Kadi Sarva Vishwavidyalaya
Faculty of Engineering and Technology
1st semester Master of Engineering
In Effect from Academic Year 2017-18

Subject Code: MECC-101-N					Subject Title: Research methodology (University Elective)						
Teaching Scheme				**Total Credit**	**Evaluation Scheme**						
L	**T**	**P**	**Total**		**Theory**		**IE**	**CIA**	**Pract/ Vivo**	**Total**	
Hrs	**Hrs**	**Hrs**	**Hrs**		**Hrs**	**Marks**	**Marks**	**Marks**	**Marks**	**Marks**	
2	**0**	**0**	**2**	**2**	**3**	**70**	**30**	**20**	**00**	**120**	

LEARNING OBJECTIVES

The educational objectives of this course are

- To learn various concepts related to research methodology

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 topics while teaching and conduction of all examinations.
- Attendance is compulsory in lectures, which may carries 05 marks in overall evaluation.
- Assignment based on course content will be given to the student for each unit/topic and will be evaluated at regular interval. It may carry an importance of 10 marks in the overall internal evaluation.
- Surprise tests/Quizzes/Seminar may be conducted and having share of 05 marks in the overall internal evaluation.
- One/Two internal exams may be conducted and total/average/best of the same may be converted to equivalent of 30 marks as a part of internal theory evaluation.

Total Hours (Theory): 30

Total Hours (Lab): 00

Total Hours: 30

DETAILED SYLLABUS

1. Introduction to the Research Methodology and research process at glance.
2. Discussion on Illustrative Research Proposals
3. Quantitative Research Design: Types of Research Designs and its applications
4. Identifying the Research Problem

5. Specifying Data and Acquisition Methods: Data types, Data source, Primary Data & Secondary Data, Comparison between various data actualization method.
6. Quantities Research design
7. Measuring and Scaling: Fundamentals and Comparative Scaling.: Commonly Used Scales in Business Research, Reliability and Validity of Scale
8. Research Paper Discussion: A Paper Contains Development and Validation of Scale
9. Questionnaire Designing: Steps in Designing Questionnaire, Pitfalls in Questionnaire Designing
10. Developing and Using Online Questionnaire
11. Sampling Design and Procedure: Sampling Method Procedure and Sample Size Decision
12. Define Research Question and Framing and Testing of Hypotheses: 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)
13. Test of Association and Research Report writing: Regression (Introduction only), Preparing a Research Report and Communication the Research Result (Includes APA style of reporting the result referencing), Evaluation of Research Result
14. Statistical Package for Social Service(SPSS)

LESSON PLAN

Sr. No	Lecture No	Course Content	Hrs.	Percentage Weightage
1	1	Introduction to the Research Methodology and	1	50%

2	2	Introduction to research process at glance	1
3	3	Discussion on Illustrative Research Proposals	1
4	4	Quantitative Research Design	1
5	5	Types of Research Design	1
6	6	Research Designs and applications	1
7	7	Identifying the Research Problem	1
8	8	Specifying Data and Acquisition Methods:	1
9	9	Data types, Data source,	1
10	10	Primary Data & Secondary Data,	1
11	11	Comparison between various data actualization method	1
12	12	Quantities Research design	1
13	13	Measuring and Scaling: Fundamentals and Comparative Scaling.:	1
14	14	Commonly Used Scales in Business Research,	1
15	15	Reliability and Validity of Scale	1
16	16	Research Paper Discussion: A Paper Contains Development and Validation of Scale	1
17	17	Questionnaire Designing: Steps in Designing Questionnaire, Pitfalls in Questionnaire Designing	1
18	18	Developing and Using Online Questionnaire	1
19	19	Sampling Design and Procedure: Sampling Method Procedure and	1
20	20	Sample Size Decision	1
21	21	Define Research Question and Framing and Testing of Hypotheses:	1
22	22	Developing the Hypothesis, Testing of Hypotheses: Type – I and II Errors, One Tailed	1
23	23	Two Tails Test of Significance. Parametric and Nonparametric Tests of Univariate and Bivariate Data(Nonparametric Tests:	1
24	24	Kolmogorov Smirnov Test, Sign Test, Wilcoxon Matched Paris Test, Kolmogorov Smirnov Two Sample Test, Mann Whitey U Test)	1
25	25	Test of Association	1
26	26	Research Report writing: Regression (Introduction only),	1
27	27	Preparing a Research Report	1
28	28	Communication the Research Result (Includes APA style of reporting the result referencing), Evaluation of Research Result	1
29	29	Statistical Package for Social Service(SPSS)	1

50%

30	30	Statistical Package for Social Service(SPSS)	1	
		TOTAL Hrs. Required To complete Task	**30**	**100%**

STUDENTS LEARNING OUTCOME

At the end of the course

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

TEXT BOOKS

1. Research Methodology: Methods & Techniques by C R Kothari, 2e, Wishwa Publication, New Delhi
2. Research Methodology by D K Bhattacharyya, 1 e, Excel Books, New Delhi, 2003

REFERENCE BOOKS

1. How to Research by Loraine Blaxter, Christina Hughes and Molcolm Tight, Viva Books Pvt. Ltd., New Delhi
2. Basic Communication Skills for Technology – Andrea J Rutherford (Person)
3. Writing Your Thesis by Paul Oliver, Vistaar Pulication, New Delhi, 2006
4. The Research Student's Guide to Success by Pat Cryer, Viva Books Pvt Ltd., New Delhi
5. Technical Writing Process and Product – Shron J. Gerson (Person)
6. Business Communication, Lesiker and Petit: MCGraw Hill Publications, 1995
7. Business Correspondence and Report Writing – R.C. Sharma, Krishna Mohan (Tata McGraw)