BBA- Sem -V (CBCS 2019)

501: INTRODUCTION TO OPERATIONS RESEARCH

Course Code	501	**Course Type**	Core Course
Credits	4	**Examination Pattern**	UE + IA: 70:30

Course Objective

The objective of the course is to familiarize the students with the tools & techniques of Operation Research.

Learning Outcome

Students will be able to understand the practical importance and applications of various operations research techniques.

UNIT 1

Definition of Operations Research (OR), Origin and Development of OR, Scope of Operation Research, Advantages and Limitations of OR.

UNIT 2

Linear Programming Problem-LPP, Formulation of LP Problem, Graphical solution – Procedure of solving LPP by Graphical method. Applications and limitations of LPP

UNIT 3

Transportation Problem, meaning, definition and applications, Applications of Transportation Problem, Types of Transportation problems.Initial Basic Feasible Solution – North West Corner Rule, Least Cost or Matrix Minima Method , Vogel‟s Approximation method. Checking for optimality, Finding optimal solution by MODI method.

UNIT 4

Assignment Problem- meaning, definition and applications, Types – unbalanced and maximization, assignment problem. Hungarian method for solving assignment problem.

UNIT 5

Network Analysis - importance of network analysis, construction of networks.

Critical Path Method (CPM) - calculation of earliest and latest times, types and computation of floats.

Program Evaluation and Review Technique (PERT) - 3 time estimates, expected duration.

Reference Books :

1. Operations Research – Hira and Gupta S.Chand
2. Operations Research – Pai, Oxford University Press
3. Operational Research – Dr. P.R.Vital
4. Operational Research – Handy and A.Tata.
5. Statistical Methods and Operation Research – S.P.Gupta

Online Resources:

https://www.khanacademy.org

http://web.itu.edu.tr/topcuil/ya/OR.pdf

Moocs:

www:/Alison

www/SWAYAM

www/NPTEL