

THIRUVALLUVAR UNIVERSITY, SERKKADU, VELLORE
ALLIED COURSE OFFERED BY ARTIFICIAL INTELLIGENCE

FIRST YEAR: : FIRST SEMESTER

Subject Code	Subject Name	Category	L	T	P	S	Credits	Inst. Hours	Marks		
									CIA	External	Total
	Statistical Methods and its applications	Elective	4	-	-	-	3	4	25	75	100
Learning Objective											
LO1	Tell how descriptive and inferential statistics are used in the modern world										
LO2	Show an understanding of Measures of location										
LO3	Show an understanding of Measures of dispersion.										
LO4	Show an understanding of Measures of Skewness.										
LO5	Knowledge about Correlation.										
UNIT	Contents										No. of Hours
I	Introduction - scope and limitations of statistical methods - classification of data - Tabulation of data- Diagrammatic and Graphical representation of data - Graphical determination of Quartiles ,Deciles and Percentiles.										12
II	Measures of location: Arithmetic mean, median, mode, geometric mean and Harmonic mean and their properties.										12
III	Measures of dispersion: Range, Quartile deviation, mean deviation, Standard deviation, combined Standard deviation and their relative measures.										12

IV	Measures of Skewness: Karl Pearson's, Bowley's, and Kelly's and coefficient of Skewness and Kurtosis is based on moments.	12
V	Correlation - Karl Pearson – Spearman's Rank correlation - concurrent deviation methods. Regression Analysis: Simple Regression Equations. Note: The proportion between theory and problems shall be 20:80	12
	Total	60

Course Outcomes		Programme Outcome
CO	Upon completion of the course the students would be Able to:	
1	Knows the basic concept of statistical method.	PO1
2	Understand the Measures of location	PO1, PO2
3	Understand the Measures of dispersion	PO3, PO5
4	Understand the Measures of Skewness	PO5
5	Understand the correlation, concurrent deviation methods.	PO3, PO6

Text Book

Fundamental of Mathematical Statistics-S.C.Gupta&V.K.Kapoor-SultanChand

Reference Books

Statistical Methods-Dr.S.P.Gupta-Sultan Chand & Sons

Elements of Statistics - Mode. E.B.-Prentice Hall

Web Resources

<https://nptel.ac.in/courses/111107105>

Mapping with Programme Outcomes:

CO/PSO	PSO1	PSO 2	PSO3	PSO4	PSO 5	PSO6
CO 1	3	3	3	3	3	3
CO 2	3	3	2	3	3	3
CO 3	3	2	2	3	2	3
CO 4	3	3	3	2	2	3
CO 5	3	2	3	2	3	2
Weight age of course contributed to each PSO	15	13	13	13	13	14

S-Strong-3 M-Medium-2L-Low-1

Subject Code	Subject Name	Category	L	T	P	S	Credits	Inst. Hours	Marks		
									CIA	External	Total
	Resource Management Techniques	Elective	4	-	-	-	3	4	25	75	100
Learning Objective											
LO1	To learn the basic concept of operation research theory which are frequently applied to business decision making										
LO2	To acquire the knowledge about linear programming problems.										
LO3	Knowledge about simplex methods.										
LO4	To acquire knowledge about Mathematical formulation of transportation problem										
LO5	Knowledge about Mathematical formulation of transportation problem										
UNIT	Contents										No. of Hours
I	Development of OR – Definition of OR – Modelling in OR – general methods for solving OR models – Main characteristics and phases of OR study – tools, techniques and methods – scientific methods in OR – scope of OR.										12
II	Linear programming problems – Mathematical formulation of L.P.P. – slack and surplus variables – graphical solution of L.P.P.										12
III	Simplex methods – Computational procedure – Artificial variables technique - two phase method – Duality in linear programming										12
IV	Mathematical formulation of assignment problem, - Method for solving the assignment problem.										12
V	Mathematical formulation of transportation problem – optimal solution of T.P. – Methods for obtaining initial feasible solution – optimal solution – degeneracy in T.P. – Unbalanced T.P										12
	Total										60
Course Outcomes							Programme Outcome				

CO	Upon completion of the course the students would be Able to:	
1	To develop skills for decision making.	PO1
2	To make use of Linear programming problems	PO1, PO2
3	To make use of Simplex methods	PO3, PO5
4	To make use of Mathematical formulation of assignment problem	PO5
5	To utilize Mathematical formulation of transportation problem	PO3, PO6
Text Book		
Operations Research – S.D. Sharma - Kedar Nath Ramnath & Co – 1997. Chapter 1 to 6 (all sections)		
Reference Books		
Operations Research Gupta , Man Mohan, Gandhi swarup - Sulthand –Chand Publications		
Ackoff R.L. and Sasieni M. W, “Fundamentals of Operations Research”, John Wiley and sons New York 1968		
Charnes A. Cooper W. and Hendersen A. , “ Introduction to Linear Programming”, Wiley and Sons New York		
Srinath L.S, “PERT and CPM principles and applications”, Affiliated East West Press Pvt. Ltd. New York		
Web Resources		
http://ebooks.ipude.in/operationsresearch/ http://ocw.mit.in/		

Mapping with Programme Outcomes:

CO/PSO	PSO1	PSO 2	PSO3	PSO4	PSO 5	PSO6
CO 1	3	3	3	3	3	3
CO 2	3	3	2	3	3	3
CO 3	3	2	2	3	2	3
CO 4	3	3	3	2	2	3
CO 5	3	2	3	2	3	2
Weight age of course contributed to each PSO	15	13	13	13	13	14

S-Strong-3 M-Medium-2L-Low-1