AE-324: Production Planning & Inventory Control										
L	**T**	**P**	Credit	Area		**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
3	0/1	2/0	4	DEC		15/25	25/-	20/25	40/50	-

Objectives: To familiarize the students with the production planning and inventory control system

Syllabus		**Contact Hours**
Unit-1	INTRODUCTION Objectives and benefits of planning and control- Functions of production control-Types of production-job- batch and continuous-Product development and design-Marketing aspect - Functional aspects-Operational aspect-Durability and dependability aspect aesthetic aspect. Profit consideration-Standardization, Simplification & specialization-Break even analysis-Economics of a new design	**8**
Unit-2	WORK STUDY Method study, basic procedure-Selection-Recording of process - Critical analysis, Development - Implementation - Micro motion and memo motion study – work measurement - Techniques of work measurement - Time study - Production study -Work sampling - Synthesis from standard data - Predetermined motion time standards	**6**
Unit-3	PRODUCT PLANNING Product planning-Extending the original product information-Value analysis-Problems inlack of product planning	**6**
Unit-4	PROCESS PLANNING Process planning and routing-Pre requisite information needed for process planning-Steps in process planning-Quantity determination in batch production Machine capacity, balancing-Analysis of process capabilities in a multiproduct system	**8**
Unit-5	PRODUCTION SCHEDULING Production Control Systems-Loading and scheduling-Master Scheduling-Scheduling rules-Gantt charts Perpetual Loading-Basic scheduling problems - Line of balance – 90 Flow production scheduling-Batch production scheduling-Product sequencing – Production Control Systems-Periodic batch control Material requirement planning kanban – Dispatching-Progress reporting and expediting-Manufacturing lead time-Techniques for aligning completion times and due dates	**7**
Unit-6	INVENTORY CONTROL AND RECENT TRENDS IN PPC Inventory control-Purpose of holding stock-Effect of demand on inventories Ordering procedures. Two bin system -Ordering cycle system Determination of Economic order quantity and economic lot size-ABC analysis-Recorder Procedure-Introduction to computer integrated production planning systems-elements of JUST IN TIMESYSTEM Fundamentals of MRP II and ERP	**7**
	Total	**42**

Reference Books:

1	MartandTelsang" Industrial Engineering and Production Management", PublisherS. Chandand Company, First edition, 2000 (ISBN 812191
2	James.B.Dilworth" Operations management – Design, Planning and Control for manufacturing and services" Mcgraw Hill International edition1992
3	Samson Eilon , "Elements of production planning and control", , Publisher- Universal BookCorpn.1984 (ISBN 13: 9780023318009)
4	Elwood S.Buffa, and Rakesh K.Sarin, "Modern Production / Operations Management", Publisher 8th Ed. John Wiley and Sons, 2000 (ISBN 13: 9780471056720)
5	Melynk, Denzler," Operations management – A value driven approach" Publisher Irwin Mcgrawhill (ISBN -13: 9780256123814)

Course Outcomes

CO1	To understand basics of Production its types , Product development and design
CO2	To understand work study and Method study
CO3	To understand product planning.
CO4	To understand Loading and scheduling
CO5	To understand Process planning and routing
CO6	To understand inventory control and recent trends

CO-PO/PSOMatrix

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3	2	2	0	0	0	0	0	0	2	2	1	1
CO2	3	3	2	3	1	0	0	0	0	0	0	1	2	1	1
CO3	3	3	3	3	1	0	0	0	0	0	0	2	3	3	2
CO4	3	3	3	3	1	0	0	0	0	0	0	1	3	3	2
CO5	2	2	2	2	2	0	0	0	0	0	0	1	2	2	2