# M. Sc. 4th Semester Examination, 2025

## BIO-MEDICAL LABORATORY SCIENCE AND MANAGEMENT

### PAPER — BML-402

*Full Marks* : 50

*Time* : 2 hours

### Answer **all** questions

*The figures in the right hand margin indicate marks*

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

## GROUP—A

Answer any **four** of the following :          2 × 4

1. What do you mean by clinical study ?

2. Define double blind study.

3. Differentiate between primary and secondary databases with examples.

4. What is LD50 value of toxin ?

5. Define Carcinogen.

6. What type of biological data is stored in EBI ?

## GROUP – B

Answer any **four** of the following :     4 × 4

7. Describe the objective and conditions of phase-II clinical trial.     4

8. Discuss the importance of phase-IV clinical trial.     4

9. 'Basic research drives the clinical research'- Justify the statement.     4

10. Write the differences between pharmacodynamics and pharmacokinetics.     4

( *Continued* )

11. State the popular tasks performed by Python and C++ programming languages in bioinformatics. 2 + 2

12. Classify different types of toxic agents and define all. 4

## GROUP – C

Answer any **two** of the following : 8 × 2

13. What do you mean by in-vitro and in-vivo studies ? Write their importances. 6 + 2

14. Discuss the role of ethical committee to conduct the clinical research. Write the importance of phase-I clinical trial. 5 + 3

15. What is the difference among syntax rules, semantax rules and semantics ? Mention any two applications of bioinformatics in biomedical field. Specify the role of Pubchem and PDB in terms of data types and clinical applications. 3 + 2 + 3

16. Write a comparative explanation on co-administered and pretreated mode of experimentation. What do you mean by additive and synergistic action of toxic substance ? What is meant by gene prediction and annotation in bioinformatics ? 4 + 2 + 2

**[ Internal Assessment — 10 Marks]**