

Exam.Code:0907

Sub. Code: 6692

1079

B.E. (Biotechnology) Third Semester  
BIO-312: Microbiology

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) Who coined the term vaccination?
- b) Differentiate between methanogens and methylotrophs.
- c) Name the source of agar powder.
- d) A cluster of polar flagella at one end is called \_\_\_\_\_.
- e) Give full form of NAD.
- f) Define sterilization.
- g) Differentiate between mutation and recombination.
- h) What is a capsid?
- i) Define taxonomy.
- j) Give the generation time of *E.coli*.

(10x1)

UNIT - I

II. a) Give five important scientific contributions which established microbiology as a discipline.

b) Explain the different chemical methods of sterilization (5,5)

III. a) Give two other names for bacterial capsule and list three of its functions

b) What are culture media? Classify types of culture media with examples and uses. (4,6)

IV. Write short notes on the following:-

a) Bacterial growth curve

b) Bacterial spores

c) Economic importance of algae (4,3,3)

P.T.O.

(2)

UNIT – II

- V. Illustrate the three ways DNA can be transferred from one prokaryotic cell to another. (10)
- VI. Draw and explain in detail the nitrogen cycle. (10)
- VII. a) Write the TCA cycle  
b) Differentiate between aerobic and anaerobic respiration  
c) What do you understand by characterization, classification and identification of microorganisms? (3,4,3)

x-x-x