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SEMESTER – I/III

Statistics
For Mathematics Students) Paper – I (90 Hours)

Objectives:

-To study the concept of measures of dispersion and measures of central tendencies
-To develope the concept Probability distributions

UnitI Moments, Skewness and Kurtosis - Curve fitting - method of least squares – Fitting lines – Parabolic, Exponential andLogarithmiccurves. **16L**

UnitII Correlation and Regression – Scatter Diagram – Karl Pearson‟s coefficient of correlation – Properties – Lines of Regression – Coefficient of Regression and properties –RankCorrelation. **16L**

UnitIII Association of Attributes – Consistency of data – criteria for independence – Yule‟s coefficientofAssociation. **14L**

UnitIV Random variable – Distribution function – properties of Distribution function – Mathematical Expectation – Addition theorem of Expectation – Multiplication theorem of Expectation – Moment generating function – cumulants – characteristic function – Properties ofcharacteristicfunction. **22L**

UnitV Discrete and continuous Probability Distributions - Binomial and Poisson Distribution and their moments, Generating function, characteristic function, properties and simple applications. Normal Distribution – Standard normal distribution and their properties – simpleproblems. **22L**

Text Book:

Gupta .S.C and V.K. Kapoor – Fundamentals of Mathematical Statistics – (2002) Sultan Chand & Sons, New Delhi.

Books for Reference :

- Vittal, V.R. – Mathematical Statistics (2004) MaragathamPublications
- D.C. Sancheti & Kapoor –Statistics
- M.L. Khanna –Statistics
- S. Arumugam & others –Statistics

Allied Mathematics (Semester I/III)

(For Science Students) Paper – I

Algebra and Differential Equations (90 Hours)

UNITI	Theory of Equations – Formation of Equations – Relation betweenrootsand coefficients – Reciprocalequations.
UNITII	Transformation of Equations – Approximate solutions to equations – Newton's method and Horner'smethod.
UNITIII	Matrices – Characteristic equation of a matrix – Eigen values and Eigen vectors – Cayley Hamilton theorem and simple problems
UNITIV	Differential equation of first order but of higher degree – Equations solvable for p, x, y – Partial differential equations – formations – solutions – Standard form Pp + Qq =R.
UNITV	Laplace transformation – Inverse Laplacetransform.

Text Book:

- Dr. S. Arumugam & others – Allied Mathematics –I