

Time allowed: 3 Hours

Max. Marks: 50

*NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.*

x-x-x

I. Answer the following briefly:-

- a) What are endospores? Name one organism forming endospores.
- b) Define abiogenesis. Who performed the swan neck experiment?
- c) Write the two goals of a classification scheme.
- d) Differentiate between mutation and recombination.
- e) Define glycolysis. Only name the 3 pathways of glycolysis in bacteria. (5x2)

### UNIT - I

- II. a) Name any one scientist who worked in the field of microbiology and give his contributions.
- b) Write a short note on algae.
- c) Draw a neat well labelled diagram of bacterial flagella. (4,3,3)
- III. a) Define sterilization. Explain how different radiations cause sterilization.
- b) Draw and explain a bacterial growth curve.
- c) Differentiate between Gram positive and Gram negative bacteria. (3,4,3)
- IV. Why is microbial preservation important? Explain methods of microbial preservation. (10)

### UNIT - II

- V. Explain the nitrogen cycle in detail. (10)
- VI. Describe Griffith's experiment and how transformation results in recombination. (10)
- VII. a) Give the steps to produce lactic acid, also name a few homolactic acid bacteria.
- b) Write any example of lithotrophy. (5,5)

x-x-x