



PG (CBCS)
M.Sc. Semester- IV Examination, 2023
MEDICAL LABORATORY TECHNOLOGY
PAPER: MLT 402B

(MOLECULAR MICROBIOLOGY AND GENETICS)

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

Answer any **FOUR** of the following questions.

2×4=8

1. What is episome?
2. What is fertility factor?
3. What is consensus sequence?
4. Define operon.
5. Define transposon.
6. What is database?

GROUP-B

Answer any **FOUR** of the following questions:

4×4=16

7. What do you mean by derepression of lac operon?
8. Write a short note on transformation process in prokaryotes.
9. Briefly discuss the enzymatic activity of DNA polymerase.
10. Name any four nucleotides and protein databases.
11. Describe the role of bacteria in genetic engineering.
12. Write a short note on phylogenetic analysis.

GROUP-C

Answer any **TWO** of the following questions:

8×2=16

13. State the involvement of enzymes in initiation process of replication in *Escherichia coli*. Describe the rho-independent termination process in bacterial transcription.
4+4
14. Discuss the structure of Trp operon with its regulation. What is attenuator? 3+4
15. Enumerate the elongation process of bacterial translation.
State the properties of plasmid. 5+3
16. Give an idea of sequence alignment with its types and also implicate its approaches. 2+4+2
