Exam.Code:0907
Sub. Code: 33352

2076

B.E. (Bio-Technology) Third Semester

BIO-312: Microbiology

Time allowed: 3 Hours | Max. Marks: 50

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

x-x-x

1. Answer the following briefly:
   a) Who coined the term vaccination?
   b) Give the function of pili in bacteria.
   c) Define growth rate.
   d) What is a capsid?
   e) Who are archeabacteria?
   f) Define sterilization.
   g) When DNA gets transferred from one cell to another with the help of phages, what is the process called?
   h) Name 2 goals of classification.
   i) Differentiate between an auxotroph and a prototroph
   j) Name the organisms involved in nitrification. (10x1)

UNIT - I

2. a) Write 5 major milestones that established microbiology as a discipline.
   b) Give the economic contributions of algae and fungi. (5, 5)

3. a) Draw a neat well labelled diagram of a bacterial cell
   b) Explain the structure of Gram negative cell wall. (5,5)

4. a) Explain growth in microorganisms. What is the significance of the growth curve?
   b) Explain the physical methods of sterilization. (5,5)

UNIT - II

5. a) Define glycolysis. Give the different pathways of glycolysis in bacteria.
   b) Write a note on the Bergey's manual. (7,3)

P.T.O.

6. Elaborate any one method to change the genetic makeup of microorganisms. (10)

7. Examine the role of microorganisms as agents of mineral transformations and highlight their importance for the same. Support your answer with examples. (10)

x-x-x