

B.Sc. - I (CBCS Pattern) Semester-I
BIO-02 - Biotechnology Paper-II - General Microbiology

P. Pages : 2

Time : Three Hours



GUG/S/25/11563

Max. Marks : 50

1. Describe in details the principle, ray diagram and applications of transmission electron microscopy (TEM). **10**

OR

- a) Elaborate the contributions of Louis Pasteur. **2½**
- b) Explain numerical aperture and its importance. **2½**
- c) Comparison between optical and electron microscope. **2½**
- d) Applications of dark field microscopy. **2½**

2. Give the structure of endospore and its formations. **10**

OR

- a) Describe cell wall of gram positive bacteria. **2½**
- b) Give the general account on flagella. **2½**
- c) Give the morphology of Archaeal cell membrane. **2½**
- d) Describe in detail structure of plasmid. **2½**

3. Explain lytic cycle in details. **10**

OR

- a) Write a note on concept of simple staining. **2½**
- b) Give the shapes and symmetries of viruses with cone examples each. **2½**
- c) General characteristics of yeast. **2½**
- d) Definition of dye and stain with one example each. **2½**

4. Details of growth curve and its phases. **10**

OR

- a) Concept of synchronous culture. **2½**
- b) Define pure culture and process of its preservation. **2½**

c) Explain any two physical methods of microbial control. 2½

d) Give the composition of nutrient medium and its role. 2½

5. Answer **any ten** question 1 mark each.

a) Who is the father of vaccination? 1

b) Which oil is used in oil immersion lens. 1

c) What is the full form of SEM? 1

d) Different types of bacterial shapes (any two) 1

e) Give any two example of Endospore forming bacteria. 1

f) Define Chromatin. 1

g) Give any two examples of DNA viruses. 1

h) Give any two names of stains used in differential staining. 1

i) What is lysogeny? 1

j) Define sterilization. 1

k) What is batch culture? 1

l) Give any two halogens used for microbial control. 1
