

3rd. 3.

Exam.Code:0907
Sub. Code: 6692

1128
B.E. (Bio-Technology) Third Semester
BIO-312/302: 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) Name the major component of the fungal cell wall.
 - b) Define chemotaxis.
 - c) Who discovered the phenomena of conjugation?
 - d) How is nitrification different from denitrification?
 - e) Mutation is _____.
 - f) How will you sterilize heat sensitive material?
 - g) What is lyophilization?
 - h) Name the two modes of viral life cycle.
 - i) Give the significance of a differential media.
 - j) Differentiate between passive diffusion and facilitated diffusion. (10x1)

UNIT - I

- II. a) Enlist the contributions of Louis Pasteur
b) Detail the structure of phage T4
c) Explain the structure of a bacterial cell wall (3,3,4)
- III. a) Why are pure cultures important? Describe the various ways of preserving microbial cultures.
b) Explain two methods to measure growth. (7,3)
- IV. Write notes on the following:-
a) Lag phase of bacterial growth
b) Bacterial staining
c) Microbial nutrition (3,3,4)

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(2)

UNIT - II

- V. a) Write all the steps for lactic acid fermentation. (5,5)
b) Draw the complete sulphur cycle.
- VI. Transduction is a means to transfer DNA from one bacterial cell to another. Defend the statement. Also, differentiate between generalized and specialized transduction (10)
- VII. a) With suitable examples, explain the various microbial interactions. (4,6)
b) Detail the molecular basis of classification of bacteria.

x-x-x