NRT/KS/19/2118

Bachelor of Science (B.Sc.) Semester–IV Examination

MICROBIOLOGY

(Applied Microbiology)

Optional Paper—II

Time : Three Hours]   [Maximum Marks : 50

N.B. :— (1) **All** questions are compulsory and carry equal marks.

(2) Draw well labelled diagrams and give examples wherever necessary.

1. Describe membrane filtration technique for the determination of coliforms and faecal streptococci. 10

OR

Discuss water treatment process using Rapid Sand Filter. 10

2. (A) Describe types and composition of sewage. 5

(B) Explain the principle and working of Imhoff tank. 5

OR

(C) Describe trickling filter method for sewage treatment. 5

(D) Explain sewage oxidation pond with suitable diagram. 5

3. Give an account of :

(A) Anderson Air Sampler. 5

(B) Phosphate solubilizers. 5

OR

(C) Bacteria as biopesticides. 5

(D) Microbial leaching of copper. 5

4. (A) Write a note on "Food Spoilage Organisms". 2½

(B) Explain HTST and UHT. 2½

(C) Write a note on "Inorganic Chemical Preservative". 2½

(D) Write a note on "Botulism". 2½

OR

(E) Give the flow sheet diagram of canning process. 2½

(F) Explain various low temperature methods for food preservation. 2½

(G) Write a note on "Salmonellosis". 2½

(H) Explain "Organic Chemical Preservatives". 2½

5. Solve any **ten** questions :

    (a) Define Break Point Chlorination.   1

    (b) What is "Ripening of the filter."   1

    (c) What is "False presumptive test"?   1

    (d) What is ThOD ?   1

    (e) Define 'Activated Sludge.'   1

    (f) Why 'COD' value is usually higher than 'BOD' value for a sewage sample ?   1

    (g) Give any two examples of fungi as biopesticides.   1

    (h) What is VAM ?   1

    (i) What are the limitations of settling plate technique ?   1

    (j) What is appertization ?   1

    (k) Define food intoxication.   1

    (l) What are "Mycotoxins" ?   1