BUSINESS STATISTICS AND OPERATION RESEARCH –II

Sem	Subject Code	Category	Lecture		Theory		Practical	Credit
			Hrs P/W	**Hrs P/Sem**	**Hrs P/W**	**Hrs P/Sem**		
IV	21CACC4A	Allied Paper-IV	6 hrs per week	90	6 hrs per week	90	Nil	5

COURSE OBJECTIVES:

□ To develop advanced statistical applications.
□ To gain knowledge of the data and its relevance in business applications.

COURSE OUTCOMES:

On the successful completion of the course, the students will be able to

CO Number	Co Statement	Knowledge Level (K1-K4)
CO1	To identify the relationship and association between variables in the dataset through correlation and regression analysis to formulate the strategy in business.	**K2**
CO2	To interpret and use a range of index numbers commonly used in the business sector.	**K3**
CO3	To understand and apply the concept to the analysis of time Series data in various contexts.	**K2**
CO4	To understand the importance of Interpolation and curve fitting and its application to solve problems.	**K2**
CO5	To understand the exceptional cases of transportation and assignment problems.	**K4**

Knowledge Level: K1- Remember; K2 – Understand; K3 Apply; K4 – Analyze

MAPPING WITH PROGRAMME OUTCOMES:

Cos	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	M	S	S	M
CO2	M	S	S	S	M	S
CO3	S	S	S	M	M	S
CO4	M	S	S	S	S	M
CO5	S	M	M	M	S	M

S-Strong   M-Medium   L-Low

UNIT-1: CORRELATION AND REGRESSION   15Hrs

Correlation – Definition – Types of Correlation – Properties of Correlation Coefficient - Methods of Studying Correlation – Uses of Correlation - Karl Pearson's Coefficient of Correlation – Spearman's Rank Correlation Coefficient –Regression Equations- Definition –Regression Lines and Equations – Properties of Regression Coefficients – Uses of Regression – Differences between Correlation and Regression - Computation Regression Coefficients.

UNIT-II: INDEX NUMBER   20Hrs

Index Number – Definition – Characteristics of Index Numbers – Uses of Index Numbers – Types of Index Numbers – Price Index – Quantity Index – Value Index – Problems in the Construction of Index Numbers – Methods of Constructing Index Numbers – Unweighted Index Numbers – Simple Average of Price Relative Method – Weighted Index Numbers –Test of Adequacy of Index Number Formulae Unit Test – Time Reversal Test – Factor Reversal Test.

UNIT-III: TIME SERIES   20Hrs

Time series – Definition – Utility of Time Series Analysis – Components – Measurement of Trend - Semi Average- Moving Averages- Method of Least Squares –Measurement of Seasonal Variations - Simple Average Method.

UNIT-IV: INTERPOLATION   15Hrs

Interpolation – Definition – Newton (Forward only) – Lagrange's – Binominal Expansion.

UNIT-V: TRANSPORTATION AND ASSIGNMENT   20Hrs

The Transportation Problem – Basic Definitions – Formulation of Transportation problem as Linear Programming Problem (LPP) – Solution procedure for Transportation Problem – Finding an Initial Basic Feasible Solution – Assignment – Steps for Solving an Assignment Problem.

DISTRIBUTION OF MARKS: PROBLEMS – 80%; THEORY – 20%

TEXT BOOKS:

S.No	Author	Title of The Book	Publications	Year of Publication
1	R.S.N. Pillai and Bagavathi	Business Statistics	S. Chand	2008
2	P.R. Vittal	Business Statistics and Operations Research	Margham Publication	2012

REFERENCE BOOKS:

S.No	Author	Title of The Book	Publications	Year Of Publication
1	P.A. Navnithan	Business Statistics and Operations Research	Jai Publishers	2009
2	S.P.Rajagopalan	Business Statistics and Operations Research	Tata McGraw Hill	2009
3	K. Alagar	Business Statistics	Tata McGraw Hill	2010
4	P.N. Arora Amit Arora S. Arora	Business Statistics	S.Chand	2008
5	Sharpe De VeauxVel leman	Business Statistics	Pearson	2014
6	Robert A. Donnelly	Business Statistics	Pearson	2014
7	Jaggia/ Kelly	Business Statistics communicating with numbers	MC Graw Hill Education	2015
8	Bowerman O'connell Murphree	Business Statistics in practice	MC Graw Hill Education	2016
9	Levine Szabat Stephan	Business Statistics	Pearson	2015
10	David F. Groebner Patrick W. Shannon Phillip C. Fry	Business Statistics	Pearson	2017

TEACHING METHODOLOGY:

- Class roomteaching
- Discussions

- PPTPresentations

- Seminar

- BlendedLearning

SYLLABUS DESIGNERS:

1. Dr.G.Bhavani Assistant Professor in Commerce
2.   Dr.V.Sudha Assistant
Professor in Commerce
3.   Ms. D. Divya, Assistant
Professor of Commerce