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FIRST YEAR (B. Sc BIOTECHNOLOGY)
24BIO11103: MICROBIAL SCIENCE
(Semester I)

Program: B.Sc. (04)
Program Specific: B.Sc. Biotechnology
Course Type: Major
Paper: -

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.

SECTION: A

Q1) Answer the following.

[1 X 5 = 5]

- a) Define a stain and give examples.
- b) What is a pure culture?
- c) Enlist the general characteristics of protozoa.
- d) Give full form of MIC and MBC.
- e) Give mode of action of moist heat as a biocontrol agent.

SECTION: B

Q2) Answer any FIVE of the following (5/7).

[2 X 5 = 10]

1. Define special staining and write the name of the methods used for Capsule staining
2. What are the different colony formation patterns with reference to opacity?
3. Diagrammatically represent bacterial endospore structure.
4. Define inclusion bodies and name two mineral containing inclusion body present in a bacterial cell.
5. Give role of peptone and yeast extract in nutrient media.
6. Differentiate between enriched and enrichment media.
7. What are phototrophs and chemotrophs?

SECTION: C

Q3) Answer any TWO of the following (2/4).

[5 X 2 = 10]

1. Describe the ultrastructure of Gram-positive cell wall.
2. What is acid fast staining? Write the underlying principle and the procedure.
3. Classify microorganisms on the basis of nutritional requirements.
4. Highlight Louis Pasteur's contributions in microbiology.

SECTION: D

Q4) Answer any ONE of the following (1/2).

[5 X 1 = 5]

1. Give a detailed account of Viruses.
2. "Bacteria are causative agents of infectious diseases." Justify.
