



# SWARNANDHRA

## COLLEGE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

Accredited by National Board of Accreditation, AICTE, New Delhi, Accredited by NAAC with "A" Grade – 3.32 CGPA, Recognized under 2(f) & 12(B) of UGC Act 1956. Approved by AICTE, New Delhi, Permanent Affiliation to JNTUK, Kakinada Seetharampuram, W.G.DT., Narsapur-534280, (Andhra Pradesh)

### DEPARTMENT MECHANICAL ENGINEERING

### TEACHING PLAN

Course Code	Course Title	Semester	Branches	Contact Periods /Week	Academic Year	Date of commencement of Semester
19ME5E04	Production Planning and Control	V	Mechanical Engineering	6	2021-22	4-10-2021
<b>COURSE OUTCOMES</b>						
1	Explain the objectives and functions of production planning and control [K2]					
2	Apply the various forecasting methods in production planning [K3]					
3	Calculate the required quantities of materials by using ABC, VED and EOQ models in Inventory [K3]					
4	Apply techniques to find the new facility location and layout. [K3]					
5	Apply scheduling techniques to solve the scheduling problems. [K3]					
UNIT	Outcomes / Bloom's Level	Topics No.	Topics/Activity	Text Book / Reference	Contact Hour	Delivery Method
<b>INTRODUCTION</b>						
I	Explain the objectives and functions of production planning and control [K2].	1.1	Definition, Objectives of production Planning and Control	T1, R1	1	Chalk & Talk, PPT & Video
		1.2	Need for production planning and control	T1, R1	1	
		1.3	Functions of production planning and control	T1, R1	1	
		1.4	Comparison between production planning and control	T1, R1	1	
		1.5	Elements of production control	T1, R1	1	
		1.6	Types of production	T1, R1	1	
		1.7	Production Interface with other functional areas of business	T1, R1	1	
		1.8	Organization of production planning and control department	T1, R1	1	



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		1.9	Organization structure for Production functional	T1, R1	1	
		1.10	Internal organization of department	T1, R1	1	
<b>Total</b>					<b>10</b>	
<b>FORECASTING</b>						
<b>II</b>	Apply the various forecasting methods in production planning [K3]	2.1	Forecasting and prediction	T1, R1, R2	1	Chalk & Talk, PPT & Video
		2.2	Importance of forecasting	T1, R1, R2	1	
		2.3	Long-term and short-term forecast	T1, R1, R2	1	
		2.4	Types of forecasting	T1, R1, R2	1	
		2.5	Forecasting uses	T1, R1, R2	1	
		2.6	General principles of Forecasting	T1, R1, R2	1	
		2.7	Forecasting techniques	T1, R1, R2	1	
		2.8	Qualitative methods	T1, R1, R2	1	
		2.9	Quantitative methods	T1, R1, R2	1	
		2.10	Forecasting problems	T1, R1, R2	1	
<b>TOTAL</b>					<b>10</b>	
<b>INVENTORY MANAGEMENT</b>						
<b>III</b>	Calculate the required quantities of materials by using ABC, VED and EOQ models in Inventory [K3]	3.1	Inventor - Reasons for Keeping Inventories	T3, R1, R2	1	
		3.2	Objectives of Inventory Control	T3, R1, R2	1	
		3.3	Functions/ Benefits of Inventory Control	T3, R1, R2	1	

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		3.4	Inventory Costs	T3, R1, R2	1	Chalk & Talk, PPT & Video
		3.5	ABC analysis	T3, R1, R2	1	
		3.6	VED Analysis	T3, R1, R2	1	
		3.7	EOQ model	T3, R1, R2	1	
		3.8	Inventory control systems	T3, R1, R2	1	
		3.9	P-Systems	T3, R1, R2	1	
		3.10	Q-Systems.	T3, R1, R2	1	
		3.11	Inventory problems	T3, R1, R2	1	
	Course Beyond the Syllabus	3.12	Agile manufacturing	T1, R1	1	
					<b>Total</b>	<b>12</b>
<b>DISAGGREGATION:</b>						
IV	Determine the new facility location and layout problems. [K3]	4.1	Introduction about Facility location	T1, R1, R2	1	Chalk & Talk, PPT & Video
		4.2	Factors Influencing Plant Location	T1, R1, R2	1	
		4.3	Location Alternatives	T1, R1, R2	1	
		4.4	Single Facility Location	T1, R1, R2	1	
		4.5	Single Facility Location Problem	T1, R1, R2	1	
		4.6	Introduction about Facility layout & Objectives	T1, R1, R2	1	
		4.7	Layout Classification & Layout Design problems	T1, R1, R2	1	
		4.8	Master Production Schedule	T1, R1, R2	1	
		4.9	Material Requirement Planning	T1, R1	1	
		4.10	Introduction to lean manufacturing	T1, R1, R2	1	



