

NTK/KW/15 – 5866

Fourth Semester B. Sc. Examination

MICROBIOLOGY

Paper – II

(Applied Microbiology)

Time : Three Hours] [Max. Marks : 50

N.B. : (1) All questions are compulsory and carry equal marks.
(2) Draw suitable diagrams and give examples.

1. What are coliforms ? Explain MTFT technique for their detection.

OR

Describe water treatment process employing rapid sand filter. 10

2. Describe trickling filter and activated sludge methods of sewage treatment.

OR

Describe structure and working of septic and imhoff tank. 10

3. (a) Explain Anderson Air Sampler. 5
(b) Write the role of PSB in Soil with suitable examples. 5

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Contd.

OR

(c) What are mycorrhiza ? Explain their types. 5

(d) Write short note on copper leaching. 5

4. (a) Write a note on food spoilage. 2 $\frac{1}{2}$

(b) Describe the process of canning. 2 $\frac{1}{2}$

(c) Describe various methods of pasteurization. 2 $\frac{1}{2}$

(d) Write about any two methods of low temperature preservation. 2 $\frac{1}{2}$

OR

(e) Describe staphylococcal food poisoning. 2 $\frac{1}{2}$

(f) Explain the use of sugar and salt in preservation of food. 2 $\frac{1}{2}$

(g) Write a note on chemical preservation. 2 $\frac{1}{2}$

(h) Write a note on food infections. 2 $\frac{1}{2}$

5. Solve any **ten** :—

(I) Why bottle containing sodium thiosulphate is used, while collecting chlorinated water sample ?

(II) What is MPN ?

(III) What is superchlorination ?

(IV) Why COD values are usually greater than BOD values ?

(V) What is meant by activated sludge ?

(VI) What is an oxidation pond ?

(VII) What are biopesticides ?

(VIII) What is the limitation of settling plate technique of air analysis ?

(IX) Give any one example of bacteria involved in bioleaching of uranium.

(X) What is thawing ?

(XI) What is the difference between pasteurization and sterilization ?

(XII) What is aflatoxin ? $1 \times 10 = 10$