

2025

M.Sc. 1st Semester Examination

**MEDICAL LABORATORY
TECHNOLOGY**

Paper : MLTC403X0

[Research Methodology and Ethics]

Full Marks : 50

Time : Two Hours

The figures in the margin indicate full marks.

*Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

Answer any *four* questions : $2 \times 4 = 8$

1. Name four statistical processes used in laboratory quality control.
2. Differentiate between qualitative and quantitative methods in research.
3. What do you mean by scientific confidentiality and misconduct in publication of research article?
4. State the differences between infinite and finite population.

P.T.O.

(2)

5. How do you differ falsification and fabrication?
6. Differentiate between pilot project and major project.

Group - B

Answer any *four* questions : $4 \times 4 = 16$

7. What are the different types of primary data with their names?
8. Sample data sets for bacterial growth (cfu) are 60, 50, 70, 65, 55 and Population means (μ) is 55, compute 't' value.
9. Differentiate between probability or random sampling and Non-probability/Judgement sampling with different types.
10. Write the different process for laboratory data management.
11. Write any one SOP of data representation with example.
12. Define h index and i_{10} index in research.

Group - C

Answer any *two* questions : $8 \times 2 = 16$

13. Write the different steps for the preparation of project proposal with justifications. State about with different types of hypothesis. $4+4$

14. Compute mean value, when standard deviation(s) is 14 and coefficient of variance (CV) is 23.33 in a single data set.

Compute CV of the following values of mean and standard deviation of data sets and arrange in ascending/descending orders :

(a) Mean = 60, S = 14

(b) Mean = 70, S = 16

(c) Mean = 80, S = 05

(d) Mean = 80, S = 04 3+5

15. What are the factors to be considered before using secondary data? Differentiate between questionnaire and Schedule for data collection.

Write the different types of questionnaire with names.

2+3+3

16. Define ethics. What is action research? 'Blindly run after hypothesis to establish the research result is good or bad' — justify.

2+2+4

Internal Assessment : 10 marks
