

Anekant Education Society's
Tuljaram Chaturchand College of Arts, Science and Commerce, Baramati
Autonomous

Course Structure for S.Y. B.Com. BUSINESS STATISTICS (2022 Pattern)

Name of the Programme: S.Y. B.Com.

Program Code: UCBS

Class: S.Y. B.Com.

Semester: IV

Paper Code	Title of Paper	No. of Credits
UCBS241(D)	Business Statistics-IV	3

Program Outcomes (POs) For B.Com Programme

PO1	Knowledge and Critical Thinking : Acquire skills in organising, analysing, evaluating and presenting information. Able to analysis issues logically, consider different options and viewpoints, make decisions and act with flexibility, adaptability and creativity.
PO2	Communication Skill : Able to communicate effectively, analyse the concepts and participate in healthy arguments and portray skill in communication and in writing. Possess skills related with banking and other business.
PO3	Independent learning : Demonstrate the ability to acquire knowledge and business skills, the capacity for self directed activity and the ability to work independently.
PO4	Leadership quality : Exhibit qualities associated with leadership such as accountability, integrity, respect, self reflection
PO5	Teamwork: Able to work constructively, cooperatively, effectively and respectfully as part of a team.

SYLLABUS (CBCS) FOR S. Y. B. Com. BUSINESS STATISTICS

(w. e. from June, 2023)

Name of the Programme	: B.Com
Program Code	: UCBS
Class	: S.Y.B.Com.
Semester	: IV
Course Name	: Business Statistics-IV
Course Code	: UCBS241(D)
No. of lectures	: 48
Credit	: 3 credits

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:

- CO1: learn techniques & applications of Statistical Methods and Operations Research with real life situations.
- CO2: learn business situations with real life situations.
- CO3: learn the concept of time series.
- CO4: analyze the data using time series technique and interpret the results.
- CO5: application of Statistical Computations using statistical software.
- CO6: apply time series technique in share market.
- CO7: apply of operation techniques in management.

TOPICS/CONTENTS:

Unit 1: Time Series

(14L)

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, Autoregressive model with order one (AR(1)), Example and problems.

Unit 2: Simplex Method

(12L)

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

Unit 3: Transportation Problem / optimization (only minimization)

(14L)

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

Unit 4: Assignment Problem (A.P)

(8L)

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

List of Practicals for Business Statistics for Sem-IV

Practical No.	Name of Practical
1	Time Series using Excel
2	Simplex Method
3	Transpotation Problem and Assignment Problem using TORA

Recommended Books :

1. J.S Chandran - Statistics for Business and Economic
2. S.C. Gupta and V. K. Kapoor - Fundamentals of Applied Statistics
3. Dr. A.B. Rao - Quantitative Techniques for Business
4. V. K. Kapoor - Operation Research

Course Outcomes	Program Outcomes				
	PO1	PO2	PO3	PO4	PO5
CO1	3		2		
CO2					1
CO3	2		3		
CO4	3				
CO5	2	3			
CO6	2				
CO7				3	

Weight: 1 - Partially related 2 - Moderately Related 3 - Strongly related

PO1 Knowledge and Critical Thinking:

CO1: Learn techniques & applications of Statistical Methods and Operations Research with real-life situations.

Weightage: 3 (Strongly Related)

Justification: Understanding statistical methods and operations research involves critical thinking and the application of knowledge to solve real-life problems. This directly aligns with the development of critical thinking skills.

CO3: Learn the concept of time series.

Weightage: 2 (Moderately Related)

Justification: Time series analysis requires a deep understanding of statistical concepts, contributing to critical thinking. While not directly linked, it provides a foundation for critical thinking in data analysis.

CO4: Analyze the data using time series technique and interpret the results.

Weightage: 3 (Strongly Related)

Justification: The application of time series techniques involves critical thinking skills as it requires the interpretation of complex data patterns and trends.

CO6: Apply time series technique in the share market.

Weightage: 2 (Moderately Related)

Justification: The application of time series techniques in the share market involves critical thinking, but it's more specific to financial contexts. It contributes to critical thinking within a particular domain.

PO2 Communication Skill:

CO5: Application of Statistical Computations using statistical software.

Weightage: 3 (Strongly Related)

Justification: The ability to communicate statistical computations and results effectively is essential. This directly aligns with the application of statistical software, emphasizing communication skills.

PO3 Independent Learning:

CO1: Learn techniques & applications of Statistical Methods and Operations Research with real-life situations.

Weightage: 2 (Moderately Related)

Justification: Learning statistical methods and operations research involves independent learning, as it requires self-study to understand and apply these techniques.

CO3: Learn the concept of time series.

Weightage: 3 (Strongly Related)

Justification: Understanding time series involves independent learning, especially given its complexity and specialized nature.

PO4 Leadership Quality:

CO7: Apply operation techniques in management.

Weightage: 3 (Strongly Related)

Justification: Applying operations techniques in management requires leadership qualities, as it involves making strategic decisions to optimize processes and resources.

PO5 Teamwork:

CO2: Learn business situations with real-life situations.

Weightage: 1 (Partially Related)

Justification: While understanding business situations is valuable for teamwork, the direct link is not as strong as in other cases. However, knowledge of real-life business situations contributes to effective collaboration.