

# VEER NARMAD SOUTH GUJARAT UNIVERSITY

## SY B COM

### SYLLABUS : STATISTICS (PRINCIPAL & SUBSIDIARY) PAPER-I

(w.e.f. academic Year 2007-08)

#### 1 MATRICES : (Weightage 20%)

Defination of matrices, Defination of some special types of matrices (transpose, Row, column, square symmetric, skew - symmetric, etc.) Addition, subtraction and multiplication, of 2x2 and 3x3 matrices and laws related to it, Determinate of matrix and its evaluations, laws related to determinants. Adjoint of a matrix and inverse of matrix. Use of matrices in solving through system of equations. (Only up to 3x3 matrix.)

#### 2. EXPECTAION & MOMENT: (Weightage 20%)

Defination of Expectation of random variable x and  $g(x)$  ( a function of r.v.x)  $\sum (ax + b)$ ,  $\sum Cig; (x)$  and their pool for discrete case only, some exercise related to discrete and continuous random variables including Binomial, Poisson and normal distribution.

moments about origin and moments about mean and measures of central tendency, dispersion, skewness, ans kurtosis based on moments.

Defination of m.g.f, Derivation of mgf of Binomial, Poission and normal distribution.

#### 3. DEMOGRAPHIC METHODS: (Weightage 20%)

Sources of demographic data : Census, Register, Adhoc Survey, Hospital Records, Demographic Profiles of India Census.

Measurement of Mortality and Life- tables, Crude death rate, Infant mortality rate, Deaty rate by cause, Standardized death rate, Complete life table, its main features, mortality rate and Survival rate.

Measurement of Fertility : Crude Birth rate , General Fertility rate, Total Fertility rate, Gross Reproduction rate and Net Reproduction rate.

#### 4. ACCEPTANCE SAMPLING PLANS : (Weightage 20%)

Principle of acceptance sampling. Problem of Lot acceptance. Concept of good and bad lots. Sampling inspection plans : Single and Double sampling plans, their O. C. Functions. Concepts of AQL, LTPD, AOQ, AOQL, Prodrcer's risk, Consumer's risk, ASN function and ATI function.

#### 5. TESTING OF HYOPTHESES : (Weightage 20%)

(a) Theory of testing of hypothesis, simple & composite hypothesis, null and alternative hypothesis, critical region, two types of errors, level of significance and power of a test.

(b) Large Sample Tests: Testing the significance of single proportion, difference between two proportions, single mean, difference between two means, difference between two means, difference between two standard deviation and correlation coefficient.

## **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 Grant E.L.(1964); Statistical Quality Control; Mc Graw Hill.
- 4 Duncan A.J. (1974); Statistical Control and Industrial Statistics; Taraporewala and Sons.
- 5 Murthy M.N. (1967); Sampling Theory and Methods; Statistical Publishing Society ; Calcutta.
- 6 Sukhatme P.V. And Sukhatme B.V. (1984); Sampling Survey Methods and its Applications; Indian Society of Agricultural Statistics.
- 7 S.C. Gupta & V.K. Kapoor : Fundamentals of Mathematical Statistics ; Sultan chand & sons
- 8 K.P. Data : matrix & linear Algebra ; Prentice hall India.
- 9 Santi nariyan ; A Text book of matrices S. Chand & co.