

## PRODUCTION PLANNING AND CONTROL

### III Group: ME

Course Code	Category	Hours / Week			Credits	Maximum Marks		
AME518	Elective	L	T	P	C	CIA	SEE	Total
		3	1	-	3	30	70	100
<b>Contact Classes: 45</b>	<b>Tutorial Classes: Nil</b>	<b>Practical Classes: Nil</b>			<b>Total Classes: 45</b>			

### COURSE OBJECTIVES:

1. Understand the PPC function in industrial manufacturing scenario.
2. Apply forecasting techniques for different types of products.
3. Knowledge in optimal inventory control and capacity planning.

## COURSE OUTCOMES

- CO 1: Understanding and appreciation of the principles and applications relevant to the planning, design, and operations of manufacturing/service firms.
- CO 2: Develop skills necessary to effectively analyze and synthesize the many inter-relationships inherent in complex socio-economic productive systems.
- CO 3: Reinforce analytical skills already learned, and build on these skills to further increase your "portfolio" of useful analytical tools for operations tasks.
- CO 4: Understand Enterprise Resource Planning and MRPII systems are used in managing operations
- CO 5: Increase the knowledge, and broaden the perspective of the world in which you will Contribute your talents and leadership in business operations.

### COURSE LEARNING OUTCOMES:

1. Understand the core features of the operations
2. Understand production management function at the operational and strategic levels
3. Specifically the relationships between people
4. Evaluate operational and strategic levels
5. Solve problems on operational and strategic management
6. Production management basics and its history
7. Key issues on market-driven systems and global competition
8. Classification of production systems, and their definitions
9. Classification of planning and control problems, and their definitions
10. Problem solving procedure
11. Demand forecasting and market analysis
12. A variety of quantitative forecasting techniques including the use of computer tools
13. Decomposition of data into its components
14. The systems perspective to production planning problems and to integrate different production planning activities
15. Formulation of aggregate planning problems; their objectives, constraints and applicable solution techniques
16. Surveying, gathering and analysis of data for planning purposes
17. Solving basic production planning problems
18. Solving basic inventory management problems, Importance of accuracy in estimating market share, demand, relevant costs and all requirements and the sensitivity of results to these values
19. Qualitative approaches to forecasting

<b>UNIT-I</b>	<b>OVERVIEW OF PRODUCTION PLANNING CONTROL</b>	<b>Classes : 09</b>
Introduction: Definition, Objectives of production planning and control, functions of production planning and control, elements of production control, types of production, organization of production planning and control department, internal organization of department.		

<b>UNIT-II</b>	<b>FORECASTING</b>	<b>Classes : 09</b>
Forecasting: Importance of forecasting, types of forecasting, their uses, general principles of forecasting, forecasting techniques, qualitative methods and quantitative methods; Inventory management, functions of inventories relevant inventory costs ABC analysis, VED analysis, EOQ model, inventory control systems, P-Systems and Q-Systems.		
<b>UNIT-III</b>	<b>INTRODUCTION TO MRP</b>	<b>Classes: 09</b>
Introduction to MRP and ERP, LOB (Line of Balance), JIT inventory, and Japanese concepts.  Routing, definition, routing procedure Route sheets, bill of material, factors affecting routing procedure, Schedule, definition, difference with loading.		
<b>UNIT-IV</b>	<b>SCHEDULING</b>	<b>Classes: 09</b>
Scheduling Policies, techniques, Standard scheduling methods; Line balancing, aggregate planning, chase planning, expediting, controlling aspects.		
<b>UNIT-V</b>	<b>DISPATCHING</b>	<b>Classes : 09</b>
Dispatching: Activities of dispatcher, dispatching procedure, followup, definition, reason for existence of functions, types of followup, applications of computer in production planning and control.		
<b>Text Books:</b>		
1. M. Mahajan, "Production Planning and Control", Dhanpat Rai, 1 <sup>st</sup> Edition, 2010. 2. Jain, Jain, "Production planning and control", Khanna Publications, 1 <sup>st</sup> Edition, 2012.		
<b>Reference Books:</b>		
3. S. N. Chary, "Operations Management" Tata McGraw-Hill, 5 <sup>th</sup> Edition, 2013. 4. Chase, "Operation Management" PHI, 1 <sup>st</sup> Edition, 2013.		
<b>Web References:</b>		
1. <a href="http://nptel.ac.in/courses/112107143/">http://nptel.ac.in/courses/112107143/</a>		
<b>E-Text Book:</b>		
1. <a href="http://ggnindia.dronacharya.info/ecedept/Downloads/QuestionBank/IIIsem/PRODUCTION%20PLANNING_CONTROL.pdf">http://ggnindia.dronacharya.info/ecedept/Downloads/QuestionBank/IIIsem/PRODUCTION%20PLANNING_CONTROL.pdf</a>		