



- Notes :
1. All questions carry equal marks.
  2. Assume suitable data wherever necessary.
  3. Illustrate your answers wherever necessary with the help of neat sketches.
  4. Discuss the reaction, mechanism wherever necessary.
  5. Solve **any five** questions.

1. a) What do you understand by Empirical Research. How is more relevant to the field of engineering & Technology? 7  
b) Describe the Different types of Research Clearly pointing out the difference between on experiment & a survey. 7
2. a) Define Hypothesis. Discuss briefly any five sources of Hypothesis. 7  
b) What is research problem? Define the main issues which should receive the attention of the researcher in formulating the research problem. Give one example to illustrate answer. 7
3. a) List some of the advantages of methodologically prepared research design. 7  
b) Describe some of the important research designs used in experimental hypothesis testing research study. 7
4. a) Describe some of the important scaling techniques. 7  
b) Point out the possible sources of error in measurement. Describe the tests of sound measurement. 7
5. a) What are the advantages of out comes based on observational methods? 7  
b) Discuss some of the difference between Questionnaires & schedules. 7
6. a) Enlist any seven characteristics of case study. 7  
b) Discuss strengths & weakness of case study method. 7
7. a) Explain briefly the important parametric tests used in context of testing hypothesis. How such tests differ from non-parametric tests? Explain. 7  
b) "Experimental method of research is not suitable in management field" Discuss. 7
8. a) "Describe lay out of a standard research report. 7  
b) Write short notes on. 7
  - i) Significance of t-test and f-test.
  - ii) Rewriting & polishing of report.

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