

UNIVERSITY OF MADRAS
B.Com. (GENERAL) DEGREE COURSE
SYLLABUS WITH EFFECT FROM 2020-2021

BGE-CSA4A

ALLIED-IV(A): ELEMENTS OF OPERATIONS RESEARCH

Common to BCom(A&F), BCom(MM), BCom(CA) & BCom(ISM)

Inst.Hrs : 6

Credits : 5

YEAR: II

SEMESTER: IV

OBJECTIVES

- To Facilitate this Understanding of the Concept of Operations Research
- To Help the Students to Understand the Various Techniques of Solving Problems

OUT COME:

- Understanding of the Concept of Operations Research and to Help the Students to Understand the Various Techniques of Solving Problems

UNIT I : Introduction

Operations Research- Meaning-Definition - Origin and History- Characteristic Features – Need-Scope –Steps- Techniques- Application- Limitations

UNIT II : Linear Programming Problem Lpp

Meaning- Requirements- Assumptions- Applications- Formulating Lpp –Advantages- Limitations Formulating LP Model (Simple Problems Only)

UNIT III: Methods Of Lpp

Obtaining Optimal Solution for Linear Programming Problem (LPP)-Graphical Method - Problems --Simplex Method for Type of LPP and for Slack Variable Case -Maximization Function -Minimization Function (Simple Problem Only)

UNIT IV : Transportation Problems

Meaning –(Initial Basic Feasible Solution)Assumptions -Degenerate Solution -North -West Corner Method- Least Cost Method -Vogels Approximation Method -Assignment Problems- Features -Transportation Problem Vs Assignment Problem -Hungarian Method (Simple Problems Only)

UNIT V: Game Theory

Meaning- Types of Games- Basic Assumptions- Finding Value of Game for Pure Strategy - Mixed Strategy -Indeterminate Matrix and Average Method -Graphical Method -Pure Strategy- Saddle Point Payoff Matrix Value of Game (Simple Problems Only)

Recommended Texts

1. M.Sreenivasa Reddy – Operations Research – CENGAGE , New Delhi
2. S.Gurusamy–Elements of Operations Research–Vijay Nicole Imprints private Limited, Chennai

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SUGGESTED READINGS

1. Agarwal NP and Sonia Agarwal, Operations Research and Quantitative Techniques, RBS A Publishers, New Delhi ,2009
2. Anand Sharma, Operations Research, Himalayan Publishing House, 2014 ,Mumbai
3. Gupta Pk And Gupta SP Quantitative Techniques and Operations Research, Sultan Chand and Sons, 2014, New Delhi
4. Kapoor V.K, Operations Research Techniques For Management,Sultan Chand And Sons, 2012 New Delhi
5. Kanti Swarup,P.K. Gupta Man Mohan ,operation research, Jain book agency, 2014, New Delhi
6. Sarangi, SK Applied operations research and Quantitative methods, Himalayan publishing house 2014, Mumbai.

E- SOURCES:

<http://www.learnaboutor.co.uk/>

<http://www.theorsociety.com/>

www.orcomplete.com/

<http://www.orsi.in/>