

RESEARCH METHODOLOGY

Sem	Course Code	Allied Paper IV: RESEARCH METHODOLOGY	Total Marks: 100		Hours Per Week	Credits
			CIA : 50	ESE :50		
IV	21UAVAT403				4	3

Course Objectives:

- To make the students to understand the importance of statistics in psychology.
- To help them compute basic and descriptive level of statistics.
- To explain the different types of research design.

Course Outcomes (CO): On completion of the course, students should be able to

CO 1	Define the various types of research in psychology.	K1 – K4
CO 2	Outline the formation of hypothesis.	
CO 3	Identify the various methods of research design.	
CO 4	Identify the various methods used for testing the hypothesis.	
CO 5	Examine the statistical techniques and report writing.	

K1 :Remember; K2 :Understand; K3 :Apply; K4 :Analyze

Unit –I Introduction

Introduction: Objectives, importance of research. Defining research problems. Ethical consideration in psychological research. Types of Research, Formulating Research, Problem identification, Variable constructing.

Unit – II Research Problem, Hypothesis & Review of Literature

Research Problem: Meaning and characteristics of a problem - ways in which a problem is manifested - Types of Problems, Hypothesis: Meaning and characteristics of a good hypothesis – Types - Sources and Functions of hypotheses, Reviewing the Literature: Purpose of Review - Sources of Review.

Unit – III Sampling

Meaning and Need for sampling - Fundamentals of sampling- Factors influencing decision to sample- Types of sampling: Probability and Non probability- Probability Sampling: Simple random, stratified random and area cluster sampling - Non probability sampling: Quota, Accidental, Judgemental or purposive, systematic and snowball sampling

Unit – IV Data Collection

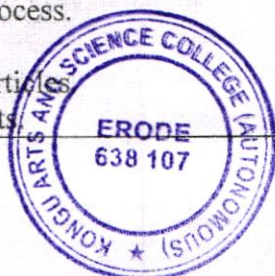
Data Collection: Meaning and Importance of Data-Types of Data: Primary and Secondary Data-Methods of Data Collection: Observation Method, Interview Method and Questionnaire Method-Experimental method-collection of Secondary data- Reliability and Validity.

Unit – V Analysis and Report Writing

Analysis and Report Writing: Statistical techniques for Data Analysis. Uses of Statistical software packages- techniques of Data presentation and interpretation-Steps involved in report writing-APA writing style.

SKILL DEVELOPMENT ACTIVITIES

- Discussion on research process.
- Abstract writing.
- Reviewing journals and articles.
- Self-evaluation of concepts.



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Content writing.

TEXT BOOK

1. Kenneth, B.S., & Bruce, A. B. (2001). Research Design and Methods: A Process Approach, 5th Edition, McGraw Hill..


REFERENCE BOOK

1. Kothari, C. R. (2007). Research Methodology: Methods and Techniques, 2nd Edition, New Age International Publishers.

WEB RESOURCE

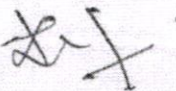
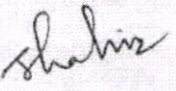
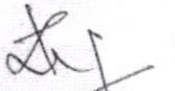
1. <https://mfs.mkcl.org/images/ebook/Fundamental%20of%20Research%20Methodology%20and%20Statistics%20by%20Yogesh%20Kumar%20Singh.pdf>




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QUESTION PAPER PATTERN


Time: 3 hours		Max. Marks: 50
SECTION-A (10 X 1 = 10 Marks) Answer ALL questions Choose the correct answer Two questions from each unit	SECTION-B (5 X 3 = 15 Marks) Answer ALL questions Either or type Two questions from each unit	SECTION-C (5 X 5 = 25 Marks) Answer ALL questions Either or type Two questions from each unit

Course Designed By	Verified By	Approved by HOD
 Ms.G.KAVYA	 Ms.SHALIN SARA ANTONY	 Ms.G.KAVYA

Mapping of COs with POs and PSOs:


PO/PSO CO	PO							PSO				
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	M	S	M	M	M	S	S	S	S	M	M	M
CO 2	M	M	S	S	M	M	M	M	S	S	M	M
CO 3	S	S	M	M	M	S	S	M	M	S	S	S
CO 4	S	M	M	S	S	M	M	S	M	M	S	M
CO 5	M	M	S	S	M	M	M	S	M	M	M	M

S-Strong, M-Medium, L-Low


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Sem	Course code	CORE III RESEARCH METHODOLOGY AND STATISTICS	Total Marks:100		Hours Per Week	Credits
			CIA : 50	ESE :50		
II	21PBGCT201				7	4
Course Objectives:						
<ol style="list-style-type: none"> To enable the students to attain knowledge in basic concepts of research To evaluate the components using research methodology and statistical skills To motivate for scholarly writing 						
Course Outcomes (CO): On completion of the course, students should be able to						
CO 1	Report on the basics of research					K1 – K6
CO 2	Identify the appropriate research problem and prepare research design					
CO 3	Analyze the methods of data collection and data analysis					
CO 4	Apply statistics in research					
CO 5	Develop knowledge on statistical hypothesis and non-parametric tests					
K1 : Remember; K2 :Understand; K3 : Apply; K4 : Analyze; K5 : Evaluate; K6 : Create						
Unit –I :	Basics of Research					
Research – Definition, Objectives. Types of Research. Significance of Research. Research Process. Criteria of good research. Research Problem – Definition, Selecting the problem, Technique involved in defining a problem, Statement of the Problem, Understanding its nature, Surveying the available literature, Developing ideas, Rephrasing the research problem.						
Unit – II :	Research Design					
Research Design - Meaning, Features of a good design, Different research designs, Basic Principles of experimental designs. Developing a Research Plan. Sampling: Census and Sample survey, Steps in sampling design, Criteria for selecting a sampling. Procedure, Characteristics of a good sample design, Different types of sample designs.						
Unit – III :	Data collection and analysis					
Methods of data collection, Collection of primary data- Observation, Interview, Questionnaire, Schedule, Collection of secondary data- Data processing and analysis, Editing, Coding, Classification, Tabulation, Graphical representation and Data analysis.						





