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M.Tech.(IT) (2015 & Onwards)/CSE Engg.) (2015 to 2017) (Sem.-2)**RESEARCH METHODOLOGY****Subject Code : MTRM-101****M.Code : 72884****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. a) What is a Research problem? Define the main issues which should receive-the attention of the researcher in formulating the research problem. Give suitable examples to support your answer.
- b) What is the difference between :
- i) Research methods and Research methodology.
 - ii) Research proposal and Research outcomes.
- Q2. a) There are various steps involved in research process and they vary based on the research problem. Explain the steps involved in the research process keeping in mind the contexts of the research problem.
- b) Distinguish between :
- i) Null and alternative hypothesis.
 - ii) Type-I and Type-II errors.
- Q3. a) The heights in inches of 30 students are as follows :
- 66, 68, 65, 70, 67, 64, 68, 64, 66, 64, 70, 72, 71, 69, 69, 64, 67, 63, 70, 71, 63, 68, 67, 65, 69, 65, 67, 66, 69, 67

Prepare a frequency distribution table showing relative frequency, cumulative frequency and percent frequencies.



- b) Ten students got the following percentage of marks in the course principles of Economics and Statistics.

Roll No.	1	2	3	4	5	6	7	8	9	10
Marks in Economics	78	36	98	25	75	82	90	62	85	39
Marks in Statistics	84	51	91	60	68	62	86	58	53	47

Calculate the Coefficient of Correlation.

- Q4. a) What are the various types of graphs used for presenting a frequency distribution?
b) Explain the different ways of presenting the data.
- Q5. Write short notes on the following :
- Working Bibliography
 - Taking Notes
 - Avoiding Plagiarism
 - Deductive Method
 - Language and style in a thesis
- Q6. a) Explain the steps involved in the Hypothesis testing.
b) Distinguish between ANOVA-F and t tests.
- Q7. What are the types of distributions? When are they used? Explain their characteristics in detail.
- Q8. a) What is the role of SPSS in data analysis?
b) What is meant by testing of hypothesis? Draw a flow chart for executing hypothesis testing procedure with a suitable example.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.