

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 and carry equal marks.
(2) Draw diagrams and give examples wherever necessary.

1. Describe the contributions of Louis Pasteur in the field of microbiology.

OR

Describe the contributions of Robert Koch in the field of microbiology. 10

2. (a) Describe the structure of peptidoglycan found in gram-positive bacteria. 5

- (b) Describe the structure of prokaryotic ribosomes. 5

OR

- (c) Describe the structure of lipopolysaccharides. 5

- (d) What is plasmids ? Enlist various plasmids found in eubacteria. Give general properties of plasmids. 5



3. (a) Give the structure and functions of capsule. $2\frac{1}{2}$
- (b) Why endospores are so resistant to the actions of chemicals, U.V. rays and temperature ? $2\frac{1}{2}$
- (c) Give functions of Pili. $2\frac{1}{2}$
- (d) What is the significance of dormancy ? $2\frac{1}{2}$

OR

- (e) Give the various arrangements of flagella found in bacteria. $2\frac{1}{2}$
- (f) Give the structure of endospore. $2\frac{1}{2}$
- (g) Diagrammatically explain the process of endospore formation in bacteria. $2\frac{1}{2}$
- (h) Briefly describe types of asexual spores in fungi. $2\frac{1}{2}$
4. Explain the different methods of genetic relatedness used in classifying bacteria.

OR

Describe numerical classification and add a note on Whittaker five kingdom system. 10

5. Solve any Ten :—

- (i) What is tyndallization ?
- (ii) Who invented enrichment culture technique ?
- (iii) What is exomicrobiology ?
- (iv) What are the functions of mesosomes ?



(v) What are L-forms of bacteria ?

(vi) Name any two storage granules found in bacteria.

(vii) What are cysts ?

(viii) What are myxospores ?

(ix) What are basidiospores ?

(x) What is Jaccard coefficient ?

(xi) What is a dendrogram ?

(xii) What is meant by phylogenetic system of classification ?

(1 each) 10