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Unit – IV :	Introduction of statistics
Meaning and scope of Statistics - Role of Statistics in research, Measures of Central Tendency and Dispersion, Correlation, Co-efficient of Correlation and its Interpretation, Rank Correlation, Regression equations - predictions and problems.	
Unit – V :	Application of statistics
Elements of testing of a statistical hypothesis, Formulation of the problem. Definition of type -I and type-II errors, Level of significance, large sample test for proportions. Difference in proportions for means and difference in means. Application of students test for small samples for single mean, Difference in means - Non-parametric test: Application of Chi-square test, ANOVA test.	
Skill Development Activities:	
<ol style="list-style-type: none"> 1. Prepare a format for writing thesis 2. Presentation of paper in any one conference/seminar/symposium 3. Rewriting of an article from any journal 4. Correlate your first and second internal marks and justify by scattered diagram 	
TEXT BOOK	
1.	Research Methodology, C R Kothari, New Age International (P) Ltd., New Delhi (2004).
2.	An Introduction to Statistical Methods, S P Gupta, Vikas Publishing House, New Delhi (2004).

REFERENCE BOOKS	
1.	Research Methodology, R.Paneerselvam, Eastern Economy Edition, New Delhi (2004)
2.	Research Methodology- Methods and Techniques, C.R.Kothari, Gaurav Garg, New Age International Publishers, New Delhi (2019).
3.	Research Methodology, R.Cauvery, U.K.SudhaNayak, M.Girija, R.Meenalaksmi, S Chand and Company Ltd., New Delhi (2003).
4.	Statistics, G A Zeaf, Vol. I and 2, Textile Institute Manchester (1984).
Web Resources	
1	https://onlinecourses.nptel.ac.in/noc19_ge21/preview
2	free221">http://www.math.wise.edu>free221




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Course Designed By	Verified By	Approved By HOD
Mr.R.Rajakumar <i>R. Rajakumar</i>	Mr.K.V.Arunkumar <i>R. Rajakumar</i> (R. Rajakumar)	Dr.S.Manjula <i>Dr. S. Manjula</i>

QUESTION PAPER PATTERN		
SECTION – A	SECTION – B	SECTION – C
10 x 1 = 10 Marks (Multiple choice, Four options) Two questions from each unit	5 x 3 = 15 Marks (Either or choice) Two questions from each unit	5 x 5 = 25 Marks Question Number 16 to 19 (Either or choice) Question Number 20 is Compulsory (Case Study)

Mapping of COs with POs and PSOs:

PO/PSO CO	PO							PSO				
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO1	S	M	M	S	M	M	M	M	M	S	S	M
CO2	S	S	S	S	M	S	M	S	M	M	S	M
CO3	S	M	S	M	S	M	M	S	S	M	S	M
CO4	S	S	S	M	S	M	M	S	M	S	S	M
CO5	S	S	M	S	S	M	S	S	M	M	S	M


S-Strong, M-Medium, L-Low



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Sem.	Course Code	CORE XIV - RESEARCH METHODOLOGY AND BIostatISTICS	Total Marks: 100		Hours / Week	Credits
III	21PBFCT305		CIA: 50	ESE: 50	5	3
Course Objectives:						
To enable the students to <ul style="list-style-type: none"> Understand the concept of the methods used in scientific research Emphasize on the importance of statistical concepts Provides guidelines on accessing scientific literature and preparing scientific papers and presentation 						
Course Outcomes (CO): On completion of the course, students should be able to						
CO 1	Propose and distinguish appropriate research designs and methodologies to apply to a specific research project.					K1 - K5
CO 2	Understand Data presentation techniques and research report writing.					
CO 3	Know about averages in detail and interpret Correlation and Regression					
CO 4	Understand the concept of large sample with applications.					
CO 5	Know and apply test for small samples.					
K1: Remember; K2: Understand; K3:Apply; K4:Analyze; K5: Evaluate; K6:Create						
Unit - I Research and Research Design						
<p>Research: Objectives of Research, Types & Significance of Research. Criteria for good Research, Selecting & defining Research problem - Limitations in Research - Qualities of a Good Research Worker.</p> <p>Research Design: Need for Research design, Features of good Research design, Classifications of Research Design Hypothesis testing, Errors in Research Design.</p>						
Unit - II Report Writing and Presentation of Data						
<p>Report Writing; Significance of Report writing, different steps in Report writing, Bibliography, Types of Report, layout of Research paper. Writing research reports for Scientific Journals , Impact factor of Journals, Ethical issues related to publishing, Plagiarism and Self-Plagiarism, Shodhganga-Digital repository of Thesis, Intellectual Property Rights (IPR).</p>						




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Unit - III	Measures of Averages
<p>Measures of Averages: Arithmetic Mean - Median – Quartiles and Deciles - Mode – Related problems.</p> <p>Measures of Dispersion: Range – Quartile Deviation - Standard Deviation -Coefficient of Variation</p> <p>Sample Correlation – Rank Correlation – Properties – Limitations.</p> <p>Regression – Regression lines – Properties</p>	
Unit - IV	Large Samples
<p>Large Samples: Characteristic of a Sampling Distribution – Standard Error of the mean - Test of hypothesis – Significance Level - Test for a specified mean – Test for equality of two means – Test for specified proportion.</p>	
Unit - V	Small Samples t Test
<p>Small Samples t Test: Introduction – Uses of t Test – Properties of the sample distribution of t - Test for a specified mean – Test for equality of two means –t Test for paired observations. Analysis of Variance: One way and Two way classification – Chi Square test – Test of independent of attributes</p>	

