



VAGDEVI DEGREE COLLEGE

(Affiliated to Acharya Nagarjuna University)

(College Code : 116)

Ravipadu Road, Narasaraopet, Palnadu Dt, A.P., Ph : 9247025166

TEACHING PLAN

Name of the Course with code : OPERATIONS RESEARCH - II
Class & Semester / Academic Year : BSC & SEM V /2023-24
Name of the faculty Member : SHAIK KHADAR BASHA

S.NO	TOPIC	NO OF PERIODS REQUIRED	BOOKS FOLLOWED
UNIT-1			
1	Introduction of OR	1	T1
2	Origin and development of OR	1	T1
3	Nature and features of OR	2	T1
4	Scientific Method in OR	1	T1
5	Modeling in OR	1	T1
6	Advantages and limitations of Models	1	T1
7	General Solution methods of OR models	3	T1
8	Applications of Operation Research	1	T1
9	Linear programming problem (LPP)	1	T1
10	Mathematical formulation of the problem	1	T1
11	Illustrations on Mathematical formulation of Linear programming problem	1	T1
12	Graphical solution of linear programming problems	1	T1
13	Some exceptional cases in Linear programming problems	1	T1
14	Alternative solutions	1	T1
15	Unbounded solutions	2	T1
16	Non-existing feasible solutions by Graphical method	1	T1
	TOTAL NO OF PERIODS REQUIRED	20 hrs	
UNIOTO-2			
1	General Linear Programming Problem (GLP) - Definition	1	T1
2	Matrix Form of GLP Problem	1	T1
3	Slack Variable	1	T1
4	Surplus Variable	1	T1
5	Unrestricted Variable	2	T1
6	Standard Form of Linear Programming Problem (LPP)	1	R1
7	Canonical Form of Linear Programming Problem (LPP)	2	T1,R1



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8	Solution	2	T1
9	Basic Solution	1	T1
10	Degenerate Solution	1	T1
11	Basic Feasible Solution	1	T1
12	Optimum Basic Feasible Solution	1	T1
13	Introduction to Simplex Method	1	T1
14	Computational Procedure of Simplex Algorithm	1	T1
15	Solving LPP by Simplex Method (Maximization Case)	1	T1
	TOTAL NO OF PERIODS REQUIRED	18 hrs	
UNIT-3			
1	Solving LPP by Simplex Method (Maximization Case)	1	T1
2	Artificial Variable Technique:	1	T1
3	Big-M Method	1	T1
4	Two-Phase Simplex Method	1	T1
6	Degeneracy in Linear Programming (LPP): 3. Causes of Degeneracy	1	T1
7	Methods to Resolve Degeneracy	1	T1,R2
8	Special Cases in Linear Programming: 5. Alternative Solution	1	T1,R21
9	Unbounded Solution	1	T1
10	Non-Existing Feasible Solution	1	T1
11	Solution of Simultaneous Equations by Simplex Method: 8. Application of Simplex Method for Solving Simultaneous Equations	1	T1
	TOTAL NO OF PERIODS REQUIRED	11 hrs	
UNIT - 4			
1	Concept of Duality	1	T1
2	Definition of Primal and Dual Problems	1	T1
3	General Rules for Converting Primal into Dual	1	T1
4	Economic Interpretation of Duality	1	T1
5	Relation Between Primal and Dual Solutions (Statements Only)	1	T1
6	Using Duality to Solve Primal Problems	1	T1
	TOTAL NO OF PERIODS REQUIRED	6 hrs	
UNIT - 5			
1	Post Optimal Analysis:	2	T1
2	Changes in Cost Vector (C)	2	T1
3	Changes in Requirement Vector (b)	1	T1
4	Changes in Coefficient Matrix (A)	2	T1



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5	Structural Changes in a Linear Programming Problem	1	T1
	TOTAL NO OF PERIODS REQUIRED	6	T1
	GRAND TOTAL NO OF PERIODS	61	

Text Book:

T1 A Text book of statistics for OPERATTION RESEARCH B.sc by S D SHARMA and KEDARNATH AND CO

Reference Book:

R1 J. N. Sharma operation research and application, McMillon and company, new Delhi

R2: Gass : linear programming.MC GRAW HILL

FACULTY SIGNATURE:

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TEACHING PLAN

Name of the Course with code : OPERATIONS RESEARCH - I
Class & Semester / Academic Year : BSC & SEM V /2023-24
Name of the faculty Member : SHAIK KHADAR BASHA

