

DEPARTMENT OF MECHANICAL ENGINEERING
LESSION PLAN ON
BME 316
INDUSTRIAL ENGINEERING AND OPERATION RESEARCH
6TH SEMESTER MECHANICAL ENGINEERING

Sl. No. of Class	Topics to be covered
1.	Production Planning and Control – Introduction, Definition & Objectives
2.	Aggregate Planning
3.	Materials Requirement Planning
4.	Routing & Scheduling
5.	Machine Loading using Johnson’s Rule and Despatching
6.	Inventory Control – Introduction, Relevant costs
7.	Basic EOQ model & problem
8.	Models with quantity discount with problem
9.	Economic Batch Quantity
10.	Periodic and Continuous Review System for Stochastic system
11.	Safety stock, Reorder point and Order quantity calculation
12.	ABC Analysis with problem
13.	Project management through PERT & CPM
14.	Network Construction – Problem
15.	CPM Network calculation
16.	Crashing of Project Network
17.	Project scheduling with limited resources, Resource levelling problem
18.	Resource Allocation – problem
19.	Line of Balance
20.	ISO 9000 series
21.	Poke a Yoke Kaizen
22.	Kanban, Quality Circle
23.	JIT & TQM
24.	Linear Programming - Mathematical Formulation of Problem
25.	Graphical solution method & General Linear programming problem
26.	Simple method – Introduction & various terminologies
27.	Simplex method – Fundamental properties of solution
28.	Simplex method – Computational procedure
29.	Concept of duality in simplex method
30.	Dual Simplex algorithm
31.	Matrix form of transportation problem
32.	Transportation problem – moving towards optimality
33.	Degeneracy in Transportation problem
34.	Assignment Algorithm & Problem
35.	Routing Problem
36.	Queuing theory – Introduction

37.	Classification of Queuing theory
38.	Simple Queuing model
39.	Old question solution
40.	Old question solution