Samrat Ashok Technological Institute, Vidisha			
Department of Mechanical Engineering **Lecture Plan**			
Course Code:	ME-1855	**Year/Semester :**	BE III[rd] Year/ 5[th] Semester
Course Name:	Operation Research	**Academic Year :**	July- 2023 To Dec.-2023
L – P:	3 – 0	**Credit :**	3
Course Detail :	Theory	**Term Start Date :**	24.07.2023
Course Coordinator:	Prof. J. P. Shaky	**Term End Date :**	03.11.2023

Lesson Plan: *Attach Lesson Plan duly prepared.*

Samrat Ashok Technological Institute, Vidisha
Department of Mechanical Engineering

Lesson Plan

Academic Year: July- 2023 To Dec.-2023			**Semester and Batch: V**			
Name of Teacher: Prof. Jagdish Prasad Shakya			**Name of Department:** Mechanical Engineering			
Subject: Operation Research			**Hrs./Week :** 3hr/week			
Theory/Tutorial: Theory			**Days:**			
Sr. No.	**Name Of Unit/Topics**	**Hrs. Allotted**	**Planned Date**	**Actual Date**	**Teaching Aid Code**	**Remarks**
01	**UNIT-I Introduction**					
	Definition and scope of operations research (OR), OR model.	1	25.07.2023		PPT & VIDEO	
	Solving the OR model, art of modeling, phases of OR study	1	26.07.2023		PPT & VIDEO	
	Linear Programming: Two variable Linear Programming model	1	27.07.2023		PPT & VIDEO	
	Graphical method of solution	1	01.08.2023		PPT & VIDEO	
	Simplex method	1	02.08.2023		PPT & VIDEO	
	Dual Simplex method,.	1	03.08.2023		PPT & VIDEO	
	Special cases of Linear Programming	1	08.08.2023		PPT & VIDEO	
	Duality, sensitivity analysis	1	09.08.2023		PPT & VIDEO	
	Assignment & Tutorial	1	10.08.2023		PPT & VIDEO	
02	**UNIT-II Transportation Problems:**					
	Types of transportation problems, mathematical models	1	16.08.2023		PPT & VIDEO	
	Transportation algorithms, methods for IBFS	1	17.08.2023		PPT & VIDEO	
	Stepping Stone	1	22.08.2023		PPT & VIDEO	

	MODI method	1	23.08.2023		PPT & VIDEO	
	Assignment: Assignment Problem formulation	1	24.08.2023		PPT & VIDEO	
	Balanced and unbalanced assignment problem,	1	29.08.2023		PPT & VIDEO	
	Hungarian method,	1	31.08.2023		PPT & VIDEO	
	processing of job through machines.	1	05.09.2023		PPT & VIDEO	
	Assignment & Tutorial	1	06.09.2023		PPT & VIDEO	
	UNIT-III Network Techniques					
	Role of network Techniques in project Management,	1	12.09.2023		PPT & VIDEO	
	Basic Tools and Techniques of Project management	1	13.09.2023		PPT & VIDEO	
	PERT-background and development, networking, estimating activity time,	1	14.09.2023		PPT & VIDEO	
03	Determination of Earliest Expected and Latest allowable times,	1	19.09.2023		PPT & VIDEO	
	Determination of Critical Path	1	20.09.2023		PPT & VIDEO	
	Applications of PERT	1	21.09.2023		PPT & VIDEO	
	Critical Path Method	1	26.09.2023		PPT & VIDEO	
	Numbering the events, Crashing, Resource allocation smoothening.	1	27.09.2023		PPT & VIDEO	
	Assignment & Tutorial	1	03.10.2023		PPT & VIDEO	
	UNIT-IV Theory of Games					
	Rectangular games, Minimax theorem	1	04.10.2023		PPT & VIDEO	
	Graphical solution of 2 x *n* or *m* x 2 games	1	05.10.2023		PPT & VIDEO	
04	Game with mixed strategies, reduction to linear programming model.	1	10.10.2023		PPT & VIDEO	
	Queing theory: Elements of Queuing model,	1	11.10.2023		PPT & VIDEO	
	Generalized Poisson queuing model	1	12.10.2023		PPT & VIDEO	
	Single server models and double server model.		17.10.2023		PPT & VIDEO	
	Assignment & Tutorial	1	18.10.2023		PPT & VIDEO	
	UNIT-V Inventory Control					
	Models of inventory,	1	19.10.2023		PPT & VIDEO	
	Operation of inventory system, quantity discount.	1	25.10.2023		PPT & VIDEO	
05	Replacement models: Equipments that deteriorate with time	1	26.10.2023		PPT & VIDEO	
	Equipments that fail with time.	1	31.10.2023		PPT & VIDEO	

	Production control in intermittent manufacture and continuous manufacturing	1	01.11.2023		PPT & VIDEO	
	Assignment & Tutorial	1	02.11.2023		PPT & VIDEO	
Teaching Aid Code:		Sign of Teacher: _____				
1	OVERHEAD PROJECTOR					
2	L.C.D PROJECTOR					
3	MODEL & CHART					
4	PPT & VIDEO					
**** Remark column should cover any slippages and remedial action planned***						