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**FIRST YEAR (B.Sc.)**  
**24MIC11101 Introduction to Microbiology**  
**(Semester I)**

**Program: BScGen03**  
**Program Specific: Microbiology**  
**Course Type: DSC**  
**Paper: I**

**Credits: 2**  
**Time: 2 Hours**  
**Max. Marks: 30**  
**SET: A**

**Instructions to the candidate:**

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Draw a well labelled diagram wherever necessary.

**Q1) Attempt ANY FIVE of the following: [5 X 2 = 10]**

- a) Explain the term Abiogenesis..
- b) Explain the principle of negative staining.
- c) Enlist names of two microorganisms used in food industries.
- d) Explain role of algae in Nature.
- e) Define and explain the term Magnification.
- f) Enlist types of objective lenses.
- g) Explain the reason for using Nichrome metal for Wire loop used for inoculation and describe its method of sterilization

**Q2) Attempt ANY THREE of the following: [4 X 3 = 12]**

- a) Describe contribution of Louis Pasteur in the field of Microbiology
- b) Describe Morphological properties of algae.
- c) Packed Plastic disposable vials / syringes need to be sterilized. The material is not stable above 70-degree Celsius temperature. Suggest suitable method for sterilization and justify it.
- d) Enlist parts of compound microscope.
- e) Ten bacterial cultures were isolated from soil. These cultures need to be classified on the basis of their cell wall composition. Suggest suitable staining technique for same and give its procedure.

**Q3) Attempt ANY TWO of the following:**

**[2 X 4 = 08]**

- a) New disinfectant need to be analysed for its efficiency compared to standard disinfectant phenol. Suggest the suitable method and explain the method.
- b) Describe Filtration as the method of Sterilization.
- c) Describe the functioning of Transmission electron Microscope.
- d) Discuss different morphological features of bacteria.

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