S.NO	TOPIC	NO OF PERIODS REQUIRED	BOOKS FOLLOWED
UNIT-1 Introduction of OR			
1	Introduction of OR	1	T1
2	Origin and development of OR	1	T1
3	Nature and features of OR	1	T1
4	Scientific Method in OR	1	T1
5	Origin and development of OR	3	T1
6	Nature and features of OR	1	T1
7	Modeling in OR	2	T1
8	Advantages and limitations of Models-General Solution	1	T1
9	Applications of Operation Research. Linear programming	1	T1
10	General linear programming Problem(GLP)	1	T1
11	Definition and Matrix form of GLP problem	2	T1
12	Slack variable, Surplus variable, unrestricted Variable	2	T1
13	Mathematical formulation of the problem	2	T1
14	illustrations on Mathematical	1	T1
15	Graphical solution of linear programming	2	T1
16	Some exceptional cases	2	T1
	TOTAL NO OF PERIODS REQUIRED	24hrs	
UNIT-2 Linear programming problem			
1	General linear programming Problem(GLP)	4	T1
2	Definition and Matrix form of GLP problem	4	T1
3	Slack variable, Surplus variable, unrestricted Variable	4	T1
4	Standard form of LPP and Canonical	1	T1
	TOTAL NO OF PERIODS REQUIRED	13 hrs	
UNIT-3 BigM Method			
1	Definitions of Solution, Basic Solution	3	T1
2	Maximization case and Minimization case	2	T1
3	Artificial variable tec	2	T1
4	Big-M method and Two-phase simplex method	2	T1
6	Alternative solution, Unbounded solution	2	T1
			T1



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TOTAL NO OF PERIODS REQUIRED		11hrs	
UNIT – 4 Duality in lpp			
1	Duality in Linear Programming	2	T1
2	Concept of duality -Definition of Primal and Dual Problems	2	T1
3	General rules for converting any primal into its Dual	2	T1
4	Economic interpretation of duality,	2	T1
5	Dual Simplex Method	2	T1
6			T1
TOTAL NO OF PERIODS REQUIRED		10 hrs	
UNIT -5 Post optimum anlysis			
1	Post Optimal Analysis- Changes in cost VectorC	2	T1
2	Changes in cost vector	2	T1
3	Changes in the requirements vector	2	T1
4	Changes in the coefficient matrix A	2	T1
5	Structure changes in lpp	2	T1
TOTAL NO OF PERIODS REQUIRED		10	T1
GRAND TOTAL NO OF PERIODS		68	

Text Book :

T1 A Text book of statistics for OPERATTION RESEARCH B.sc by S D SHARMA and KEDARNATH AND CO

Reference Book :

R1 J. N. Sharma operation research and application, McMillon and company, new Delhi

R2: Gass : linear programming.MC GRAW HILL

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TEACHING PLAN

Name of the Course with code : STATISTICAL INFERENCE
Class & Semester / Academic Year : BSC & SEM III /2023-24
Name of the faculty Member : SHAIK KHADAR BASHA

S.NO	TOPIC	NO OF PERIODS REQUIRED	BOOKS FOLLOWED
UNIT-1 Introduction of OR			
1	Population and sample	1	T1
2	Parameter and statistics	1	T1
3	Sampling distribution	1	T1
4	Standard error	1	T1
5	Central limit theorem	1	T1
6	Student t distribution	1	T1
7	F distribution	2	T1
8	Chi square distribution	2	T1
9	Properties and Application	2	T1
	TOTAL NO OF PERIODS REQUIRED	12	
Unit II theory of estimation			
1	Estimate of a parameter	2	T1
2	Criteria of a good estimator	2	T1
3	Nyman factorization theorem	2	T1
4	MLE	2	T1
5	Binomial MLE, poison MLE, normal MLE	4	
	TOTAL NO OF PERIODS REQUIRED	12	
UNITIII Testing of hypothesis			
1	Definition and types of hypothesis	2	T1
2	Level of significance	2	T1
3	Critical region	2	T1
4	Types of error	2	T1
6	One and two tailed test	2	T1
7	Neymann pearson lemma	2	T1
8	Binomial,poission, exponential normal distrubution	4	
	TOTAL NO OF PERIODS REQUIRED	16	
Unit iv large and small sample test			
1	Difrence between two means	2	T1
2	Difrence between two standard deviations	2	T1



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3	Difrence between two proportions	2	T1
4	Test for sinle mean and paired t test	2	T1
5	Chi square test for goodness of fit	2	T1
6	Independent of attributes	2	T1
7	F test for equality of variances	2	
	TOTAL NO OF PERIODS REQUIRED	12	
Unit v non parametric test			
1	Nonparametric test advantages and disadvantages	2	T1
2	Sample run test , sign test	2	T1
3	Wilcoxon signed rank test	2	T1
4	Median test	2	T1
5	Wilcoxon –Mann Whitney u test	2	T1
6	Wold wolfowriza run test	2	T1
	TOTAL NO OF PERIODS REQUIRED	12	
	GRAND TOTAL NO OF PERIODS	64	

Text Book :

T1 BA/BSC II TEAR STATISTICS METHOD AND REFERENCE – TELUGU ACADAMY A.mohan rao, N srinivasrao

Reference Book

- 1.fundamental of mathematics statistics vk Kapoor and SCguptha
2. introduction of mathematical statistics: hoelp.g

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