



NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL
Srinivasnagar, MANGALORE - 575 025, INDIA
COURSE PLAN AND EVALUATION PLAN

1. Course Code: MA702
2. Course Title: Design & Analysis of Experiments
3. L-T-P: 3-0-0; Credits: 3
4. Pre-requisites: —
5. Course Instructors: Dr. S. S. Kamath
6. Teaching Department: Mathematical and Computational Sciences
7. Objective of the Course: To expose the students to the basics of Probability, Sampling, Estimation etc.
8. Skill Development of the student expected from the course: The student should be able to analyze the problem, translate into relevant model and find a solution.

9. Course Coverage:

| Stage No. | Contents | Approx. no. of hours |
|-----------|---|----------------------|
| 1 | Probability Theory review upto one dimensional random variables & properties | 5 |
| 2 | Two dimensional random variables and properties, Functions of random variables | 5 |
| 3 | Further characteristics of random variables, Expectation, Variance, Correlation | 8 |
| 4 | Sampling, Estimation, Testing of Hypothesis etc. | 12 |

10. Reference Books:

- i) P.L. Meyer, Introductory Probability and Statistical Applications, Oxford & IBH Pub.
- ii) S.M. Ross, Introduction to Probability and Statistics for Engineers and Scientists, John Wiley.
- iii) Douglas Montgomery, Design and Analysis of Experiments, 3 Edition, John Wiley.
- iv) Hogg R. V., Craig A. T., Introduction to Mathematical Statistics, 4th Edition, McMillan.

11. Details of Tutorials (if any): Will be announced during the semester.

12. Evaluation Plan (Weightages are given in percentages)

- i) Quiz/ Assignments/ Tests: 25% (to be decided by the respective Course Instructors)
- ii) Mid Semester Examination: 25%
- iii) End Semester Examination: 50%