Skill Development Activities	Max. Marks (10)
Group discussion	2
Write a topic using report writing and check the Plagiarism	2
Find a solution for your practical experiments by coefficient of variation	2
Find a solution for your practical experiments by Sampling Distribution	2
Find a solution for your practical experiments by Analysis of Variance	2

TEXT BOOKS

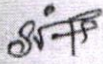
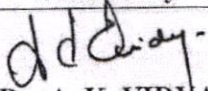
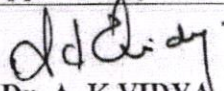
1	C.R.Kothari, "Research Methodology: Methods and Techniques", New Age International Publication, 4 th Edition, 2014.
2	P.R.Vittal, " Mathematical Statistics", Margam Publications Chennai, 2002.
REFERENCE BOOKS	
1	R.S.N.Pillai & Bagavathi, "Statistics", S.Chand and Company LTD, 7 th Revised Edition 2008.
2	S.Prasad, "Elements of Biostatistics", Rastogi publications 2005, Meerut.
3	P.Raja, "Mathematics and Biostatistics", Subash Publications 1999.




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WEB RESOURCES

1	https://www.tutorialspoint.com/
2	https://www.javatpoint.com/

Course Designed By	Verified By	Approved By HOD
 Ms. S. VIDHYA	 Dr. A. K. VIDYA	 Dr. A. K. VIDYA

QUESTION PAPER PATTERN

Time: 3 hours		Max. Marks: 50
SECTION-A (10 X 1 = 10 Marks) Answer ALL the questions Choose the correct answer	SECTION-B (5 X 3 = 15 Marks) Answer ALL the questions Either or type Two questions from each unit	SECTION-C (5 X 5 = 25 Marks) Answer ALL questions Question Number: 16 to 19 (Either or type) Question Number 20 is Compulsory - Case Study

Mapping of COs with POs and PSOs:

PO/PSO CO	PO							PSO				
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	S	S	S	M	M	S	S	S	S	M	M	M
CO 2	M	M	S	S	S	M	M	M	M	S	M	S
CO 3	M	S	S	M	S	M	S	S	M	M	S	S
CO 4	S	S	M	M	S	S	M	M	S	M	M	M
CO 5	M	S	M	S	M	M	S	M	S	S	M	S

S-Strong, M-Medium, L-Low



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Sem.	Course Code	RESEARCH METHODOLOGY	Total Marks:100		Hours Per Week	Credits
			CIA: 50	ESE: 50	4	4
Course Objectives:						
1. To impart students knowledge of research in the field of management.						
2. To understand the research design, sampling design, measurement and scaling.						
3. To learn a deeper understanding of data analysis and report writing.						
Course Outcomes (CO): On completion of the course, students should be able to						
CO 1	Acquire basis on research problem.					K1-K6
CO 2	Outline the awareness on research and sampling design.					
CO 3	Identify the measurement and scaling in research.					
CO 4	Analyze on data processing and analysis.					
CO 5	Prepare the interpretation and report writing					
K1 :Remember;K2: Understand; K3 :Apply; K4:Analyze; K5 :Evaluate; K6 :Create						
Unit –I	Research					
Research: Meaning - Objectives - Types - Significance of Research - Research methods and Methodology - Steps of research process - Criteria of good research - Research Problem: Selecting the problem - Necessity of Defining the Problem - Technique of formulating a problem.						
Unit – II	Research Design					
Research Design: Meaning - Need and Features - Concepts relating to research design - different research designs - Principles of Experimental designs - developing a research plan. Sampling Design: Census and sample survey - Steps in sample design – Sample size determination - different types of sampling designs - Non probability and probability Sampling designs.						
Unit – III	Measurement and Scaling					
Measurement and Scaling: Measurement in research - Tests of Measurement: validity, reliability and practicality - Levels of measurement –Nominal, Ordinal, Interval, Ratio Scale classification Basis - Scaling Techniques - Data collection: Primary data and Secondary data - Collection of data through questionnaires - Schedules and interviews - Collection of secondary data.						



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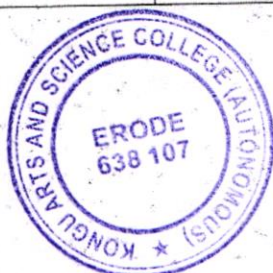
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Unit – IV	Data Analysis
Processing and Analysis of Data: Processing Operations - Problems in processing - Types of analysis - Parametric test - Importance of parametric test - Parametric versus Non parametric test - Chi-Square Test (Problems) - Henry Garrett's Ranking Technique (Problems):	
Unit – V	Interpretation and Report Writing
Interpretation and Report Writing: Meaning of Interpretation - Technique-Precaution in Interpretation - Significance of Report writing-Steps in Writing a Report - Layout of research Report - Types of report - Precautions for writing Research report - Plagiarism - Avoiding Plagiarism, in research. Questions: 80% of the questions shall be theory 20% of the questions shall be problem based.	
TEXT BOOK	
1	Kothari C.R., "Research Methodology Methods and Techniques", 2 nd Revised Edition, 2010, New Age International Publishers, New Delhi.

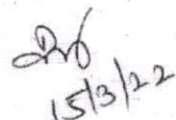
REFERENCE BOOKS

1	Panneerselvam.R, "Research Methodology", 2 nd Edition, 2007, Prentice Hall India (P) Ltd., New Delhi.
2	Donald R. Cooper, Pamela S. Schindler, J. K. Sharma, 12 th Edition, 2018, Business Research Methods, McGraw-Hill Education Private Limited, New Delhi.
3	Srivastava, T. N and Rego Shailaja , Business Research Methodology, 2011, Tata McGraw Hill Education Private Limited, New Delhi.

Course Designed By	Verified By	Approved By HOD
Dr.R.VIJAYAPRIYA	Dr.R.VIJAYAPRIYA	Dr.V.G.SUMATHY




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SKILL BASED ACTIVITIES:

- 1) Prepare a sampling design of your research for a specific product in the market.
- 2) Construct a Questionnaire for your selected topic and submit the pilot study report.
- 3) Narrate your experience using observation technique during the survey.

