

Exam.Code:0907

Sub. Code: 6292

2123

**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. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

Q.1 Answer the following briefly

- (i) Differentiate very briefly between fermentation and respiration.
- (ii) Who is the father of microbiology?
- (iii) Define test species.
- (iv) Differentiate between organotrophs and lithotrophs.
- (v) What are endospores?
- (vi) Give 2 products obtained from algae.
- (vii) Explain role of ethanol as sterilizing agent.
- (viii) Define parasitism.
- (ix) Write the composition of fungal cell wall.
- (x) Define recombination in bacteria.

(1 x 10)

Section A

Q2a. Describe the golden age of microbiology.

b. Elaborate on the structure and function of a bacterial cell wall.

(5, 5)

Q3a. Draw a bacterial growth curve and discuss the significance of each phase

b. Explain the significance and methods of microbial preservation.

(5, 5)

Q4. Draw a labeled structure of T4 phage. Explain lytic and lysogenic life cycles.

(10)

Section B

Q5. Explain conjugation in bacteria.

(10)

Q6a. Write the Entner Doudoroff pathway, what are its end products and name the bacteria it is present in.

b. Explain the genetic basis of bacterial classification.

(5, 5)

Q7. Explain the nitrogen cycle, giving the role of microorganisms at each step.

(10)

x-x-x