



**Bachelor of Commerce(B.Com.)**  
**Semester - III**

<b>Course Code</b>	<b>UB03MACOM10</b>	<b>Title of the Course</b>	<b>Advanced Statistics – IV</b>
<b>Total Credits of the Course</b>	<b>04</b>	<b>Hours per Week</b>	<b>04</b>

<b>Course Objectives</b>	The objective of the course is to familiarize students with the study of statistical process, tools and methods utilized along with Statistical concept.
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Course Content		
Unit	Description	Weightage* (%)
1.	<b>Input - Output Analysis :</b> Meaning of Input - output analysis, assumption and limitations, Leontief's static open model - importance and application of the model, Simple examples up to the matrix of order 3×3.	25%
2.	<b>Distribution of Income and Economic Models :</b> Concept of Income Distribution models, Study of Paroto's income distribution analysis and interpretations. Lorentz curve of concentration, Fitting of Pareto and Lorentz curves - numerical examples only. Classical models- structural equations and structural parameters of model, Linear homogeneous equation system, study of (i) price determination model and (ii) income determination model.	25%
3.	<b>Time Series :</b> 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 sale forecasts and seasonal variation by using moving average method, link relative method, with examples.	25%
4.	<b>Association of Attributes</b> Concept of Qualitative data Meaning of Association of attributes, Meaning and interpretation of 2 x 2 contingency table, Types of Association of attributes, method of studying association namely (i) Comparison method of observed and expected frequency (ii) Proportion method (iii) Coefficient of Association by Yule's method. (with its interpretation ) examples based on 2 x 2 contingency table only	25%



<b>Teaching-Learning Methodology</b>	Lecture, Assignment, Quiz, Seminars, Mooc videos, Content- Focused Methods and Interactive / Participative Methods.
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**Internal and / or External Examination Evaluation**

Sr. No.	Details of the Evaluation / Exam Pattern	50 Marks (%)	25 Marks (%)
1	<b>Class Test (at least one)</b>	<b>15 (30%)</b>	<b>10 (40%)</b>
2	<b>Quiz (at least one)</b>	<b>15 (30%)</b>	<b>05 (20%)</b>
3	<b>Active Learning</b>	<b>05 (10%)</b>	<b>----</b>
4	<b>Home Assignment</b>	<b>05 (10%)</b>	<b>05 (20%)</b>
5	<b>Class Assignment</b>	<b>05 (10%)</b>	<b>----</b>
6	<b>Attendance</b>	<b>05 (10%)</b>	<b>05 (20%)</b>
<b>Total Internal (%)</b>		<b>50 (100%)</b>	<b>25 (100%)</b>
<b>University Examination (%)</b>		<b>50 (100%)</b>	<b>25 (100%)</b>

Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination.	70%

<b>Course Outcomes</b>	
1.	Uses of input and output models with their analysis.
2.	Know the association between the attributes.



Suggested References:	
Sr. No.	References
1.	J. K. Sharma, Mathematics for Business and Economics, Asian Books Private Ltd
2.	S. C. Gupta, V. K. Kapoor, Fundamentals of Applied Statistics, Sultan Chand & Sons, New Delhi.
3.	David R. Anderson, Dennis J. Sweeney, Thomas A. Williams, Statistics For Business and Economics, South - Western Cengage Learning India Pvt. Ltd. New Delhi.
4.	S.C. Gupta: "Fundamentals of Mathematical Statistics" S. Chand, New Delhi.
5.	Levin and Rubin: "Statistics for Management", Prentice Hall of India Pvt. Ltd. New Delhi

On-line resources to be used if available as reference material

On-line Resources

<https://www.investopedia.com/terms/c/correlation>

<https://www.investopedia.com/terms/t/timeseries>

<https://www.youtube.com/watch?v=CTt4y8bokWs>

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