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SEAT No. :

P3758

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M.E. (Electronics) (Digital System)

Research Methodology

(2013 Pattern) (Semester - I)

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

Instructions to the candidates:

1) ***Answer any five questions.***
2) ***Figures to the right indicate full marks.***
3) ***Assume suitable data if necessary.***

Q1) a) Explain research process using flow chart in detail. **[5]**

b) Give the characteristics of good research also list the errors while selecting research problem. **[5]**

Q2) a) Differentiate Research and scientific method with suitable examples. **[4]**

b) How will you differentiate between descriptive statistics and inferential statistics? **[3]**

c) Explain the significance of linear scaling and fidelity of instrument in research. **[3]**

Q3) a) When is median preferred over mean to represent a set of values? Give any one example. **[5]**

b) What is the role of Basic instrumentation, DSP and Digital computer system in research process? **[5]**

Q4) a) What is regression analysis? Explain it with a suitable example. **[5]**

b) Define principal component analysis and explain the steps usually involved in Principal Component method. **[5]**

P.T.O.

Q5) a) What is Primary Data? Explain any one method of collecting primary data using modern tools. **[5]**

b) Explain the technique and importance of oral presentation of research findings. Is only oral presentation sufficient? If not, why? **[5]**

Q6) a) Which points to be considered while writing any research proposal? **[4]**

b) What is meant by report? What are various stages of report writing? **[3]**

c) Describe in brief Literature Survey and its importance in context of research. **[3]**

Q7) a) Mention the different types of report, particularly pointing out the difference between a technical report and a popular report. **[4]**

b) "Interpretation is a fundamental component of research process", Justify why so? **[3]**

c) Write a brief note on the 'task of interpretation" in the context of research methodology. **[3]**

Q8) Write short note on the following:

a) Multiscale modeling. **[3]**

b) Non linear analysis of system. **[4]**

c) Data collection using digital computer system. **[3]**