

Roll No.

Total Pages : 2

GSE/M-20

1503

BIOTECHNOLOGY
(General Microbiology)
Paper-III

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *five* questions in all, selecting *two* questions from each unit and compulsory Question No. 1.

Compulsory Question

1. Define/Explain/Comments briefly.

- (a) Synchronous growth.
- (b) Causing agent of tetanus, TB, Pneumonia and Cholera.
- (c) Concept of Species and Strain.
- (d) Net Rx of EMP pathway.
- (e) UV and gamma radiation as sterilising agent.
- (f) Golden age of Microbiology.
- (g) Resolution and Magnification.
- (h) Dry and moist heat sterilization. (1×8=8)

UNIT-I

2. Write down construction and working principle of fluorescence and Electron Microscope. 8

3. Write note on :
- (a) Alcohol as sterilising agent.
 - (b) Structural stains.
 - (c) Sintered glass filters.
 - (d) Laminar air flow. (2×4=8)
4. Write down some notable contributions of Louis Pasteur and also write importance and scope of Microbiology in current scenerio. 8

UNIT-II

5. Compare the ultrastructure of cell wall of gram +ve and gram -ve bacteria with suitable diagram. 8
6. Write note on :
- (a) Classification of bacteria on the basis of nutrition.
 - (b) Structure of CaMV Virus.
 - (c) Oxidative phosphorylation v/s photophosphorylation.
 - (d) Kinetics of Microbial growth. (2×4=8)
7. (a) Write down various factors affecting bacterial growth. 4
- (b) Flow chart with net $r \times n$ of ED pathway. 4