

## BS (4 Years) for Affiliated Colleges



Code	Subject Title	Cr. Hrs	Semester
<b>MATH-404</b>	<b>Mathematical Statistics-I</b>	<b>3</b>	<b>VII</b>
Year	Discipline		
<b>4</b>	<b>Mathematics</b>		

### Objectives:

#### Probability Distributions

- The postulates of probability
- Some elementary theorems
- Addition and multiplication rules
- Baye's rule and future Baye's theorem
- Random variables and probability functions.

#### Discrete Probability Distributions

- Uniform, Bernoulli and Binomial distribution
- Hypergeometric and geometric distribution
- Negative binomial and Poisson distribution

#### Continuous Probability Distributions

- Uniform and exponential distribution
- Gamma and beta distributions
- Normal distribution

#### Mathematical Expectations

- Moments and moment generating functions
- Moments of binomial, hypergeometric, Poisson, gamma, beta and normal distributions

### Recommended Books:

- J. E. Freund, Mathematical Statistics, (Prentice Hall Inc., 1992)
- Hogg and Craig, Introduction to Mathematical Statistics, (Collier Macmillan, 1958)
- Mood, Greyill and Boes, Introduction to the Theory of Statistics, (McGraw Hill)
- R. E. Walpole, Introduction to Statistics, 3<sup>rd</sup> edition, (Macmillan Publishing Company London, 1982)
- M. R. Spiegel and L. J. Stephens, Statistics, (McGraw Hill Book Company, 1984)