

Roll No.

Total No. of Pages : 02

Total No. of Questions : 08

Ph.D in Faculty of Engineering(CE)

RESEARCH METHODOLOGY

M.Code : 77391

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

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

- Q1. a) How can you study research methods in systematic manner? Explain your answer by presenting a road map to learn the research methods.
- b) What is descriptive research? When do researchers conduct it? Explain by citing examples.
- Q2. a) What are sampling and non-sampling errors and how can a researcher control them?
- b) What factors should be considered in choosing between probability and non-probability sampling? Explain by citing examples.
- Q3. Make an evaluation chart for different methods of survey with parameters such as cost, time, response rate, speed of data collection, coverage area, bias due to the interviewer, quantity of data, control over fieldwork, anonymity of respondent, question posing and question diversity. In the end conclude which method is best suited according to the above stated parameters? Explain by citing examples.
- Q4. a) What is the need for framing the hypothesis? Explain the procedure for testing hypothesis for the difference in two population proportions.
- b) How should the answers to unstructured questions be recorded during data collection phase? Describe major sources of error to field work.
- Q5. a) On what parameters, one can check the utility of an internal secondary data source and an external secondary data source?
- b) What is the importance of screening questions, opening questions and transition statements in the questionnaire construction?
- Q6. What is the conceptual framework of simple linear regression and how can we test the significance of overall regression model?

- Q7. What is the importance of the research report for a researcher? Also explain how should a researcher incorporate different types of charts and graphs in the research report?
- Q8. Write a detailed note on :
- a) How to design a research paper? Explain by citing examples.
 - b) What is a patent and discuss the techniques of writing a patent?

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.