

Roll No.

(05/16-I)

5182

B. Sc. EXAMINATION

(Second Semester)

BIOTECHNOLOGY

Third Paper

General Microbiology

Time : Three Hours

Maximum Marks : 40

Note : *Five* questions are to be attempted in all. Q. No. 1 is compulsory. The candidates are required to attempt four other questions selecting at least *two* questions from each Unit. All questions carry equal marks.

1. Write very short notes on the following :

- (a) Robert Koch
- (b) Halogens
- (c) Membrane filter

- (d) Phase contrast
- (e) Thermophile
- (f) Capsule
- (g) HIV
- (h) Log phase. 1×8=8

Unit I

2. Discuss the construction and working principle of a compound microscope. 8
3. Write notes on any *two* of the following :
 - (a) Scanning Electron Microscopy (SEM)
 - (b) Contributions of Antony van Leeuwenhoek
 - (c) Principle and applications of autoclave. 2×4=8
4. (a) Discuss the role of alcohol as antimicrobial chemical agent. 4
 - (b) Explain the role of microbiology as a modern science. 4

Unit II

5. Define taxonomy. Discuss the concept of microbial species. Give classification of viruses based on morphology. 1,3,4
6. Write short notes on the following :
 - (a) Structure of a virus
 - (b) Tuberculosis
 - (c) Bacterial endospore
 - (d) Oxidative Phosphorylation. 4×2=8
7. (a) Discuss the kinetics of microbial growth and various factors affecting the bacterial growth. 4
 - (b) Write a note on bacterial photosynthesis. 4