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Reg. No. :

Code No. : 10562 E Sub. Code : CEMI 52

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2024.

Fifth Semester

Microbiology

Major Elective — BIostatistics

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

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The characteristics of quantity that may vary from one individual to another is called _____
(a) Static group (b) Variable
(c) Dynamism group (d) Dynamism
2. Who is regarded as the father of biostatistics

(a) Fischer (b) Karl Pearson
(c) Francis Galton (d) Francis Bacon

3. The term 'data' came from the Latin root term _____
(a) detem (b) datam
(c) datum (d) data
4. What is it called when the data is sourced from the place of origin?
(a) Secondary
(b) Primary
(c) Secondary and Primary
(d) All of these
5. What were the first two results of a central and tendency test?
(a) Mean and mode
(b) Median and Mode
(c) Mean, Median and Range
(d) None
6. What steps are involved in a central tendency test?
(a) addition, subtraction, and division
(b) determination of mean, median and mode
(c) addition, subtraction, multiplication, and division
(d) None of the above

7. Which measures of dispersion are used to compare the distribution of two or more data sets?
- (a) Absolute measure of dispersion
 - (b) Relative measure of dispersion
 - (c) Coefficient of dispersion
 - (d) None of these
8. Name the graphical method which helps us investigate the dispersion
- (a) Kinked curve method
 - (b) Mean deviation
 - (c) Standard deviation
 - (d) Lorenz curve method
9. The correlation coefficient is _____
- (a) the square of the coefficient of determination
 - (b) can never be negative
 - (c) the square root of the coefficient of determination
 - (d) the same as square
10. The correlation for the values of two variables moving in the same direction is _____
- (a) perfect positive (b) negative
 - (c) positive (d) no correlation

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. Give some examples of biostatistics.
- Or
- (b) What are the main functions of statistics?
12. (a) Illustrate a simple bar diagram with example.
- Or
- (b) How do you collect data in research?
13. (a) Define central tendency and write about its types.
- Or
- (b) Explain about geometric mean.
14. (a) How to calculate a standard deviation?
- Or
- (b) Describe about measures of dispersion?

15. (a) What is correlation analysis and when is it used?

Or

- (b) Discuss about scatter diagram.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Distinguish between primary and secondary sources of data with suitable examples.

Or

- (b) Distinguish between 'population' and 'sample' of a biological investigation.

17. (a) Give an account of the different ways of classification of data with suitable examples.

Or

- (b) State the rules that serve as a guide in tabulating statistical data.

18. (a) Following administration of a drug in a laboratory mammal, the blood glucose level increased by 5% in the first hour, by 8% in the second year and 77% in the third hour. What is the main percentage increase during the observation period?

Or

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- (b) A formula car is driven around a race tract four times. The speed of the first lap was 90 km/hour, the second lap 100 km/hour, the third lap 120 km/h and the fourth 125 km/h. What is the average speed of the car?

19. (a) Enumerate the properties of symmetrical, positively and negatively skewed distributions.

Or

- (b) What is kurtosis of a distribution? How would you measure it?

20. (a) Explain the properties of regression line.

Or

- (b) Obtain the coefficient of correlation for the following data on the length (X in cm) and (Y in g) of fish.

X 5 7 3 1 9 12 8 3

Y 8 9 5 4 9 13 7 9

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