QUESTION PAPER PATTERN		
SECTION – A	SECTION – B	SECTION – C
10 X 1 = 10 Marks Answer ALL the questions Choose the correct answer	5 X 3 = 15 Marks Answer ALL the questions Either or type Two questions from each unit	5 X 5 = 25 Marks Answer ALL questions Question Number: 16 to 19 (Either or type) Question Number 20 is Compulsory- Case Study

Mapping of COs with POs and PSOs :

CO \ PO/PSO	PO							PSO				
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO1	S	M	S	M	M	S	M	S	L	M	M	M
CO2	S	M	S	L	M	M	M	S	M	M	S	M
CO3	S	M	S	M	S	L	M	S	S	M	S	M
CO4	S	M	S	M	S	M	S	S	S	S	S	M
CO5	S	S	S	M	S	L	S	S	S	S	S	S

S - Strong, M - Medium, L - Low



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15/3/22

Sem.	Course Code	CORE PAPER VII: RESEARCH METHODOLOGY	Total Marks: 100		Hours Per Week	Credit
			CIA: 50	ESE: 50		
II	21PBBCT203				5	4

Objectives: To enable the students to acquire knowledge on research methods

Course Outcomes: On the successful completion of the course, students will be able to


CO1	Get insight knowledge about the types of research and research process.	K1-K5
CO2	Develop an idea about various research designs and techniques.	
CO3	Understand the sampling techniques of research and its applications.	
CO4	Apply the relevant statistical tools in research.	
CO5	Lay a foundation to become familiar in preparing research report.	
K1 : Remember; K2 : Understand; K3 : Apply; K4 : Analyze; K5 : Evaluate.		

Syllabus

Unit	Content
Unit I	Research: Meaning - Objectives of Research - Types of Research – Significance of Research - Research Process - Characteristics of Good Research.
Unit II	Research Problem: Meaning – Identification and Selection of the Problem - Techniques Involved in Defining Problem. Research Design: Meaning - Need – Features of Good Design – Types of Research Design – Steps in Preparing Research Design.
Unit III	Sampling Design - Steps in Sampling Design - Characteristics of Good Sample Design – Different Types of Sample Designs. Data Collection – Methods – Primary and Secondary Data – Sources of Data – Data Collection Tools.
Unit IV	Processing and Analysis of Data - Editing - Coding - Classification - Tabulation - Content Analysis – Processing of Data - Analysis of data - Types of Test - ANOVA, F-test, t-test, Chi-Square – Role of Statistical Packages in Research.
Unit V	Interpretation: Meaning - Forms of Interpretation – Essentials and Prerequisites for Interpretation - Precaution in Interpretation. Report Writing - Layout of the Report - Types of Report - Steps in Writing the Report - Evaluation of Research Report.

Note: The question paper shall cover 20% problem and 80% theory.




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SKILL DEVELOPMENT ACTIVITIES:

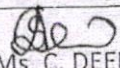

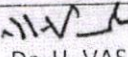
- Exemplify different types of samples with examples.
- Construct a questionnaire for collection of primary data based on a research topic.
- Presentation of the information collected through a questionnaire.

TEXT BOOKS:

1. Kothari, C.R., Research Methodology Methods and Techniques, Wishwa Prakashan, New Delhi, 2019. (Unit I, II, III & V)
2. S.P.Gupta, Statistical Methods, Sultan Chand and Sons, New Delhi, 2014. (Unit IV)

REFERENCE BOOKS:

1. Wilkinson and Bhandarkar, Methodology and Techniques of Social Research, Himalaya Publishing House, Mumbai, 2010.
2. Krishnaswami, O.R., Methodology of Research in Social Sciences, Himalaya Publishing House, Mumbai, 2011.
3. Devendra Thakur, Research Methodology in Social Sciences, Deep and Deep, New Delhi, 2009.
4. Gopal Lal Jain, Research Methodology, Mangal Deep, Jaipur, 2009.

Course Designed By	Verified By	Approved By
 Ms. C. DEEPIKA	 Mr. D. YUVASHANKAR	 Dr. H. VASUDEVAN


QUESTION PAPER PATTERN		
SECTION - A	SECTION - B	SECTION - C
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	5 x 3 = 15 Marks (Either or choice) Two questions from each unit	5 x 5 = 25 Marks Answer ALL questions Question Number: 16 to 19 (Either or type), Question Number 20 is Compulsory - Case Study and it can be from any unit

Mapping of COs with PO and PSOs

PO/PSO	PO							PSO				
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO1	S	S	S	M	S	S	S	S	M	M	M	M
CO2	S	M	M	M	S	S	M	M	M	M	M	S
CO3	S	S	S	M	S	S	M	S	S	M	M	M
CO4	S	M	S	M	S	M	S	S	S	S	S	S
CO5	S	S	M	S	S	M	S	S	S	S	S	S

S - Strong; M - Medium; L - Low.

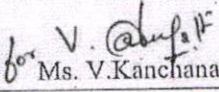
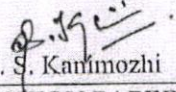
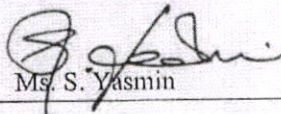




