

M.Sc. 1st Semester Examination, 2023
BIOMEDICAL LABORATORY SCIENCE
AND MANAGEMENT

PAPER – BML-101

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 of the following : 2×4

1. What do you mean by customer for a biomedical laboratory ?

2. What is the difference between standard and control ?
3. Define quality assurance as per the guideline of WHO.
4. What is HEPA filter ?
5. What is biomedical waste ?
6. Why is ethics important in medical research ?

GROUP-B

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

7. Briefly state the thumb rules of Levy Jenning Chart. Schematically show the Westgard rule sequence. 2 + 2

8. Briefly discuss about any four elements of TQM. 4
9. A test was considered for diagnosing disease. Out of 80 positive cases with this test, 40 actually had no disease. Out of 9920 tested negative cases, 9840 actually had no disease. Calculate sensitivity, specificity and predictive value of the tests. 4
10. Write about the colour coding for segregation of biomedical waste. 4
11. Discuss about the use of Laboratory first-aid on Poisoning. 4
12. Write a brief note on informal consent process. 4

GROUP - C

Answer any two questions of the following : 8×2

13. Discuss, briefly about different types of errors generated in a biomedical laboratory during laboratory processing. The analysis of blood sugar (mg/dl) in routine conditions are 110, 109, 107, 112, 115, 120 where as in optimum condition for same samples the replicates of results are 110, 111, 112, 110, 109, 110. Interpret your results in terms of differences between OCV and RCV. 3 + 5
14. The cholesterol levels (mg/dl) for a control sample for consecutive 10 days are 200, 220, 195, 215, 195, 225, 212, 215, 200, 221. Draw a Levy Jennig chart and interpret your result. How do you calibrate micropipette ? 6 + 2
15. Discuss about the practices of BSL-2 and BSL-3 in the laboratories. What is fire safty ? 3 + 3 + 2

16. What are the mandates of CPCSEA to conduct research on animals ? Briefly discuss about the medical ethics involved during the processing of clinical specimens in analytical phase. 5 + 3

[Internal Assessment – 10 Marks]
