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Total No. of Pages : 01

Total No. of Questions : 08

M.Tech.(ECE) (2016 Batch)/(Emb Sys)/(EPDT VLSI D) (2016 & Onwards)
(Sem.-1)

RESEARCH METHODOLOGY**Subject Code : MTRM-101****Paper ID : [74130]****Time : 3 Hrs.****Max. Marks : 100****INSTRUCTION TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

- Q1. List and explain the objectives of research. What is meant by formulation of a research problem? Discuss the basis and scope for formulating it.
- Q2. Define hypothesis. Why is a hypothesis necessary in carrying out research? What are the different types of hypotheses? Also explain the different errors in testing of a hypothesis.
- Q3. Find the mean age and median age from the following data of the students of engineering colleges in a district:

<i>Age (years)</i>	19	20	21	22	23	24	25	26
<i>No. of students</i>	204	221	238	244	194	156	120	99

- Q4. Estimate the value of Y , for $X = 120$

<i>X</i>	30	40	50	60	70	80	90	100
<i>Y</i>	332	368	394	412	438	374	325	298

- Q5. Define probability. State the laws of probability. Also explain what is meant by probability distributions and what is their use in research.
- Q6. Write notes on the following probability distributions :
- a) Binomial distributions
 - b) Poisson distributions
 - c) Normal distributions
- Q7. Explain the significance of bibliography and references. Discuss the methodologies used in quoting references. Also explain how is bibliography prepared for a research report.
- Q8. List some of the important softwares available for statistical analysis. Explain the features of any one in detail.