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Sem	Course Code	Core IX- Research Methodology	Total Marks:100		Hours Per Week	Credits
			CIA: 50	ESE :50		
II	21PBACT204				5	3
Course Objectives:						
1. To gain familiarity with the phenomenon of research 2. To assist them the purpose of investigation and types of methods to be generated. 3. To select and define appropriate research problem and parameters to write a research thesis to secure Employability						
Course Outcomes (CO): On completion of the course, students would be able to						
CO 1	State the importance of research writing					K1 - K5
CO 2	Utilize the techniques of compiling the documents					
CO 3	Compile their research work in a stipulated format to make it understandable for other researchers					
CO 4	Assess the significance of original research work and the technique of compiling the work					
CO 5	Evaluate the compilation of works cited in a standard format to match their research documents to the works of other researchers across the world					
K1 : Remember; K2 :Understand; K3 : Apply; K4 : Analyze; K5 : Evaluate; K6 : Create						
Unit –I	MLA – 7 th Edition					
	1.Taking Notes (Pg. No. 38 – 40) 2. Outlining (Pg. No. 41 – 45) 3. Writing Draft (Pg. No.46– 49)					
Unit – II	MLA – 8 th Edition					
	Principles of MLA Style (Pg. No. 5 – 54)					
Unit – III	MLA – 8 th Edition					
	Mechanics of Scholarly Prose (Pg. No. 61 – 97)					
Unit – IV	MLA – 8 th Edition					
	Works Cited (Pg. No. 102 – 115)					
Unit – V	MLA – 8 th Edition					
	In –Text Citations (Pg. No. 116 – 127)					




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Skill – Development Activities		
<ul style="list-style-type: none"> • Abstract writing • Research article writing practice • Citation practice 		
TEXT BOOK(S)		
1	MLA Handbook for Writers of Research Papers, Seventh Edition; The Modern Language Association of America. New York.2009	
2	MLA Handbook, Eighth Edition; The Modern Language Association of America. New York.2016	
REFERENCE BOOKS		
1	Anderson, Durston & Pool: Thesis and Assignment Writing Wiley Eastern Limited	
2	Kothari, C. R. <i>Research Methodology</i> (Methods and techniques). New Age Publisher.	
3.	Booth, W.C., Colomb, G.G. Williams, J.M. (2008), <i>The Craft of research</i> . 3 rd Edition. Chicago. Ill.: university of Chicago Press	
WEB RESOURCES		
1	https://www.coursera.org/browse/physical-science-and-engineering/research-methods	
2	https://onlinecourses.swayam2.ac.in/cec20_hs17/preview	
Course Designed By	Verified By	Approved By HOD
 Ms. V.Kanchana	 Ms. S. Kanimozhi	 Ms. S. Yasmin
QUESTION PAPER PATTERN		
Time: 3 hours		Max. Marks: 50
SECTION-A(10 X 1 = 10 Marks) Answer ALL the questions Choose the correct answer	SECTION-B (5 X 3 = 15 Marks) Answer ALL the questions Either or type Two questions from each unit	SECTION-C (5 X 5 = 25 Marks) Answer ALL questions Question Number: 16 to 19 (Either or type) Question Number 20 is Compulsory- Case Study


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Mapping of COs with POs and PSOs:												
PO/PSO CO	PO							PSO				
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	S	S	S	M	S	M	S	S	S	S	M	S
CO 2	S	S	S	M	M	M	S	S	S	S	M	S
CO 3	S	S	S	M	S	M	S	S	S	S	M	S
CO 4	S	S	S	M	S	M	S	S	S	S	M	S
CO 5	S	S	S	M	M	M	S	S	S	S	M	S

S-Strong, M-Medium, L-Low




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Semester	Course Code	Advanced Learners Course	Total Marks:100		Hours Per Week	Credits
V	20UAQAL509	Research Methodology	CIA: -	ESE: 100	-	2

Objectives

- To gain a knowledge in the field of research.
- To ensure and develop in various advanced techniques and get a crystal clear ideas in recent advents and to overcome the obstacles faced during research.

Course Outcome:

On successful completion of the course, the students will be able to:

- CO1 Infer on the concepts for designing a work of research
- CO2 Familiarize with the methods of data collection
- CO3 Analyze the methods used for sample collection
- CO4 Understand the key facts for writing a thesis
- CO5 Correlate the research data's using statistical methods

UNIT I

Introduction To Research Methodology: Meaning of Research, Objectives of Research, Motivation in Research, Types of Research, Research Approaches, Significance of Research, Research Methods versus Methodology, Research and Scientific Method, Research Process, Literature collection, Literature citation, Criteria of Good Research.

UNIT II

Data Collection: Ethics of data collection, methods of data collection – primary data, secondary data, processing of data – Editing, Coding, Classification and Tabulation. Analysis of data – Tables and graphs.

UNIT III

Sampling Methods: Concepts of sampling, Principles of sampling, Aim in selecting a sample, types of sample collection (Random, Non random, Mixed)



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UNIT IV

Statistical Methods: Measures of central tendency and dispersal; probability distributions (Binomial, Poisson and normal); sampling distribution; difference between parametric and non-parametric statistics; errors; p value, levels of significance; regression and correlation.

UNIT V

Report and Thesis Writing: Research report: components, Format of thesis and dissertation, Manuscript/research article, Review monographs, Bibliography and Reference, footnotes. Practice and use of visual aids, importance of effective communication. Plagiarism.

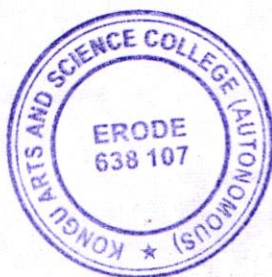
TEXT BOOKS

1. C.R. Kothari, Hind edition, Research Methodology, Methods and techniques, New Age International (P) Ltd, Publishers, New Delhi, 2004 (Unit I,II,IV)
2. Ranjith Kumar, Research Methodology – A step by step guide for Beginners, II Ed, Dorling Kindersky (India) Pvt Ltd, 2007 (Unit III)
2. Jerrod H. Zar, Biostatistical analysis by, Prentice Hall International, Inc. Press, London, 1999. (UNIT V)

QUESTION PAPER PATTERN		
SECTION - A	SECTION - B	SECTION - C
10 x 2 = 20 Marks (Answer any 10 question out of 12 questions)	5 x 7 = 35 Marks (Either or choice) Two questions from each unit	3 x 15 = 45 Marks (Answer any three Questions) One question from each unit

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Sem	Course Code	CORE PAPER – III RESEARCH METHODOLOGY	Total Marks : 100		Hours Per Week	Credits
			CIA : 25	FSE : 75		
II	17PBGCT201				7	4

OBJECTIVES

- To enable the students to attain knowledge in basic concepts of research
- To evaluate the components using statistical skills
- To motivate for scholarly writing

UNIT - I

Research - Definition - Objectives - Types of Research - Significance of Research - Research Process. Research Problem - Sources, Identification, Selection and Statement, Review of related literature

UNIT-II

Research Design - Meaning, Different research designs, Basic Principles of experimental designs. Developing a Research Plan. Sampling: Census and Sample survey, Steps in sampling design, Criteria for selecting a sampling. Procedure, Characteristics of a good sample design, Different types of sample designs.

