QP Code: U25B019

Reg. No : .....

Name : .....

ST MARY'S COLLEGE (AUTONOMOUS), THRISSUR-20

II SEMESTER (FYUGP) DEGREE EXAMINATION, MARCH 2025

B Sc Microbiology

MBY2CJ101 : BASIC TECHNIQUES IN MICROBIOLOGY

2024 Admission Onwards

(Credits: 4)

Time: 2 Hours **Maximum Marks: 70**

Section A

*Answer **all**. Each question carries **3** Marks* ***(Ceiling: 24 Marks)***

1. List out the parts of a light microscope. [BTL1]
2. Identify the importance of fixation process in permanent slide preparation. [BTL3]
3. Name two enriched media. [BTL1]
4. What is CFU? [BTL1]
5. Identify the significance of fluorochromes in fluorescence microscopy. [BTL3]
6. How does the condenser and diaphragm enhance the image quality in a microscope? [BTL3]
7. Identify the importance of lactic acid and phenol in LPCB stain. [BTL3]
8. How can biological methods be used to establish anaerobic conditions for growing anaerobes? [BTL3]
9. Distinguish the role of silica gel in culture preservation. [BTL4]
10. How does the use of mordants enhance the observation of flagella in the staining process? [BTL3]

Section B

*Answer **all**. Each question carries **6** Marks* ***(Ceiling: 36 Marks)***

11. Explain the working principle and applications of phase contrast microscopy. [BTL1]
12. What are ionizable dyes? How do they stain microorganisms? [BTL2]
13. Describe differential medium with appropriate examples. [BTL1]
14. Determine the importance of using transport media in handling microbiological samples. [BTL5]
15. Identify the mechanisms by which Robertson’s cooked meat medium support the growth of anerobic bacteria. [BTL3]

16. How does freeze-etching technique help in minimizing artefact formation? [BTL3]
17. Identify the critical step in Gram staining and discuss its importance. [BTL3]
18. Compare and contrast complex media, defined media and minimal media with examples. What are the uses of each? [BTL4]

Section C

*Answer **any one**. Each question carries **10** Marks* ***(1x10=10 Marks)***

19. What are microbial culture collections? Discuss their uses and importance. Give some examples of culture collections. [BTL2]
20. Compare and contrast between different culture techniques used in microbiology. [BTL4]

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