

Research Methodology

BEG 396MS

Year: III

Semester: I

Teaching Schedule Hours/Week			Examination Scheme				
Theory	Tutorial	Practical	Internal		Final		Total
2	-	-	Theory	Practical	Theory	Practical	50
			10		40	-	

Course objectives

The course provides an introduction on research methods for those in the Engineering and computing disciplines. In particular, the course deals with the different research questions rising in Engineering and computing, the research approaches used and the analysis and evaluation methodologies followed for research projects. As part of the course, students would be encouraged to look for additional reading materials independently and prepare research proposal.

1. Introduction of Research

5 hours

- 1.1 Definition of Research
- 1.2 Rigor and Relevance in Research
- 1.3 The 6Ps of Research (Purpose, Products, Process, Participants, Paradigm, Presentation)
- 1.4 Reasons for Doing Research (Purpose)
- 1.5 Possible Products (Outcomes of Research)
- 1.6 Sources of research ideas
- 1.7 Evaluating the Purpose and Products of Research
- 1.8 Overview of the Research Process
- 1.9 A Model of the Research Process
- 1.10 Alternative Models of the Research Process
- 1.11 Evaluating the Research Process

2. Fundamental Concept on Research

5 hours

- 2.1 Hypothesis
- 2.2 Sampling, its characteristics, types, benefits and problems
- 2.3 Field work
- 2.4 Validity
- 2.5 Reliability

3. Research Design	5 hours
3.1 Definition of Research Design	
3.2 Types of research Design	
3.3 Finding and Choosing Research Topics	
3.4 Preparing Research Proposal	
4. Data Collection	3 hours
4.1 Meaning of Data Collection	
4.2 Importance of Data Collection	
4.3 Types of Data	
4.4 Source of Data Collection	
5. Data Collection Techniques and Classification	5 hours
5.1 Survey	
5.2 Interview	
5.3 Questionnaire	
5.4 Case Study	
5.5 Observation	
5.6 Analysis and presentation of data	
6. Mean, Median and Standard Deviation	2 hours
6.1 Definition	
6.2 Different methods of calculation of mean, median and standard deviation	
7. Report writing	3 hours
7.1 Definition	
7.2 Organization of Report	
7.3 Presentation of Diagram	
7.4 Construction of tables	
8. Presentation Techniques	2 hours
8.1 Presentation and its importance	
8.2 Essentials of presentation	
8.3 Techniques of presentation	

References

1. Best, John W.: "Research in Education, Prentice hall of India", New Delhi
2. Wolf Howard K. and Prem R. Panta: "Social Science Research and Thesis Writing" Research Division TU, Kirtipur, 1975

3. Goode William J. and Paul K. Hatt: "Methods in Social Research" Megraw Hall Kogakusha Ltd., 1952
4. Tika Bhattarai, "Research Methodology"
5. C. R. Kothari, "Research Methodology: Methods and Techniques", New Age International, 2009
6. Briony J. Oates, "Researching Information Systems and Computing", SAGE Publications, London. Thousand Oaks, New Delhi. 2006.
7. Keith F. Punch,"Introduction to Social Research: Quantitative and Qualitative Approaches", Second Edition. SAGE Publications, London, Thousand Oaks, New Delhi. 2005
8. John W. Creswell,"Research Design: Qualitative, Quantitative and Mixed Methods Approaches", Second Edition, SAGE Publications, London. Thousand Oaks, New Delhi. 2003.

Marks Distribution

Chapter	Marks
1	7
2	7
3	7
4	4
5	7
6	2
7	4
8	2
Total	40