

Bachelor of Science (B.Sc.) Semester I (CBS) Examination**BIO-CHEMISTRY (MICROBIOLOGY & VIROLOGY)****Compulsory Paper-2**

Time : Three Hours]

[Maximum Marks : 50

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

(2) Draw diagrams wherever necessary.

1. Write a detailed note on Germ theory of diseases. 10

OR

- (a) Draw a ray diagram of compound light microscope. 5

- (b) Discuss the importance of oil immersion objective. 5

2. What are temperate phages ? Describe lysogeny. 10

OR

- (a) Describe the procedure of Gram staining. 5

- (b) Discuss the procedure and importance of acid-fast staining. 5

3. Describe in detail the cell wall structure of Gram +ve bacteria. 10

OR

- (a) Bacterial Ribosomes. 5

- (b) Plasmids and episomes. 5

4. Describe in detail the growth measurement methods. 10

OR

Describe the following :

- (a) Continuous culture. 5

- (b) Synchronous culture. 5

5. Solve any **ten** :

- (i) Give any one application unique for phase contrast microscope. 1

- (ii) Name any one oil used in oil immersion lenses 1

- (iii) What is the function of the condenser in a compound microscope ? 1

- (iv) Name any one Acid fast bacteria. 1

- (v) What is used as a mordant during Gram staining ? 1

- (vi) Name the locomotory organ in bacteria. 1

- (vii) Which is the counter-stain used in Gram staining ? 1

- (viii) Name any one Endospore forming bacteria. 1

- (ix) What are episomes ? 1

- (x) During which phase of bacterial growth you expect rapid population doubling ? 1

- (xi) What are microaerophilic bacteria ? 1

- (xii) What is meant by facultative anaerobic bacteria ? 1