Second year of Five Years integrated M. Sc. (Physics)
M. Sc. - II Semester - III
MS 217 (Basic Sciences Electives) : Statistics & Probability

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- **STATISTICS** **(08 Hours)**
  Correlation between two variable, types of correlation, coefficient of correlation, methods to evaluate coefficient of correlation & its application. Regression, equation of regression lines, multiple regression.

- **PROBABILITY DISTRIBUTION** **(10 Hours)**
  Binomial, Poisson's distribution and Normal distribution with derivation of its mean variance, different moments, β_1 & β_2, γ_1 & γ_2

- **TESTING OF HYPOTHESIS** **(12 Hours)**
  Test of significance, Chi-square $\left(\chi^2\right)$ test, student's t Test, F-distribution & its applications.

- **TIME SERIES ANALYSIS** **(12 Hours)**
  Trend, seasonal fluctuation, cyclic fluctuation, random fluctuation & its methods to evaluate

(**Total Contact Time (Theory): 42 Hours**)

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BOOKS RECOMMENDED :

1. **Devore, Jay L**, *Probability & Statistics*, Thompson, Singapore, Ind. Ed. 2002
2. **Levien, Richard I. & Rubin, David S.,** *Statistics for Management*, Prentice Hall, 1997.
3. **Minh, D. L.**, *Applied Probability Models*, Thompson, Singapore, Ind. Ed. 2002
4. **O'Neil, Peter**., *Advanced Engg. Mathematics*, Thompson, Singapore, Ind. Ed. 2002.
5. **Ramana, D. V.,** *Higher Engg. Mathematics*, The McGraw-Hill Inc., New Delhi, 2007.