(8 pages)

3580/ND3 **MAY 2007**

Paper III — RESEARCH METHODOLOGY AND BIOSTATISTICS

Time : Three hours Maximum : 100 marks

SECTION A — (20 × 1 = 20 marks)

Answer ALL the questions.

All questions carry equal marks.

Choose the correct answer.

1. The statement of purpose in a research study should ————————.

(a) Identify the design of the study

(b) Identify the objective of the study

(c) Specify the type of sample

(d) Describe the study.

2. A set of data may have a single mode, it is said to be ————————.

(a) Unimodal (b) Multimodal

(c) Bimodal (d) Trimodal.

3. Cluster sampling is otherwise called as ————————.

(a) Sampling stage

(b) Sampling interval

(c) Systematic sampling

(d) Homogeneous population.

4. Data which are not originally collected but collected from either published or unpublished sources are ————————.

(a) Primary data (b) Secondary data

(c) Computed data (d) Tertiary data.

5. Presenting statistical data through appropriate picture is called as ————————.

(a) Pie diagram (b) Pictogram

(c) Bar diagram (d) Histogram.

6. A discrete distribution which describes the results of an experiment is ————————.

(a) Binomial distribution

(b) Biased errors

(c) Geology

(d) Biometry.

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7. In a positive correlation ————————.

(a) two variables move in opposite direction

(b) two variables move in the same direction

(c) variables never change

(d) no relationship between the variables.

8. ———————— is a fact finding study.

(a) Survey

(b) Case study

(c) Diet study

(d) Expost facto method.

9. Median is the value of the variable, which divides it into ————————.

(a) two equal halves (b) repeated samples

(c) total observations (d) none of the above.

10. The first step in any enquiry is ————————.

(a) construction of a questionnaire

(b) collection of several datas

(c) analysing the case study

(d) tabulation and interpretation.

11. ———————— is used for testing the significance of the difference between three or more variables.

(a) 'T' test (b) 'F' test

(c) χ^2 test (d) Anova.

12. In ———————— we provide a step by step account of a research study.

(a) Introduction (b) Methodology

(c) Results (d) Abstract.

13. A collection of any number of related observations as one or more variables are called as ———— ————.

(a) Data (b) Variables

(c) Samples (d) Survey.

14. The difference between the largest and smallest value of the distribution of the data is ————————.

(a) Range (b) Random

(c) Errors (d) Frequency.

15. The mode of the following observation :

(2, 3, 7, 5, 5, 9, 5, 7, 9) is ————————.

(a) 5 (b) 7

(c) 9 (d) 2.

16. The presentation of information collected in rows and columns are ————————.

(a) Interpretation (b) Tabulation

(c) Classification (d) Formulation.

17. Particular part of the population selected for a research study is ————————.

(a) Data (b) Sample

(c) Observation (d) Distribution.

18. The most widely used measure of central tendency is ————————.

(a) Mean (b) Median

(c) Mode (d) Arithmetic mean

19. Lottery method comes under ————————.

(a) Simple random sampling

(b) Restricted random sampling

(c) Non random sampling

(d) None of the above.

20. ———————— serves as an essential background for any research.

(a) Review of literature

(b) Case study

(c) Materials and methods

(d) Introduction.

SECTION B — (5 × 6 = 30 marks)

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

All questions carry equal marks.

21. (a) Distinguish random sampling and non random sampling.

Or

(b) How will you identify a research problem?

22. (a) Write down the major steps in the research process.

Or

(b) Write short notes on 'Review of literature'.

23. (a) Write down the principles on which the research survey is evaluated.

Or

(b) Explain the different types of 'control'.

24. (a) Differentiate survey and case study.

Or

(b) List down the merits and demerits of median.

25. (a) Describe the general format to write a methodology.

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SECTION C — (5 × 10 = 50 marks)

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

All questions carry equal marks.

26. (a) Describe on positive and negative correlation.

Or

(b) From the following table compute the arithmetic mean.

Marks :	0–10	10–20	20–30	30–40	40–50	50–60
Number of students :	5	10	25	30	20	10

27. (a) Explain the role of statistics in (i) clinical medicine and (ii) public health.

Or

(b) Explain the method by which a good report should be presented.

28. (a) What do you mean by clinical trial? Explain the design of the same.

Or

(b) What are the points to be considered while collecting data through questionnaire and record forum?

29. (a) Enumerate the various methods of data collection.

(b) Find the coefficient of correlation using method of ranks between poverty and health status.

Poverty :	17	13	15	16	6	11	14	9	7	12
Health status :	36	46	35	24	12	18	27	22	2	8

30. (a) List down the properties of normal distribution and give explanation.

Or

(b) Write notes on :

(i) Experimental studies

(ii) Observational studies.

———————