



PG (CBCS)  
M.Sc. Semester- III Examination, 2023  
MEDICAL LABORATORY TECHNOLOGY  
PAPER: MLT 303B  
(CLINICAL BACTERIOLOGY & MYCOLOGY)

Full Marks: 40

Time: 2 Hours

The figures in the right-hand margin indicate full marks.  
Candidates are required to give their answers in their own words as far as practicable.

**GROUP-A**

1. Answer any **FOUR** of the following questions: 2×4=8
- a) What is the primary goal of epidemiological studies?
  - b) Define opportunistic pathogen.
  - c) What is metagenomics?
  - d) What is the purpose of selective media?
  - e) What are nosocomial pathogens?
  - f) What is meant by cystitis?

**GROUP-B**

2. Answer any **FOUR** of the following questions: 4×4=16
- a) Differentiate the cell walls of Gram-positive and Gram-negative bacteria.
  - b) What is the significance of un-culturable bacteria?
  - c) Koch's postulates help in determining the cause of infection- Explain briefly.
  - d) Write a short note on Candidiasis.
  - e) Write briefly about bacterial type III secretion system.
  - f) What is pyrogenic toxin? Briefly describe the LAL test. 2+2

**GROUP-C**

3. Answer any **TWO** of the following questions: 8×2=16
- a) How does the UTI caused by *E. coli*? State the laboratory diagnosis of *E. coli*?  
Name any other bacteria responsible for UTI. 3+3+2
  - b) Write the mechanism of Gram-positive bacterial quorum sensing? Differ  
between Gram-positive and Gram-negative quorum sensing. 4+4
  - c) What is multi-drug-resistant tuberculosis (MDR-TB)? How does it differ  
from drug susceptible tuberculosis? Name the primary drugs used in the  
treatment of tuberculosis. 2+4+2
  - d) Discuss briefly about uncultivable bacteria. Write briefly about the importance  
of metagenomic sequencing. 4+4

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