

Roll No.

Total No. of Pages : 02

Total No. of Questions : 08

Ph.D in Faculty of Engineering (ME)

RESEARCH METHODOLOGY

M.Code : 77398

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

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

1.
 - a) What are the objectives of research? How are they elaborated and achieved?
 - b) What is the difference between :
 - i) Research methods and Research methodology
 - ii) Primary and Secondary Literature
2.
 - a) What is research problem? Explain the points to be considered in selecting a research problem.
 - b) What are the different types of hypotheses? How are they evaluated? Explain.
3.
 - a) What is hypothesis? What are the steps in the hypothesis formulation? Explain.
 - b) What are the types of research? Explain.
4.
 - a) Explain the method for the sample size selection in detail.
 - b) What are the various sampling techniques? Explain in detail.
5.
 - a) What is experiment? What are its characteristics? What is so special about experiments? What are the components of experiment?
 - b) Explain the following :
 - i) Concept design
 - ii) Parameter design
 - iii) Tolerance design

6. Explain various steps in solving a problem through ANOVA - F test.
7.
 - a) What is the structure of a research report? What are the components of the scientific reports?
 - b) Explain various steps in Thesis writing in detail.
8.
 - a) What are the techniques of Patent writing? Explain the Patent filing procedure in detail.
 - b) Explain the design of a research paper. Discuss the concepts of citation, reproducibility and accountability.

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.