

Bachelor of Science (B.Sc.) Semester-I (C.B.S.) Examination

MICROBIOLOGY (History and Microbial Morphology)

Compulsory Paper—1

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) **All** questions are compulsory and carry equal marks.

(2) Draw diagrams and give examples wherever necessary.

1. Give contributions of Louis Pasteur. 10

OR

Describe the scope of Biotechnology and medical microbiology. 10

2. Describe the structure of cell wall of gram negative bacteria. 10

OR

What is plasmid ? Describe various types of plasmids. 10

3. (a) Differentiate between capsule and slim layer. Give chemical composition and significance of capsule. 5

(b) Give the structure of endospore and describe its germination process. 5

OR

(c) What are pili ? Give its types. 5

(d) Describe the structure of flagella of gram positive bacteria. 5

4. (a) Give the significance of bacterial taxonomy. 2½

(b) Describe intuitive method of classification. 2½

(c) How GC : AT ratio helps in modern classification ? 2½

(d) Give the role of DNA hybridization in bacterial classification. 2½

OR

(e) Describe 16S rRNA Cataloguing as a modern method of classification. 2½

(f) Describe Whittaker five Kingdom classification system. 2½

(g) Give salient features of Bergey's Manual ninth edition. 2½

(h) Describe numerical taxonomy. 2½

5. Solve any **ten** :

- (i) Who is the father of antiseptic surgery ?
- (ii) What is phycology ?
- (iii) What is exomicrobiology ?
- (iv) Give two functions of mesosomes.
- (v) What is nucleoid ?
- (vi) Enlist any two storage granule found in bacteria.
- (vii) What are myxospores ?
- (viii) Give any two significances of dormancy.
- (ix) What do you mean by lophotrichous bacteria ?
- (x) What is simple matching coefficient ?
- (xi) What is phylogeny ?
- (xii) What is domain with respect to bacterial classification ?

10×1