(6 pages)   **Reg. No. :** ....

Code No. : 30418 E   Sub. Code : CEMI 52

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2025.

Fifth Semester

Microbiology

Major Elective – BIOSTATISTICS

(For those who joined in July 2021-2022 only)

Time : Three hours   Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Who is regarded as the father of Biostatistics?

    (a) Fischer

    (b) Karl Pearson

    (c) Francis Galeton

    (d) Frances Bacon

2. The word "data" is originated from the latin word

    (a) Detum   (b) Datum

    (c) Datam   (d) Detum

3. What are the two types of research data?

    (a) Organized and Unorganized data

    (b) Qualitative and Quantitative data

    (c) Processed and Unprocessed data

    (d) None of the above

4. Sources of data collected and compiled by others is called

    (a) Primary data   (b) Secondary data

    (c) Primary secondary   (d) None of these

5. The fundamental statistical indicators are

    (a) Mean   (b) Median

    (c) Variance   (d) Standard deviation

6. Chi-square test was developed by

    (a) W. S. Gosset   (b) Karl Pearson

    (c) A.R. Fisher   (d) Pascal

7. The most frequently occurring value in a data set is called the

   (a) Spread

   (b) Mode

   (c) Skewness

   (d) Maximum value

8. Which of the following is an example of secondary data?

   (a) RBI bulletin

   (b) Government publication

   (c) Committees and Commissions

   (d) All of the above

9. Continuous variables are represented by

   (a) Histogram

   (b) Line diagram

   (c) Bar diagram

   (d) Pie chart

10. Standard deviation is

    (a) The square root of variance

    (b) Measured using the unit of the variable

    (c) Is measured using the squared unit of the variable

    (d) Has values generally comparable with the average value

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Define Biostatistics and statistical methods.

    Or

    (b) List the kinds of biological data.

12. (a) Describe graphic and bar diagrams.

    Or

    (b) Explain the classification and tabulation of data.

13. (a) Describe the measures of central tendency.

    Or

    (b) Elaborate about median.

14. (a) Define standard deviation and mention its application.

    Or

    (b) Explain the coefficient of variation.

15. (a) Describe scatter diagram.

Or

(b) Explain the Karl Pearson's correlation coefficient.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 600 words.

16. (a) Write an essay about the functions and limitation of statistics.

Or

(b) Define biological measurement, add its significance.

17. (a) Write an essay about the types of representations.

Or

(b) Explain the sampling and sampling design in the data collection.

18. (a) Write an essay about mean and geometric mean.

Or

(b) Describe the mode, add a note on its significance.

19. (a) Write an essay about Karl Pearson's and Bowley's coefficient of skewness.

Or

(b) Define standard error, add a note its importance.

20. (a) Briefly explain about regression analysis.

Or

(b) Explain ANNOVA and its significance.

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