

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

P. Pages : 2

Time : Three Hours



GUG/W/22/11563

Max. Marks : 50

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- Notes : 1. All questions are compulsory and carries equal marks.
2. Draw the diagram wherever it is necessary.

1. Explain in detail SEM. **10**

OR

- a) Write the contribution of Edward Jenner in the field of Microbiology. **2½**
- b) What is Numerical aperture give its importance. **2½**
- c) Give the comparison between optical and electron microscope. **2½**
- d) Write down the application of fluorescent microscopy. **2½**

2. Explain the structure formation and germination of Endospore. **10**

OR

- a) Explain the various shape and size of bacteria. **2½**
- b) Give the various arrangement of the flagella around the cell. **2½**
- c) What are plasmid add a note on R-plasmid. **2½**
- d) Give the difference between bacterial and archaebacterial cell membrane. **2½**

3. Explain the Lysogenic cycle in viruses. **10**

OR

- a) Give the general characteristic of protozoa, give its importance. **2½**
- b) Write a note on stain and its types. **2½**
- c) Give an account on Endospore staining. **2½**
- d) Explain the various symmetries of viruses. **2½**

4. Write down the physical and chemical method of Microbial control. **10**

OR

- a) Explain the synchronous culture technique. **2½**
- b) What is pure culture? Give an account on isolation and maintenance of pure culture. **2½**
- c) Give the difference between natural and synthetic media. **2½**
- d) Write a note on sanitization and antimicrobial agent. **2½**

5. Solve any ten.

- a) Define resolving power. 1
- b) Give the example of oil immersion. 1
- c) Who is the father of Modern Microbiology. 1
- d) What is conjugative plasmid. 1
- e) Give the example of Gram negative bacteria. 1
- f) Give the function of pili. 1
- g) Define stain. 1
- h) Name the stains used in Flagella staining. 1
- i) What is eclipsed phase. 1
- j) Define Growth. 1
- k) What is fumigation 1
- l) Explain the role of peptone in nutrient media. 1
