**2nd Semester**

**STAT-21201 Probability & Probability Distributions-II**

Probability Distributions: Uniform, Exponential, Gamma, Laplace, Rayleigh with moments and cumulates Distributions of functions of random variables; Chi-square, t and F distributions, their derivations and properties. Central limit and Chebyshev's theorems and other inequalities. Weak and Strong Laws and their applications. Order statistics. Distributions of rth and sth order statistics. Bivariate Normal distribution.

**Books Recommended**

1. Lefebvre, M. (2009), Basic Probability Theory with application, Springer
2. A`SH, R.B. (2008) Basic Probability Theory Dover Publications INC. New York.
3. TIGMS, H. (2007) Understanding Probability, 2nd Edition, Cambridge University Press.
4. SCHAY, G. (2007), Introduction to Probability with Statistics Applications, Birkhauser Boston (New York)
5. Suhov, Y. and KELBERT, M. (2005), Probability Statistics, Cambridge University Press.
6. Fraser, D. A. S. (1976), Probability and Statistics: Theory and Applications, Duxbury Press, Massachusetts.
7. Johnson, N. L., et al (1994), Continuous Univariate distributions – Vol. 2, Wiley.
8. Wilks, S. S. (1963), Mathematical Statistics, Wiley
9. Stuart A. and Ord J. K. (1991), Kendall’s Advanced Theory of Mathematical Statistics – Vol I, Charles Griffen and Co., London
10. Kotz, S., Balakrishnan, N. and Johnson, N. L. (2000), Continuous Multivariate Distributions – Volume 1, Models and Applications, 2nd Ed., Wiley
11. Ross, S. M. (2002), Introduction to Probability Models, Eighth Edition, Academic Press.
12. Ross, S. M. (2005), A First Course in Probability, Prentice Hall