

CONTENTS

CONTENTS.....	3
INTRODUCTION.....	5
1 CONVEX SETS	7
2 FORMULATING PROBLEMS IN LINEAR.....	10
PROGRAMMING	10
2.1 PRODUCTION PROGRAM PROBLEM	10
2.2 PROBLEM OF MATERIAL DIVISION.....	11
2.3 THE ISSUE OF MIXTURES	13
2.4 INVESTMENT STRATEGIES	15
3 CANONICAL FORM OF LINEAR.....	17
PROGRAMMING PROBLEM	17
4 FINDING OPTIMAL SOLUTION	20
4.1 GRAPHICAL SOLUTION OF A LINEAR PROGRAMMING PROBLEM	20
4.2 SEARCHING THE SET OF ALL FEASIBLE SOLUTIONS	24
5 SIMPLEX METHOD	30
5.1 TRANSITION TO ANOTHER BASIC SOLUTION	30
5.2 SIMPLEX TABLEAU	33
5.3 SIMPLEX METHOD ALGORITHM	34
5.4 FINALITY OF SIMPLEX ALGORITHM	37
5.5 SIMPLEX METHOD MATRIX RECORD.....	40
5.6 ARTIFICIAL BASIS.....	41
6 ADJUSTING LINEAR PROGRAMMING.....	46
PROBLEM TO A CANONICAL FORM	46
6.1 CONVERTING MAXIMIZATION ISSUE TO MINIMIZATION ONE	46
6.2 ADDITIONAL VARIABLES.....	46
7 DUALITY	50
7.1 DUAL PROBLEM CREATION RULES	50
7.2 DUAL CONJUGATE PROBLEM CHARACTERISTICS	54
7.3 ECONOMIC INTERPRETATION OF DUALLY CONJUGATE PROBLEMS	59
8 DUAL SIMPLEX ALGORITHM	62
8.1 FEASIBLE DUAL SOLUTION.....	62

8.2	DUAL SIMPLEX ALGORITHM.....	63
9	INTEGER LINEAR PROGRAMMING	68
9.1	THE ISSUE OF INTEGER PROGRAMMING	68
9.2	GOMORY ALGORITHMS	70
10	SENSITIVITY ANALYSIS.....	80
	OF LINEAR PROGRAMMING PROBLEMS.....	80
10.1	PURPOSE FUNCTION COEFFICIENT CHANGES ANALYSIS.....	80
10.2	BASIC LIMITATION RIGHT SIDE CHANGES ANALYSIS	83
10.3	STRUCTURAL COEFFICIENT CHANGE.....	85
11	TRANSPORTATION PROBLEM.....	92
11.1	MATHEMATICAL MODEL OF TRANSPORTATION PROBLEM.....	92
11.2	CHARACTERISTICS OF TRANSPORTATION PROBLEM	95
11.3	THE DANTZIG METHOD OF SOLVING TRANSPORTATION PROBLEMS.....	97
11.4	FINDING DEFAULT BASIC SOLUTION	99
12	ASSIGNMENT PROBLEM.....	106
12.1	BASIC TERMS.....	107
12.2	HUNGARIAN METHOD	109
13	DISTRIBUTION PROBLEMS.....	117
	BIBLIOGRAPHY	119