



**Kadi Sarva Vishwavidyalaya**  
**Faculty of Engineering & Technology**  
**Master of Engineering Semester I**  
**(All branches)**

(with effect from Academic Year 2017-18 (CBCS))

<b>Subject Code: MECC-101-N</b>	<b>Subject Title: Research Methodology</b>
<b>Pre-requisite</b>	

**A. Course Objectives:**

The objective of this course is

- To learn various concepts related to research methodology

Teaching scheme				Total Credit	Evaluation Scheme					Total Marks
L	T	P	Total		Theory		IE Marks	CIA Marks	Pract. Marks	
Hrs	Hrs	Hrs	Hrs		Hrs	Marks				
02	00	00	02	02	03	70	30	20	00	120

**B. Lesson Planning:**

SR.NO	CHAPTER NO	DATE/WEEK	%WEITAGE
1	1,2,3,4	1st,2nd,3rd	20
2	5,6,7,8	4th,5th,6th	20
3	9,10,11	7th,8th,9th	20
4	12	19th,11th,12th	20
5	13,14	13th,14th,15th	20

**Total Hours (Theory): 32**

**Total Hours (Lab): 00**

**Total Hours: 32**



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**Detailed Syllabus**

Sr. No.	Topic	Lecture Hours	Weight age (%)
1	Introduction to the Research Methodology and research process at glance.	2	6
2	<b>Discussion on Illustrative Research Proposals</b>	2	6
3	<b>Quantitative Research Design:</b> Types of Research Designs and its applications	2	6
4	<b>Identifying the Research Problem</b>	2	6
5	<b>Specifying Data and Acquisition Methods:</b> Data types, Data source, Primary Data & Secondary Data, Comparison between various data .actualization method.	2	6
6	<b>Quantities Research design</b>	2	6
7	<b>Measuring and Scaling: Fundamentals and Comparative Scaling.</b> Commonly Used Scales in Business Research, Reliability and Validity of	2	6
8	<b>Research Paper Discussion:</b> A Paper Contains Development and Validation of Scale	2	6
9	<b>Questionnaire Designing:</b> Steps in Designing Questionnaire, Pitfalls in Designing Questionnaire	2	6
10	<b>Developing and Using Online Questionnaire</b>	2	6
11	<b>Sampling Design and Procedure:</b> Sampling Method Procedure and Sample Size Decision	3	10
12	<b>Define Research Question and Framing and Testing of Hypotheses:</b> Developing the Hypothesis, Testing of Hypotheses: Type – I and II Errors, One Tailed and Two Tails Test of Significance. Parametric and Nonparametric Tests of Univariate and Bivariate Data( Nonparametric Tests: Kolmogorov Smirnov Test, Sign Test, Wilcoxon Matched Paris Test, Kolmogorov Smirnov Two Sample Test, Mann Whitey U Test)	3	10
13	<b>Test of Association and Research Report writing:</b> Regression (Introduction only), Preparing a Research Report and Communication the Research Result (Includes APA style of reporting the result referencing), Evaluation of Research Result	3	10
14	Statistical Package for Social Service(SPSS)	3	10

**C. Instructional Method and Pedagogy (Continuous Internal Assessment (CIA) Scheme):**

- At the start of course, the course delivery pattern, prerequisite of the subject will be discussed
- Lecture may be conducted with the aid of multi-media projector, black board, OHP etc. & equal weightage should be given to all units while conducting teaching & examination.
- Attendance is compulsory in lectures and Tutorial which carries 05 Marks.
- Viva Voce will be conducted at the end of the semester of 30 Marks.
- One internal exam of 30 marks is conducted as a part of mid semester evaluation.



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**D. Student Learning outcomes:**

At the end of the course

- The students will gain an experience in defining research problem, thesis writing, and applying quantitative methods.

**E. Text Books & Reference Books:**

- Research Methodology: Methods & Techniques by C R Kothari, 2e, Wishwa Publication, New Delhi
- Research Methodology by D K Bhattacharyya, 1 e, Excel Books, New Delhi, 2003
- How to Research by Loraine Blaxter, Christina Hughes and Molcolm Tight, Viva Books Pvt. Ltd., New Delhi
- Basic Communication Skills for Technology – Andrea J Rutherford (Person)
- Writing Your Thesis by Paul Oliver, Vistaar Pulication, New Delhi, 2006
- The Research Student's Guide to Success by Pat Cryer, Viva Books Pvt Ltd., New Delhi
- Technical Writing Process and Product – Shron J. Gerson (Person)
- Business Communication, Lesiker and Petit: MCGraw Hill Publications, 1995
- Business Correspondence and Report Writing – R.C. Sharma, Krishna Mohan (Tata McGraw)