

**Syllabus of S.Y. B.Com. (Statistics) Semester III & Semester IV  
effective from June 2012-2013**

**VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT**

**S.Y. B. COM. SEMESTER- III  
STATISTICS PAPER-III (PRINCIPAL & SUBSIDIARY)**

**1. MATRICES: (Weightage 30%)**

Definition of matrices, Definition of some special types of matrices (transpose, row, column, zero, unit, square, symmetric, skew-symmetric etc.); Addition, subtraction and multiplication of matrices (upto order 3) and laws related to it; Determinant of a square matrix and its evaluations, laws related to determinants; some examples, Inverse of a matrix; Use of matrices in solving system of linear equations (up to 3x3 matrix).

**2. MATHEMATICAL EXPECTATION: (Weightage 30%)**

Definition, Expectation of a function of a random variable; addition and multiplication theorem of Expectation; Expectation of a linear combination of random variables for discrete case only (no proof required); mean, variance and covariance in terms of Expectations (up to two variables only), some exercises related to discrete random variables.

**3. DEMOGRAPHIC METHODS: (Weightage 40%)**

**A:** Sources of demographic data: Census, Register, Ad-hoc Survey, Hospital Records, demographic profiles of Census in India. Measurement of Mortality- Crude Death Rate, Infant Mortality Rate, Age-Specific Death Rate, Standardized Death Rate. Life-tables: Complete life table, its main features, assumption, description and construction of life-tables, Mortality rate and Survival rate; some examples.

**B:** Measurements of Fertility & Population growth- Crude Birth rate, General Fertility rate, Specific Fertility Rate, Total Fertility rate. Measurements of Population Growth- Gross Reproduction Rate and Net Reproduction Rate.

**BOOKS RECOMMENDED :**

1. Goon A.M., Gupta M.K. & Dasgupta (1986); Fundamentals of Statistics, Vol- 11; World Press; Calcutta.
  2. Srivastav O.S. (1983); A Text Book of Demography : Vikas Publishing House.
  3. Gupta S.C. & Kapoor V.K.: Fundamentals of Mathematical Statistics; Sultan Chand & Sons
  4. Data K.P.: Matrix & Linear Algebra ; Prentice Hall, India.
  5. Shanti Narayan ; A Text Book of Matrices, S. Chand & Co.
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