

Open Course Title: Engineering Optimization techniques with real life applications

Target Students from Branches: All branches

Total duration of the course: 20 Hours.

No. of Lecture hours: 20 hours

No. of hands on / Practical: NIL

Abstract

An optimization problem consists of maximizing or minimizing a real function by systematically choosing input values from within an allowed set and computing the value of the function. The generalization of optimization theory and techniques to other formulations constitutes a large area of applied mathematics. More generally, optimization includes finding "best available" values of some objective function given a defined domain (or input), including a variety of different types of objective functions and different types of domains.

This course provides knowledge in finding the optimal solution or unconstrained maxima or minima of continuous and differentiable functions. The study of these techniques of optimization forms a basis for solving practical problems.

Open Course Details

The participants will be able to

CO1: Understand and analyse various optimization techniques.

CO2: Formulate and develop linear programming models.

CO3: Solve the linear programming problems using Simplex method, Dual simplex method and Big M method.

CO4: Propose the best strategy using decision making methods under uncertainty and Game theory.

Schedule

Date	Morning Session	Topic/ Resource person	CO Mapping	Afternoon Session	Topic/Resource person	CO Mapping
12/02/2019	9:00 am – 11:00 am	Introduction to Operations research, Overview of Optimization and real life applications using various techniques – Mr. Muneshwara.M.S	CO1	11 : 30 pm – 01.30 pm	Introduction to Linear programming problems and Graphical solution of LPP in two variables – Dr. Chethan .A.S	CO 2
13/02/2019		Simplex method: Maximization and Minimization problems –Dr. Annapoorna.M.S.	CO 3		The essence of Duality theory and Dual simplex method –Mrs. Sreelakshmi.T.K.	CO 3
14/02/2019		Introduction to artificial variable and Big M method – Dr. Karabi Sikdar	CO 3		Applications of Transportation problems - Dr. Jojy Joseph Idicula	CO 4
15/02/2019		The Assignment problems and real world application – Mrs. Anitha Kiran	CO 4		Game Theory and its applications – Mr. Kallur Vijay Kumar	CO 4
16/02/2019		Quiz	-			

Registration Fee: Rs. 300/- per student.

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