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