PG/IHS/AMT-302/14

M.Sc. 3rd Semester Examination, 2014

AQUACULTURE MANAGEMENT AND TECHNOLOGY

(*Microbiology and Public Health Fishery*)

PAPER—AMT-302

Full Marks : 40

Time : 2 hours

Answer all questions

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 short note on nutrient pollution.

   (*b*) State the problems related to sewage-fed fish culture system.

(*c*) Name four species of sub-merged aquatic macrophytes.

(*d*) Write the name of two nitrogen fixing microorganisms.

(*e*) What is aquatic fungi ? Give an example.

(*f*) Write short note on LPS layer of bacteria.

(*g*) Write the contribution of Pasteur and Koch.

(*h*) Mention different phases of microbial growth.

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

(*a*) What is biomagnification ? Explain with suitable example.

(*b*) Write short note on disease triangle concept.

(*c*) Briefly write the role of aquatic macrophyte in aquatic production.

(*d*) What are the roles of microorganisms in sulphur cycle ?

(*e*) Write a note on importance of probiotics in aquaculture.

(*f*) Briefly discuss on trickling filter.

(*g*) Write the characteristics of Fungi.

(*h*) State the physical and chemical factors of water self purification.

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

(*a*) (*i*) Write the structure and importance of peptidoglycan. 4

(*ii*) Write the structure and importance of gram negative bacterial flagella. 4

(*b*) Write short notes on : 2 × 4

(*i*) Endospore

(*ii*) Mycorhizae

(*iii*) Ascomyeota

(*iv*) Plasmid.

(*c*) Briefly describe the steps of sewage treatment. Discuss different models of aquaculture based sewage treatment plants in based India. 4 + 4

(*d*) (*i*) Write down the general characteristics of major types of aquatic macrophytes. 4

(*ii*) What is Eutrophication ? State its impact on aquatic biota. 4