UNIT - III

Methods of data collection – Observation method, Interview method, Questionnaire
Data processing and analysis - Collection, Classification, Tabulation, Graphical representation and Data analysis.


UNIT-IV

Meaning and scope of Statistics - Role of Statistics in research, Measures of Central Tendency and Dispersion, Correlation, Co-efficient of Correlation and its Interpretation, Rank Correlation, Regression equations - predictions and problems.

UNIT- V

Elements of testing of a statistical hypothesis, Formulation of the problem. Definition of type - I and type-II errors, Level of significance, large sample test for proportions. Difference in proportions for means and difference in means. Application of students test for small samples for single mean, Difference in means - Non-parametric test: Application of Chi-square test, ANOVA test.




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TEXT BOOKS

1. Research Methodology, C R Kothari, Published by K K Gupta for New Age International (P)Ltd, New Delhi (2002).Units – I, II and III
2. An Introduction to Statistical Methods, S P Gupta, Vikas Publishing House, New Delhi (1989).Units – IV and V

BOOKS FOR REFERENCE:

1. Research Methodology – R.Paneerselvam, Eastern Economy Edition, New Delhi (2004).
2. Introduction to Research in Education- Ary, Hort Reinhart, Sterling Publications (1982).
3. Research in Education- Best J N, Prentice Hall, Delhi (1979).
4. Statistics - G A Zeaf, Vol I &2, Textile Institute Manchester (1984).

QUESTION PAPER PATTERN		
Section A	Section B	Section C
10 x 1 = 10 Marks (Multiple choice, Four options) Two questions from each unit	5 x 7 = 35 Marks (Either or choice) Two questions from each unit	3 x 10 = 30 Marks Answer any three Questions One Question from each unit

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Sem	Course Code	CORE PAPER – X RESEARCH METHODOLOGY AND BIOSTATISTICS	Total Marks: 100		Hours	Credits
			CIA:25	ESE:75	Per Week	
III	17PBFACT301				5	4

Objective(s):

- To enable the student to understand the concept of the methods used in scientific research
- To emphasize on the importance of statistical concepts
- To provides guidelines on accessing scientific literature and preparing scientific papers and presentation

Course Outcome:

On successful completion of the course, Students will able to

- CO1 - Propose and distinguish appropriate research designs and methodologies to apply to a specific research project
- CO2 - Understand Data presentation techniques and research report writing
- CO3 - Know about averages in detail and interpret Correlation and Regression
- CO4 - Understand the concept of large samples with applications.
- CO5 - Know and apply test for small samples

UNIT I

Research and Research Design

Research: Objectives of Research , Types & Significance of Research. Criteria for good Research, Selecting & defining a Research problem--Limitations in Research – Qualities of a Good Research Worker

Research Design

Need for Research design, Features of good Research design, Classifications of Research Design Hypothesis testing, Errors in Research Design.

UNIT II

Report Writing and Presentation of Data

Report Writing; Significance of Report writing, different steps in Report writing, Bibliography, Types of Report, layout of Research paper. Writing research reports for Scientific Journals , Impact factor of Journals, Ethical issues related to publishing, Plagiarism and Self-Plagiarism, Shodhganga- Digital repository of Thesis, Intellectual Property Rights (IPR).

Presentation of Data: Graphical presentation - Tabular, Chart, Diagrammatic presentation.



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UNIT III

Measures of Averages: Arithmetic Mean - Median - Quartiles and Deciles - Mode - Related problems.

Measures of Dispersion: Range - Quartile Deviation - Standard Deviation - Coefficient of Variation

Sample Correlation - Rank Correlation - Properties - Limitations.

Regression - Regression lines - Properties.

UNIT IV

Large Samples: Characteristic of a Sampling Distribution - Standard Error of the mean - Test of hypothesis - Significance Level - Test for a specified mean - Test for equality of two means - Test for specified proportion.

UNIT V

Small Samples t Test: Introduction - Uses of t Test - Properties of the sample distribution of t - Test for a specified mean - Test for equality of two means - t Test for paired observations. **Analysis of Variance:** One way and Two way classification - Chi Square test - Test of independent of attributes: SPSS packages.

Text Books

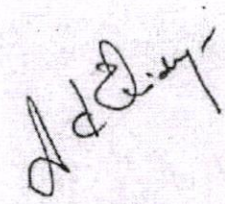
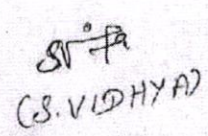
1. C.R.Kothari, "Research Methodology: Methods and Techniques", New Age International Publication, 4th Edition, 2014.
2. P.R.Vittal, "Mathematical Statistics", Margam Publications Chennai 2002.

