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**Ph.D in Faculty of Applied Science (Computer Application) /**
**Ph.D in Faculty of Engineering (CSE)**
# RESEARCH METHODOLOGY
**M.Code : 77392**

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) *"Research methods are tools for decision making in the hands of a researcher"*. Justify the statement.

 b) Is pre-testing questionnaire essential for a questionnaire development process? Why there is a general tendency of the researchers to avoid the pre-testing questionnaire?

Q2. What are different survey methods available for launching a research study? Which method is applicable at what situation? Explain by citing examples.

Q3. a) What is Standard deviation? Discuss the advantages and limitations of Standard Deviation.

 b) What is t-test? Discuss in detail the conceptual framework and application of t-test.

Q4. a) What do you understand by ANOVA? Discuss the applications and assumptions of ANOVA.

 b) Discuss the conceptual framework of chi-square test. Under what circumstances chi-square test of independencies is used?

Q5. Write sort note on :

 a) Completely randomized design

 b) Randomized Block design

 c) Latin Square design

 d) Factorial design

Q6. a) What is observation? What are the advantages and disadvantages of observation techniques?

b) What is content analysis and what is the major reason for using this as an observation method?

Q7. a) What are sampling and non-sampling errors and how can researcher control them?

b) What are the approaches to be considered when a researcher takes a decision about logical order of questioning? Explain by citing examples.

Q8. Write note on :

a) Purpose of research proposal.

b) Format of research report.

**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**.