

**COURSE TITLE: RESEARCH METHODS AND STATISTICAL ANALYSIS****COURSE OBJECTIVES:**

- To understand Research and Research Process
- To acquaint students with identifying problems for research and develop research strategies
- To familiarize students with the techniques of data collection, analysis of data and interpretation

**LEARNING OUTCOMES:**

Students will be able to:

- Prepare a preliminary research design for projects in their subject matter areas
- Accurately collect, analyse and report data
- Present complex data or situations clearly
- Review and analyse research findings Get the knowledge of objectives and types of research

Code	Course	Teaching Period / Week		Credit			Duration of Theory Exam (in Hrs.)
		L	Pr./Tu	Int.	Ext.	Total	
MCS203	Research Methods and Statistical Analysis	4	-	2	2	4	2

Module No	Objective	Content	Evaluation
1	To introduce students to the concept of research	<b>Introduction to Research methodology</b> An Introduction Objectives of Research, Types of Research, Research Methods and Methodology, defining a Research Problem, Techniques involved in Defining a Problem	Unit Test-1 (Marks-25)
2	To elaborate importance of literature review and research design	<b>Review of Literature, Research Design</b> Need for Research Design, Features of Good Design, Different Research Designs, Basic Principles of Experimental Designs, Sampling Design, Steps in Sampling Design, Types of Sampling Design, Sampling Fundamentals, Estimation, Sample size Determination, Random sampling. Measurement and Scaling Techniques Measurement in Research	
3	To learn data collection and processing methods	<b>Data Collection and Processing</b> Methods of Data Collection and Analysis Collection of Primary and Secondary Data, Selection of appropriate method Data Processing Operations, Elements of Analysis.	Assignment (Marks-10)

<b>4</b>	To learn data analysis and presentation of the results	<b>Statistical Analysis and Presentation</b> Statistics in Research, Measures of Dispersion, Measures of Skewness, Regression Analysis, Correlation, Quantitative data analysis, Techniques of Hypotheses, Parametric or Standard Tests Basic concepts, Tests for Hypotheses I and II, Important parameters limitations of the tests of Hypotheses, Chi-square Test, Comparing Variance, As a non-parametric Test, Conversion of Chi to Phi, Caution in using Chi-square test, representation of research.	Online Test (Marks-15)
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**EVALUATION:**

Evaluation	Details (* please give details of assessment in terms of Unit test/ Project/ quiz /or other assignments and marks allotted for it)	Marks
Internal	<ul style="list-style-type: none"> <li>• Unit test</li> <li>• Online Test</li> <li>• Assignments</li> </ul>	<b>50 Marks</b>
External	<b>Final Examination</b>	<b>50 Marks</b>
<b>Total marks</b>		<b>100 Marks</b>

**TEXT BOOKS:**

- 1) Brinoy J Oates, (2006), *Researching Information Systems and Computing*, Sage Publications India Pvt Ltd

**REFERENCE BOOKS:**

- 1) Kothari, C.R., (1985), *Research Methodology, Methods and Techniques*, third edition, New Age International
- 2) Juliet Corbin & Anselm Strauss, (2008), *Basic of Qualitative Research (3rd Edition)*, Sage Publications
- 3) Willkinson K.P, L Bhandarkar, (2010), *Formulation of Hypothesis*, Hymalaya Publication, Mumbai
- 4) John W Best and V. Kahn, (2010), *Research in Education*, PHI Publication.