TEACHING PLAN	
Course Title: Optimization Techniques	**Duration of Examination: 3 hours**
Course Code: PGAMT2C005T	**Maximum Marks: 100**
Course Instructor's Name: Dr. Kamlesh Kumar	
Lecture 1	Introduction to Linear Programming Problems (LPP) with examples
Lecture 2	Solution of LPP by Graphical method
Tutorial 1	Assignment/ Discussion/Exercises
Lecture 3	Multiple and unbounded solution by Graphical method
Lecture 4	Infeasible solution and application done by graphical method
Tutorial 2	Assignment/ Discussion/Exercises
Lecture 5	Solution of LPP by Simplex method
Lecture 6	Convex sets in LPP and some examples
Tutorial 3	Assignment/ Discussion/Exercises
Lecture 7	Solution of LPP by Big-M & Two phase method
Lecture 8	Duality in LPP and its properties
Tutorial 4	Assignment/ Discussion/Exercises
Lecture 9	Introduction to Assignment problems and some examples
Lecture 10	Solution of Assignment problem
Tutorial 5	Assignment/ Discussion/Exercises
Lecture 11	Hungarian Method to solve the Assignment Problems
Lecture 12	Solution of unbalanced Assignment Problems
Tutorial 6	Assignment/ Discussion/Exercises
Lecture 13	Introduction to Transportation Problems and some examples
Lecture 14	Procedure of Transportation Problems
Tutorial 7	Assignment/ Discussion/Exercises
Lecture 15	Methods for finding initial solution and optimality
Lecture 16	Degeneracy in Transportation problems
Tutorial 8	Assignment/ Discussion/Exercises
Lecture 17	Introduction to Sequencing problems and some examples
Lecture 18	Solution for Processing of n-jobs through two machines
Tutorial 9	Assignment/ Discussion/Exercises
Lecture 19	Solution for Processing of n-jobs through m-machines
Lecture 20	Total elapsed time in the Processing of n-jobs through two machines
Tutorial 10	Assignment/ Discussion/Exercises
Lecture 21	Introduction to Replacement problems and some examples
Lecture 22	Model for Replacement policy of major items when money value does not change

	and resale value is constant and maintenance cost is increasing function of time
Tutorial 11	Assignment/ Discussion/Exercises
Lecture 23	Model to determine the replacement policy when money value changes
Lecture 24	Model to determine the replacement policy of items which fail all of sudden
Tutorial 12	Assignment/ Discussion/Exercises
Lecture 25	Introduction to Integer Programming Problems (IPP)
Lecture 26	Solution of IPP and properties of IPP
Tutorial 13	Assignment/ Discussion/Exercises
Lecture 27	Branch and bound method to solve IPP
Lecture 28	Gomory's Techniques to solve the IPP
Tutorial 14	Assignment/ Discussion/Exercises
Lecture 29	Unimodularity in IPP
Lecture 30	Backward computation in IPP
Tutorial 15	Assignment/ Discussion/Exercises
Lecture 31	Introduction to Dynamic Programming Problems (DPP)
Lecture 32	Some examples and its solutions for DPP
Tutorial 16	Assignment/ Discussion/Exercises
Lecture 33	Introduction to Non-linear programming problems (NLPP)
Lecture 34	Solution of NLPP and some examples
Tutorial 17	Assignment/ Discussion/Exercises
Lecture 35	Convex and concave functions and its properties
Lecture 36	Hessian boarded matrix and some examples
Tutorial 18	Assignment/ Discussion/Exercises
Lecture 37	Cohn Tucker conditions for optimizing the constraints
Lecture 38	Introduction to Quadratic Programming Problems
Tutorial 19	Assignment/ Discussion/Exercises
Lecture 39	Graphical solution of NLPP
Lecture 40	Some important examples based on NLPP and Quadratic problems
Tutorial 20	Assignment/ Discussion/Exercises