

S.Y. B.Com.
SEMESTER – III
PAPER - I
COMBS2301: Business Statistics-III

The main objective of this course is to acquaint students with the basic concepts of concepts, techniques & applications of Statistical Methods in business.

A) Learning Objectives:

1. Understand and masters the concepts, techniques & applications of Statistical Methods with real life situations.
2. To develop the skills of solving real life problems using Statistical Methods.
3. To make students to understand the art of applying statistical techniques to solve some real life problems
4. To gain knowledge of Statistical Computations using statistical software.

B) Learning Outcome:

Students should be able to:

1. Learn techniques & applications of Statistical Methods and Operations Research with real life situations.
2. Learn business situations with real life situations.
3. Learn vital rates for in real life situations.
4. Learn preparation of life tables for real life situations.

1 Theory of Attributes (up to order three only):

Introduction Classification, Notation, dichotomy, types of classes, Order of a class, dot operator to find relation between class frequency (up to order three, Fundamental set of class frequencies, Consistency up to three attributes, Independent and Association of two attributes, Yule's Coefficient of association, example and problems. **(14)**

2 Multiple Regression, Multiple and Partial Correlation:

Introduction, Multiple Regression, Statement of equation of plane of regression of X_1 on X_2 and X_3 . Standard Error of Estimate, Partial and Multiple Correlation, Advantages and limitations of multiple Correlation Analysis. example and problems **(16)**

3 Vital Statistics :

Introduction, Methods of collecting vital Statistics, Mortality rates : CDR, ASDR, STDR (direct method), Fertility rates: CBR, ASFR, TFR, GFR Population Growth rate: GRR and NRR, example and problems.

(10)

4 Life Tables:

Introduction, Construction of life table, functions (l_x , d_x , p_x , q_x , L_x , T_x , e_x) and their interpretation, Expectation of life, example and problems. **(08)**

S.Y. B.Com.
SEMESTER – IV
PAPER - I
COMBS2401: Business Statistics-IV

The main objective of this course is to acquaint students with the basic concepts of concepts, techniques & applications of Statistical Methods and Operations Research

A) Learning Objectives:

1. Understand and masters the concepts, techniques & applications of Statistical Methods and Operations Research with real life situations.
2. To make students to understand the art of applying statistical techniques to solve some real life problems
3. To fit the appropriate time series model that can be used.
4. To gain knowledge of Statistical Computations using statistical software.

B) Learning Outcome:

Students should be able to:

1. Learn techniques & applications of Statistical Methods and Operations Research with real life situations.
2. Learn business situations with real life situations.
3. Learn the concept of time series.

1 Time Series:

Introduction, Definition, Components of Time Series, The Trend, Seasonal variation , Cyclical variation, Irregular variation, Methods of estimating Trends, Moving averages (with periods 3,4,5), Fitting of trend line and second degree curve, Exponential smoothing, Example and problems **(14)**

2 Simplex Method:

Definition of Linear programming problem , Canonical and standard form duality relation between primal and dual, example and problems on simplex method two iterations only, meaning of unbounded solution, basic feasible solution, alternate solution, degenerate solution **(12)**

3 Transportation Problem (T.P.) / optimization (only minimization):

Introduction, balanced and unbalanced TP, Initial Basic Feasible Solution (IBFS) using NWCR, MMM, VAM, Optimal solution using MODI method. Example and problems.

(14)

4 Assignment Problem (A.P):

Introduction, concept minimization and maximization, Hungarian method example and problems

(08)

List of Practicals for Business Statistics

Practical No.	Name of Practical
1	Fitting of Multiple Regression using Excel
2	Vital Statistics using Excel
3	Life Tables using Excel
4	Time Series using Excel
5	Simplex Method using TORA
6	Transportation Problem and Assignment Problem using TORA

Recommended Books :

1. S.P. Gupta - Statistical Methods
2. S.C. Gupta - Fundamentals of Statistics
3. J.S Chandran - Statistics for Business and Economic
4. Dr. A.B. Rao - Quantitative Techniques for Business
5. Business Statistics - S. C. Gupta, Gupta Indra
6. Operation Research - V. K. Kapoor
7. Statistical Methods - S. P. Gupta