Total No. of Questions : 6]

SEAT No. :

P4341

[Total No. of Pages : 2

[4860]-1309
M.E. (Computer Engineering)
RESEARCH METHODOLOGY
(2013 Credit Pattern) (Semester - I) (510104)

Time :3 Hours] *[Max. Marks : 50*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume Suitable data if necessary.***

Q1) a) What is research? Explain the objectives of research and describe the steps which are included in the research process. **[9]**

OR

b) Describe the different types of research, clearly pointing out the difference between an experiment and a survey. **[9]**

Q2) a) What is the necessity of defining a research problem? Explain different techniques involved in defining a research problem? **[8]**

OR

b) Should every research problem have hypothesis? Discuss the steps involved in formulation and testing the hypothesis. **[8]**

Q3) a) Explain the following experimental designs: **[8]**

i) Completely Randomized Design [C.R. Design].

ii) Randomized block Design [R.B.Design].

OR

b) Discuss the relative merits and demerits of rating versus Ratio Scale and Cumulative Versus Summated Scale. **[8]**

P.T.O.

Q4) a) It has been found that 80% of all the tourists who visit India visit Delhi, 70% of them visit Mumbai and 60% of them visit both. What is the probability that a tourist will visit at least one city? Also find the probability that he will visit heither city. **[8]**

OR

b) Explain the use of analysis of variance (ANOVA) and covariance (ANACOVA). Breifly explain multivariate ANOVA. **[8]**

Q5) a) How will you differentiate between descriptive statistics and inferential statistics? Describe the important statistical measures often used to summarize the survey/research data. **[8]**

OR

b) Explain type I and type II error in the context of hypothesis testing. Comment on the need for a researcher to strike a balance between type I and type II errors. **[8]**

Q6) a) What is Little's law and explain its use in queuing theory with suitable examples. **[9]**

OR

b) What is the significance of a research report? Explain different types of research reports. **[9]**