Reference Books

1. R.S.N.Pillai & Bagavathi, "Statistics", S.Chand and Company LTD, 7th Revised Edition 2008.
2. Danien, "Biostatistics - A foundation for analysis in health science" 6th edition, 1995.
3. Jerrold H.Zar, "Biostatistical analysis" - Pearson Education, 4th Edition, 1999.
4. S.Prasad, "Elements of Biostatistics", Rastogi publications 2005, Meerut.
5. P.Raja, "Mathematics and Biostatistics", Subash Publications 1999.
6. S.P.Gupta, "Statistical Methods" 28th edition, Sultan Chand & Sons (P) Ltd

SECTION - A	SECTION - B	SECTION - C
10x1=10 Marks (Multiple choice, Four options) Two questions from each unit	5 x 7 = 35 Marks (Either or choice) Two questions from each unit	3x10 = 30 Marks (Answer any three questions) One question from each unit





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Sem.	Course Code	RESEARCH METHODS FOR MANAGEMENT	Total Marks: 100		Hours Per Week	Credits
			CIA: 25	ESE: 75	4	4
II	17PBDCT206					

OBJECTIVE

To introduce to the students the basic concepts and highlight the need for Research in the functional areas of management and to equip the students with some of the tools for doing research.

UNIT - I

Research: Meaning - Objectives - Types - Significance of Research - Research methods and Methodology - Steps of research process - Criteria of good research - Research Problem: Selecting the problem - Necessity of Defining the Problem - Technique of formulating a problem.

UNIT - II

Research Design: Meaning - Need and Features - Concepts relating to research design-different research designs - Principles of Experimental designs - developing a research plan. Sampling Design: Census and sample survey - Steps in sample design - different types of sampling designs - Non probability and probability Sampling designs.

UNIT - III

Measurement and Scaling: Measurement in research - Tests of Measurement: validity, reliability and practicality - Scale classification Basis - Scaling Techniques - Data collection: Primary data and Secondary data - Collection of data through questionnaires - Schedules and interviews - Collection of secondary data.

UNIT - IV

Processing and Analysis of Data: Processing Operations - Problems in processing - Types of analysis - Parametric test - Importance of parametric test- Chi-Square Test (Problems). Nonparametric Test: ANOVA (Problems) - Applications of t test.

UNIT - V

Interpretation and Report Writing: Meaning of Interpretation - Technique-Precaution in Interpretation - Significance of Report writing-Steps in Writing a Report - Layout of research Report - Types of report - Precautions for writing Research report - The role of computers in research.

CASE STUDY from I to V Units

Questions: 80% of the questions shall be theory 20% of the questions shall be problem based.



TEXTBOOK

Kothari C.R., "Research Methodology Methods and Techniques", 2nd Revised Edition, New Age International Publishers, New Delhi, 2010.

Books for Reference:

1. Panneerselvam.R, "Research Methodology", 2nd Edition, Prentice Hall India (P) Ltd., New Delhi 2007.
2. Srivastava, T. N and Rego Shailaja , Business Research Methodology, Tata McGraw Hill Education Private Limited, New Delhi 2012
3. Gupta, S. L and Gupta, Ilitesh , Business Research Methods, McGraw Hill Education (India) Private Limited, New Delhi 2012

QUESTION PAPER PATTERN		
SECTION - A	SECTION - B	SECTION - C
5 x 6 = 30 Marks (Either or Type) Two Questions from each unit	3 x 10 = 30 (Any 3 Out of 5) One Question from each unit	1 x 15 = 15 Marks (Compulsory) Any One Question out of Five Units

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Sem.	Course Code	CORE PAPER VII: RESEARCH METHODOLOGY	Total Marks: 100		Hours Per Week	Credit
			CIA: 25	ESE: 75		
II	17PBBCT203				5	4

Objectives: To enable the students to acquire knowledge on research methods

Unit I

Research: Meaning - Objectives of Research - Types of Research - Significance of Research - Research Process - Characteristics of Good Research.

Unit II

Research Problem: Meaning - Identification and Selection of the Problem - Techniques Involved in Defining Problem. Research Design: Meaning - Need - Features of Good Design - Types of Research Design - Steps in Preparing Research Design.

Unit III

Sampling Design - Steps in Sampling Design - Characteristics of Good Sample Design - Different Types of Sample Designs. Data Collection - Methods - Primary and Secondary Data - Sources of Data - Data Collection Tools.

Unit IV

Processing and Analysis of Data - Editing - Coding - Classification - Tabulation - Content Analysis - Processing of Data - Analysis of data - Types of Test - ANOVA, F-test, t-test, Chi-Square - Role of Statistical Packages in Research.

Unit V

Interpretation: Meaning - Forms of Interpretation - Essentials and Prerequisites for Interpretation - Precaution in Interpretation. Report Writing - Layout of the Report - Types of Report - Steps in Writing the Report - Evaluation of Research Report.

Note: The question paper shall cover 20% problem and 80% theory.

TEXT BOOK:

1. Kothari, C.R., Research Methodology Methods and Techniques, Wishwa Prakashan, New Delhi, 2014. (Unit I, II, III & V)
2. S.P.Gupta, Statistical Methods, Sultan Chand and Sons, New Delhi, 2011. (Unit IV)

REFERENCE BOOKS:

1. Wilkinson and Bhandarkar, Methodology and Techniques of Social Research, Himalaya Publishing House, Mumbai, 2008.
2. Krishnaswami, O.R., Methodology of Research in Social Sciences, Himalaya Publishing House, Mumbai, 2003.
3. Devendra Thakur, Research Methodology in Social Sciences, Deep and Deep, New Delhi, 2003.
4. Gopal Lal Jain, Research Methodology, Mangal Deep, Jaipur, 2008.

QUESTION PAPER PATTERN		
SECTION - A	SECTION - B	SECTION - C
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	5 x 7 = 35 Marks (Either or choice) Two questions from each unit	3 x 10 = 30 Marks (Answer any three Questions) One Question from each unit



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Sem.	Course Code	CORE PAPER – IX RESEARCH METHODOLOGY	Total Marks: 100		Hours Per Week	Credits
II	17PBACT204		CIA: 25	ESE:75	5	4

Objective:

The Course is introduced with an aim to assist the Post Graduates with the Fundamentals of Writing Research Papers, Dissertations and Thesis.

