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M.B.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2024.

First Semester

Business Administration — Core

QUANTITATIVE TECHNIQUES AND RESEARCH
METHODS IN BUSINESS

(For those who joined in July 2023 onwards)

Time : Three hours   Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

Choose the correct answer :

1. The ————— space for an experiment is the set of all experimental outcomes.

   (a) sample   (b) probability

   (c) outcome   (d) outer

2. Consider the binomial distribution with a known number of trails 10 and a known probability of success 0.3. The expected value for the distribution is —————.

   (a) 10.3   (b) 3

   (c) 30   (d) 0.7

3. ————— distribution is a continuous distribution.

   (a) Binomial   (b) Poisson

   (c) Normal   (d) Probability

4. If the research involves study of behaviour, then it is termed as —————.

   (a) quantitative   (b) qualitative

   (c) basic   (d) business oriented

5. ————— is not a qualitative requirement for researchers.

   (a) Inquisitiveness

   (b) Preseverance

   (c) Tolerance for failures

   (d) Unemotional

6. Rank order scaling is also called ————— scale.

   (a) forced ranking   (b) free ranking

   (c) ranking   (d) easy ranking

7. ———————— is not a graphical presentation of data.
   (a) Bar chart
   (b) Pareto chart
   (c) Ogive
   (d) Table chart

8. ———————— regression analysis deals with two variables.
   (a) Single
   (b) Simple
   (c) Double
   (d) Multiple

9. If r is the correlation coefficient, then r^2 is the coefficient of ————————.
   (a) variation
   (b) alienation
   (c) deviation
   (d) determination

10. The coefficient of multiple correlation is always between ————————.
    (a) -1 and 1
    (b) -1 and 0
    (c) 0 and 1
    (d) 1 and 2

11. If R is the coefficient of multiple correlation, then R^2 is ———————— if correlation coefficients between independent variables are all low.
    (a) high
    (b) low
    (c) positive
    (d) negative

12. In case of multiple discriminant analysis, there will be ———————— discriminant function.
    (a) no
    (b) only one
    (c) more than one
    (d) at most one

13. ———————— is a concluding part of a report.
    (a) Findings
    (b) References
    (c) Title page
    (d) Research design

14. The analysis of data has to be as per the ————————.
    (a) planned methodology
    (b) wishes of the researcher
    (c) directions of the sponsor
    (d) prejudged result

15. The first motivation for reading the report is the ———————— of the report.
    (a) context
    (b) findings
    (c) title
    (d) index

PART B — (5 × 4 = 20 marks)

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

16. (a) The manager of a store estimates the probability that any one customer who enters the store will make a purchase is 0.3. What is the probability that exactly two of the next three customers who enter the store will make a purchase?

    Or

    (b) Distinguish between maximax and maximin criteria.

17. (a) List the advantages and limitations of external research.

Or

(b) Explain any four terms in experimental designs.

18. (a) From a hospital record, the following data were obtained about the births of new born babies on various days of the week during the past year :

Monday	Tuesday	Wednesday	Thursday
184	148	145	153

Friday	Saturday	Sunday	Total
150	154	116	1050

Can we conclude that the birth of a child is independent of the day in a week?

Or

(b) Assess whether there is any significant difference in the marks obtained by 12 trainee officers in the papers on Indian and global perspectives conducted after the induction training, using sign test for paired data.

(72, 70), (82, 79), (78, 69), (80, 74), (64, 66), (78, 75), (85, 86), (83, 77), (83, 88), (84, 90), (78, 72), (84, 82).

19. (a) List the uses of common factor analysis.

Or

(b) How do we forecast with a regression equation? Illustrate with an example.

20. (a) What do you mean by epilogue? State its importance.

Or

(b) Prescribe few ethical norms of professionals.

PART C — (5 × 8 = 40 marks)

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

21. (a) Factory A produces 1000 articles 20 of them being defective, Factory B produces 4000 articles, 40 of them being defective and Factory C produces 5000 articles, 50 of them being defective. All articles are put in one stock pile. One of them is chosen and is found to be defective. Obtain the probability that it is from Factory A.

Or

(b) Discuss on the importance of decision tree in decision analysis.

22. (a) Describe the structure of a research proposal.

Or

(b) Explain various types of research design.

23. (a) Five students of a management programme at a certain institute were selected at random. Their Intelligent Quotient (I.Q.) and the marks obtained by them in a subject were given below :

I.Q.   120 110 130 115 125 120

Marks 85   80   90   88   92   87

Estimate the regression equation of marks on I.Q.

Or

(b) Explain the Mann-Whitney 'U' test.

24. (a) Describe the method of estimating multiple regression equation and calculating multiple correlation coefficient.

Or

(b) How do you select independent variables in a regression model?

25. (a) Tabulate the formats for various types of reports for different types of research studies.

Or

(b) Describe the ethical issues at various steps of a research process.

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