

First Semester B. Sc. Examination

MICROBIOLOGY

Paper-I

(History and Microbial Morphology)

Time : Three Hours]

[Max. Marks : 50

- N. B. : (1) All questions are compulsory.
(2) All questions carry equal marks.
(3) Draw diagrams and give examples wherever necessary.

1. Describe the contribution of Louis Pasteur in the field of Microbiology.

OR

What is Microbiology ? Give scope of various branches of Microbiology. 10

2. Describe the structure of cell wall of Gram positive bacteria.

OR

Define plasmids. Describe various types of plasmids and their functions. 10

3. (a) Describe various types of flagellar arrangement in bacteria. $2\frac{1}{2}$
(b) Describe germination of spore in bacteria. $2\frac{1}{2}$
(c) Why endospores are resistant to the action of chemicals and temperature ? $2\frac{1}{2}$

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Contd.

- (d) Describe asexual spores of fungi in brief. . 2½

OR

- (e) Write a note on capsule and slime layer of bacteria. 2½
- (f) What are pili ? Discuss different types of pili and its functions. 2½
- (g) Draw well – labelled diagram of flagella. 2½
- (h) Diagrammatically illustrate the process of endospore formation. 2½
4. (a) Explain the Numerical taxonomy method of bacterial classification. 5
- (b) Describe DNA homology experiment. 5

OR

- (c) Give the salient features of Bergey's manual of determinative bacteriology 9th edition. 5
- (d) Give the Whittaker's five kingdom system of classification. 5
5. Answer any ten questions from the following :—
- (i) Who is the father of antiseptic surgery ? 1
- (ii) What is pasteurization ? 1
- (iii) Who isolated the first nitrogen fixing bacteria ? 1
- (iv) Give two examples of storage granules in bacteria. 1

- (v) What is the function of ribosome ? 1
- (vi) Why the cytoplasmic membrane is known as most vital membrane in bacteria ? 1
- (vii) Give the significance of dormancy. 1
- (viii) Give the name of any two endospore producing bacteria. 1
- (ix) What are myxospores ? 1
- (x) What is GC : AT ratio ? 1
- (xi) Give the significance of classification. 1
- (xii) What is meant by phylogenetic classification ? 1