

M. Sc. 4th Semester Examination, 2025

BIO-MEDICAL LABORATORY SCIENCE

AND MANAGEMENT

PAPER — BML-401

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 questions from the following :

1. What do you mean by plasticity of stem cell? 2 × 4
2. Write any two applications of UV-spectrophotometer.

(Turn Over)

(2)

3. What is Einthoven's triangle?
4. Write any two applications of sonicator.
5. State the merits of UPLC over HPLC.
6. Why is EtBr used as an intercalating agent during nucleic acid staining?

GROUP-B

Answer any four questions from the following :

4 × 4

7. What are the different components of flame photometry? Write one application of it. 3 + 1
8. Write a short note on ultra centrifugation.
9. Discuss about the normal ECG wave in the heart.
10. Write the properties of embryonic stem cell. Write one disadvantage of it. 3 + 1

11. Why DNA is usually digested with restriction enzymes before electrophoresis in Southern blotting ? Give a brief comparative explanation of normal phase and reverse phase HPLC. 2 + 2
12. Write a brief note on the 16S rRNA sequencing. 4

GROUP – C

Answer any two questions from the following :

8×2

13. Classify different types of stem cell. Discuss briefly about the stem cell therapy in bio-medical field. 4 + 4
14. Discuss about the different components of UV-spectrophotometer. Write the applications of different types of centrifuge in Bio-medical lab. 5 + 3

(4)

15. What are the different techniques of image processing of protein band on blot ? Name the different electrical waves of brain during arousal and resting condition. Discuss briefly the working principle of FACS. 2+ 2 + 4
16. Why is real-time PCR called quantitative PCR ? What are the applications of qRT-PCR in diagnostics ? 4 + 4

[Internal Assessment ~ 10 Marks]
