COURSE CODE	COURSE NAME	L	T	P	C
MA2004	Statistical Methods and Queueing Theory	3	0	0	3

PURPOSE

to develop analytical capability and to impart knowledge in statistical methods and Queueing theory and their applications in Engineering and Technology and to apply these concepts in engineering problems they would come across.

INSTRUCTIONAL OBJECTIVES

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

- Understand statistical concepts
- Logically explain the concepts
- Apply the concepts in solving the engineering problems

UNIT I : THEORETICAL DISTRIBUTIONS 9

Binomial, Poisson and Normal distributions - Definitions, Simple problems only (Derivations not included).

UNIT II : REGRESSION METHODS 9

Principle of Least Squares, Fitting of straight line and parabola - Correlation - Karl Pearson's coefficient of correlation and Spearmann's rank correlation - Linear regression.

UNIT III : TESTING OF HYPOTHESIS 9

Sampling Distributions - Tests based on Normal, t, Chi-Square and F-Distributions.

UNIT IV : ANOVA AND DESIGN OF EXPERIMENTS 9

One way and Two way classification of ANOVA - Completely Randomised Design - Randomised Block Design - Latin square Design.

UNIT V : QUEUEING THEORY 9

Single and multiple server markovian queueing models - M/M/1 and M/M/c queueing models and Applications (Derivations not included).

Total hours = 45

REFERENCES :

- Gupta, S.C., and Kapoor, V.K., Fundamentals of mathematical statistics, Sultan Chand and sons, Reprint 2003
- Gupta, S.C., and Kapoor, V.K., Fundamentals of Applied statistics, Sultan Chand and sons, 2003
- Veerarajan.T., Probability Statistics and Random processes, TMH, First reprint, 2004