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मान - 005

Design of Experiments & Analysis

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Answer **any five** questions.
5. Neat diagram must be drawn wherever necessary.
6. Figures to right indicate full marks.
7. Use of electronic pocket calculator is allowed.
8. Assume suitable data, if necessary.

1. a) Describe the different steps involved in a research process. 20
b) Describe the different types of research, clearly pointing out the difference between an experiment and a survey.
2. a) "The task of defining the research problem often follows a sequential pattern". Explain. 20
b) Explain with a suitable example, 'objectives of research'.
3. a) State and explain the different techniques involved in defining a research problem. 20
b) Describe some of the important research designs used in experimental hypothesis - testing research study.
4. a) Write a short note on 'Experience Survey' Explaining its utility in exploratory research studies. 20
b) How does the case study method differ from the survey method ? Analyze the merits and limitations of case study method in sociological research.
5. a) Why tabulation is considered essential in a research study ?
Narrate the characteristics of a good table. 20

- b) "It is never safe to take published statistics at their face value without knowing their meaning and limitations." Elucidate this statement by enumerating and explaining the various points which you would consider before using any published data. Illustrate your answer by examples wherever possible.
6. a) Under what circumstances stratified random sampling design is considered appropriate ? How would you select such sample ? Explain by means of an example. 20
- b) i) Write a brief essay on statistical estimation.
- ii) 500 articles were selected at random out of a batch containing 10000 articles and 30 were found defective. How many defective articles would you reasonably expect to find in the whole batch ?
7. a) Explain the meaning of analysis of variance. Describe briefly the technique of analysis of variance for one - way and two - way classification (b) State the basic assumptions of the analysis of variance. 20
- b) Explain the ANOVA technique with the help of suitable example.
8. a) Describe, in brief, the layout of a research report, covering all relevant points. 20
- b) Mention the different types of report, particularly pointing out the difference between a technical report and a popular report.
