PG/IS/BML/102/23

M.Sc. 1st Semester Examination, 2023

BIOMEDICAL LABORATORY SCIENCE AND MANAGEMENT

PAPER – BML-102

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 is secondary data ?

2. Define confounding variable.

3. Write the objectives of applied research.

4. What is Statistics of correlation ?

5. How will you compute mode from median and mean ?

6. When Yate's correction is needed in 'Chi-square' test ?

GROUP–B

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

7. Write the features of quantitative research.

8. State the steps adopted in simple random sampling.

9. 'Laboratory diagnosis is action research'– Justify the statement.

10. Compute the median using the following data :

Class intervals	frequency (f)
27–36	4
37–46	8
47–56	10
57–66	14
67–76	11
77–86	3

11. Compute standard deviation (SD) of blood pressure (SP) scores of 10 university students.

Systolic blood pressure (mm of Hg)

115, 120, 118, 116, 119, 124, 128, 140, 127, 130

12. Define Skewness and Kurtosis. Suppose in distribution, $\overline{X} = 70$, Mdn = 68, Mo = 67. Write the nature of that distribution. 2 + 2

GROUP – C

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

13. What are the features of a good research report writing. Describe the different sections and subsections of a research report. $4 + 4$

14. State the criteria of experimental research. 'Treatment of outdoor patient is quasi-experimental research' – Justify the statement. $4 + 4$

15. Out of 20 obese individuals, 12 were suffering from diabetes and rest were normal. Out of other 10 nonobese individuals. 2 were suffering from diabetes but rest were normal. Is there any significant association between obesity and diabetes

$$\chi^2_{0.05}(1) = 3.84, \quad \chi^2_{0.05}(1) = 6.64.$$

16. In a population, the mean Hb level is 14 gm/dl and in your sample, Hb level of 10 individuals given below. Compute whether the sample mean is significantly differ or not from population mean.

Hb level
gm/dl- 8, 12, 10, 11, 9, 11, 14, 8, 7, 9

$t_{(0.05, 9)} = 2.282$

$t_{(0.05, 9)} = 3.250.$

[Internal Assessment — 10 Marks]