

Gujarat University
Choice Based Credit System (CBCS)
Syllabus for B.Com Semester VI (Statistics)
Effective from June 2013

CC 310

Fundamental Statistics - IV

HOURS: 3/WEEK

CREDIT: 3

EXAM HRS: 3

Objective: - Students should be competent to apply the statistical techniques in various fields.

1. Decision Theory: **[25%]**

Meaning of decision theory and its basic terminologies, Methods of solving decision problem

(i) Decision under uncertainty- Maxi-max, Maxi-min, Hurwiche, Laplace. (ii) Decision under certainty when events probabilities are known – EMV, EVPI simple examples and their interpretations.

2. Time Series: **[25%]**

Meaning and uses of time series, Various components of time series, determination of trend by using graphical, moving average and least square method, To separate seasonal component by using moving average method, with examples.

3. Index Numbers: **[25%]**

Definition, limitations, characteristics, and uses of index numbers, Construction of whole sale price index number and cost of living index number, Construction of index number by using aggregate expenditure method and family budget method using Laspeyre's, Paasche's, Fisher's, Time Reversal Test (TRT) and Factor Reversal Test (FRT) and to test various formulas for TRT & FRT, Simple examples.

4. Testing of Hypothesis : **[25%]**

Meaning of statistical hypothesis, Definitions of Null hypothesis, Alternate hypothesis, Simple and Composite hypothesis, Critical region, Type-I and Type-II errors, Level of significance, Power of tests, One tailed and Two tailed tests, Examples of finding α , β and power of tests by using Binomial and Poisson distributions.

Reference Books:

- (1) Goon. Gupta, Dasgupta : "An outline of Statistical Theory" Vol-I and II. World Press.
- (2) Sancheti & Kapoor: Business Statistics, Sultan Chand & Sons, New Delhi.
- (3) Sancheti & Kapoor: Business Mathematics, Sultan Chand & -SOns, New Delhi.
- (4) Mukhopadhyay, P. Mathematical Statistics, New Central Book, Agency, Calcutta.
- (5) Kapoor V. K. : Business Mathematics; Sultan Chand & Sons, New Delhi.