Unit I

Research and Writing

Unit II

Plagiarism and Academic Integrity

Unit III

The Mechanics of Writing

Unit IV

The Format of the Research Paper

Unit V

Documentation: Preparing the Lists of Works Cited and Citing Sources in the Text

TEXT BOOK:

"MLA Handbook for Writers of Research Papers" – Seventh Edition. First East- West Press. 2009.

Question Paper Pattern		
SECTION - A	SECTION - B	SECTION - C
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	5 x 7 = 35 Marks (Either or choice) Two questions from each unit	3 x 10 = 30 Marks (Answer any three Questions) One Question from each unit



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(S. BABY)

Sem.	Course Code	RESEARCH METHODS FOR MANAGEMENT	Total Marks: 100		Hours Per Week	Credits
			CIA: 25	ESE:75	6	5
V	17UABCT501					

OBJECTIVE(S):

To impart the knowledge of concepts and tools of Research methodology and the significance of writing a report for the research work.

COURSE OUTCOMES:

- CO1 Exposure to the knowledge of fundamental concepts in research.
- CO2 Able to understand the relevant scaling, measurement and sampling techniques.
- CO3 Capable of evaluating statistical analysis which includes various parametric test, non-parametric test, ANOVA technique and preparing report. Learners can also formulate a research design for a given problem through hypothesis building.
- CO4 Equipped with the understanding of the importance of the procedures to be followed in research report writing and presentation.
- CO5 Understand the various types of research applications.

UNIT - I

Research - Definition - Objectives - Significance - Types of Research - Research Process - Research Problem - Techniques involved in Defining a Problem - Research Design - Need for Research Design - Types of Research Design.

UNIT - II

Sampling Design - Steps in Sampling Design - Types of Sample Design - Measurement and Scaling Technique - Methods of Data Collection - Processing of Collected Data.

UNIT - III

Hypothesis - Concept - Procedure for Hypothesis Testing - Flow Diagram for Hypothesis Testing - Parametric Tests - Z Test, T Test, F Test - Non Parametric Test - Chi-Square Test (Simple Problems Only)



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UNIT -IV

Interpretation and Report Writing - Meaning of Interpretation - Technique of Interpretation - Precaution of Interpretation - Significance of Report Writing - Steps in writing reports - Layout of Research Report - Types of Reports - Precautions of Writing Research Reports.

UNIT -V

Applications of Research - Product research - Advertising Research - Motivation research - Sales control research - Distribution research - Price research.

NOTE: Distribution of Marks – Theory 80%, Problems 20%

TEXT BOOK:

C.R. Kothari, Research Methodology (Methods and Techniques), New Age International (P) Limited, New Delhi, Second Revised Edition, 2004.


REFERENCE BOOKS:

1. Dr.D.D.Sharma, Marketing Research (Principles, Applications & Cases), Sultan Chand & Sons, New Delhi, First Edition, 2000.
2. S.L. Gupta, Marketing Research, Excel Books, New Delhi, First Edition, 2003.
3. Debashis Pati, Marketing Research, Universities Press (India) Private Limited, Hyderabad, First Edition, 2002.

QUESTION PAPER PATTERN		
SECTION – A	SECTION - B	SECTION – C
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	5 x 7 = 35 Marks (Either or Choice) Two questions from each unit	3 x 10 = 30 Marks (Answer any Three Questions) One question from each unit

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Sem.	Course Code	RESEARCH METHODS FOR MANAGEMENT	Total Marks: 100		Hours Per Week	Credits
			CIA: 25	ESE:75		
V	17UACCT501				6	5

OBJECTIVE:

- To impart knowledge of the concepts and tools of research methodology and to help the learners to grasp the significance of writing a report for the research work.

COURSE OUTCOMES:

At the end of the course, students will be able to

- CO1 Knowledge of concept and fundamentals for different types of research.
- CO2 Understanding relevant scaling, measurement and sampling techniques.
- CO3 Evaluating statistical analysis which includes various parametric test, non-parametric test, ANOVA technique and prepare report. Formulate a research design for a given problem through hypothesis building.
- CO4 Understand the importance and procedure to be followed in research report writing and presentation.
- CO5 Understanding the various types of application of research.

UNIT - I

Research - Definition - Objectives - Significance - Types of research - Research process - Research problem - Technique involved in defining a problem - Research design - Need for research design - Types of research design.

UNIT - II

Sampling design - Steps in sampling design - Types of sample design - Measurement and scaling technique - Methods of data collection - Processing of collected data.

UNIT - III

Hypothesis - Concept - Procedure for hypothesis testing - Flow diagram for hypothesis testing - Parametric tests - Z test, T test, F test - Non parametric test - Chi-Square test (simple problems only).

UNIT - IV


Interpretation and report writing - Meaning of interpretation - Technique of interpretation - Precaution of interpretation - Significance of report writing - Steps in writing reports - Layout of research report - Types of reports - Precautions of writing research reports.

UNIT - V

Applications of research: Product research - Advertising research - Motivation research - Sales control research - Distribution research - Price research.

NOTE: Distribution of Marks – Theory 80%, Problems 20%




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TEXT BOOK:

1. C.R. Kothari, Research Methodology (Methods and Techniques), 2nd Revised Edition, 2004, New Age International (P) Limited, New Delhi.

BOOKS FOR REFERENCE:

1. Dr. D.D.Sharma, Marketing Research (Principles, Applications & Cases), 1st Edition, 2000, Sultan Chand & Sons, New Delhi.
2. S.L. Gupta, Marketing Research, 1st Edition, 2003, Excel Books, New Delhi.
3. Debashis Pati, Marketing Research, 1st Edition, 2002, Universities Press (India) Private Limited, Hyderabad.

QUESTION PAPER PATTERN		
SECTION - A	SECTION - B	SECTION - C
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	5 x 7 = 35 Marks (Either or choice) Two questions from each unit	3 x 10 = 30 Marks (Answer any three Questions) One Question from each unit

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