

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 wherever necessary.

1. (a) Write a short note on “chicken cholera experiment”. 2½
- (b) Explain Koch’s postulates. 2½
- (c) Explain Tyndall’s dust free experiment. 2½
- (d) What is medical microbiology ? Give its scope. 2½

OR

- (e) Write the scope of environmental microbiology. 2½
- (f) Explain the Francesco Redi’s experiment in support of theory of biogenesis. 2½
- (g) Give the contributions of Winogradsky. 2½
- (h) Write a short note on applications of Biotechnology. 2½
2. Describe in detail peptidoglycan structures found in Gram positive and Gram negative bacterial cell wall. 10

OR

- What are plasmids ? Describe the different types of plasmids alongwith their functions. 10
3. (a) Describe the structure of flagellum of Gram negative bacteria. 5
 - (b) Write a note on structure of endospore. 5

OR

- (c) What are Pili ? Discuss various types of pili and their functions. 5
- (d) Discuss process of germination of Bacterial endospore. 5
4. Describe salient features of Bergey’s Manual of Determinative Bacteriology, Ninth Edition. 10

OR

- Discuss numerical taxonomy method of bacterial classification and describe DNA hybridization as a tool for taxonomy. 10
5. Solve any **TEN** :—
 - (i) Give the contribution of Beijerinck. 1
 - (ii) What is exobiology ? 1
 - (iii) What is Geomicrobiology ? 1
 - (iv) What are teichoic acids ? 1
 - (v) Give the subunits of 70S ribosomes. 1
 - (vi) Give two examples of storage granules. 1
 - (vii) What is Myxospore ? 1
 - (viii) What is peritrichous flagella ? 1
 - (ix) Give any two significance of dormancy. 1
 - (x) Who discovered five kingdom classification ? 1
 - (xi) What is G:C Ratio ? 1
 - (xii) Give significance of 16 S rRNA sequencing in phylogeny. 1