eubacteria versus those of Gram-negative eubacteria.

(h) How bacteria are isolated from a clinical sample?

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

(a) Define growth. Describe the four phases of the growth curve in a closed system and discuss the causes of growth in bacteria. 1+4+3

(b) Write down the general characteristics of major types of aquatic macrophytes and discuss their role in aquatic production. 5+3

(c) Give an account of different models of aquaculture based sewage treatment plants in India.

(d) (i) Write a note on impact of aquatic pollution on fish health and fisheries.

(ii) Describe the microbiological methods of waste-water treatment. 4+4