19. (a) Explain their Random and Non-Random sampling method.

Or

(b) A Coin is tossed 100 times of which head comes 60 times and tail 40 times, would you accept the hypothesis that the coin is normal having no bias for either head or tail.

20. (a) Write about their Frequency polygon.

Or

(b) Difference between the Histogram and Bar Chart.

SECTION C — (3 × 10 = 30)

Answer any THREE questions

21. What are the steps in planning Statistical Investigation?

22. Calculate Pearson's Correlation Coefficient

X	12	18	16	15	12	10	20	17
Y	6	10	9	8	9	8	12	10

23. One bag contains 5 white and 3 black balls. Another bag contains 4 white and 6 black balls. If one ball is drawn from each bag find the probability that

(a) both are white

(b) both are black.

24. Explain their Techniques of Analysis of Variance.

25. Write briefly about their types of Bar Diagram.

———————

(For candidates admitted from 2022–2023 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2022.

Biochemistry — Elective

BIOSTATISTICS

Time : Three hours Maximum : 75 marks

SECTION A — (20 marks)

Answer ALL the questions

I. (A) Multiple choice questions. (5 × 1 = 5)

1. ———————— is the media of communication between the investigator and the respondents

(a) Primary data

(b) Secondary data

(c) Tabulation

(d) Questionnaire

2. Coefficient of Range is given by

(a) L + S / L – S (b) L – S / L + S

(c) L – S (d) L + S

3. The occurrence of two or more simple events simultaneously is called

(a) compound events (b) trial

(c) simple events (d) events

4. The variable of t- distribution ranges from

(a) 0 to α (b) $-\infty$ to ∞

(c) -1 to $+1$ (d) -3 to $+3$

5. The multiple bar diagram contains two or more bars drawn side by side is called

(a) Compound bar diagram

(b) Rectangles

(c) Bars

(d) Simple bar diagram

(B) Fill in the blanks. $(5 \times 1 = 5)$

6. The main objective of tabulation is ————————

7. If the two variables move together in the same direction the correlation is called ————————

8. When the probability is determined before the event takes place it is called ————————

9. ———————— is the process getting a representative fraction of a population.

10. ———————— is a graph containing frequencies in the form of vertical rectangles.

II. Answer ALL the questions $(5 \times 2 = 10)$

11. Define Biostatistics.

12. Define Arithmetic mean and write its formula.

13. What are the two important theorems of probability?

14. Define chisquare test.

15. Define Histogram.

SECTION B — $(5 \times 5 = 25)$

Answer ALL the questions

16. (a) Explain the primary data.

Or

(b) Explain the limitations of Biostatistics.

17. (a) Explain the types of Correlations.

Or

(b) What are the merits and demerits of harmonic mean?

18. (a) Explain about their theoretical distributions and its types.

Or

(b) An Urn contains 10 white, 10 black and 10 red balls. A ball is drawn out random. What is the probability that the ball is either white or red?