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Course Beyond the Syllabus	4.11	Enterprise Resource Planning	T1, R1, R2	1			
<b>Total</b>				<b>11</b>			
<b>ROUTING–SCHEDULING:</b>							
<b>V</b>	Apply scheduling techniques to solve the scheduling problems. [K3]		<b>ROUTING–SCHEDULING:</b>			Chalk & Talk, PPT & Video	
			5.1	Introduction about Sequencing	T1, R1, R2		1
			5.2	Priority Rules	T1, R1, R2		1
			5.3	Performance Measures	T1, R1, R2		1
			5.4	Introduction about Scheduling	T1, R1, R2		1
			5.5	Types of scheduling	T1, R1, R2		1
			5.6	Standard scheduling methods	T1, R1, R2		1
			5.7	One machine n job problem	T1, R1, R2		1
			5.8	Johnson Rule	T1, R1, R2		1
			5.9	Two-machine n job problem	T1, R1, R2		1
5.10	Three-machine n job problem	T1, R1, R2	1				
Course Beyond the Syllabus	5.11	Line Balancing	T1, R1, R2	1			
<b>Total</b>				<b>11</b>			
<b>CUMULATIVE PROPOSED PERIODS</b>				<b>54</b>			

**Text Books:**

S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
T1	Martand T Telsang, Industrial Management and Production Management, 5 <sup>th</sup> Edition, S Chand Publishers, 2016
T2	S.N. Chary, Production and Operations Management, 6 <sup>th</sup> Edition, McGraw Hill Education Pvt. Ltd, 2019
T3	S.K. Mukhopadhyay, Production Planning and Control, 3 <sup>rd</sup> Edition, PHI Learning Pvt. Ltd, 2015



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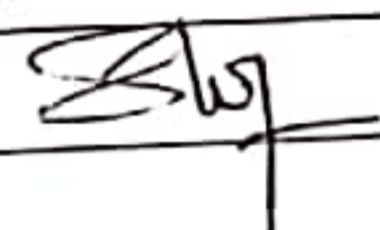
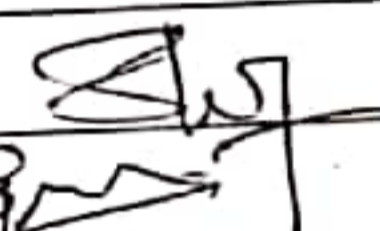
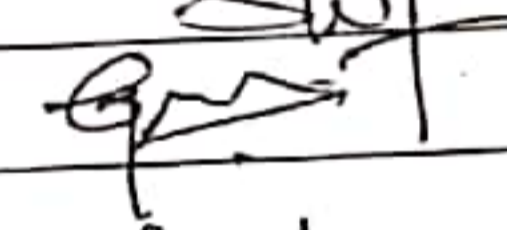
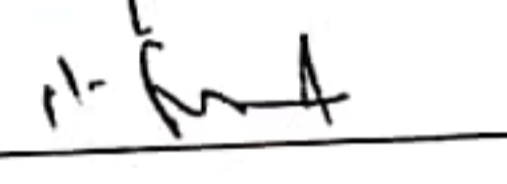
## Reference Books:

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R1	R.Panneerselvam, Production and Operation Management, 3 <sup>rd</sup> Edition, PHI Learning Pvt. Ltd, 2012.
R2	Samuel Ellian, Elements of Production Planning and Control, 3rd Edition, McGraw Hill, Education Pvt. Ltd, 2018.

## Web Details

<https://nptel.ac.in/courses/112/107/112107143/>

<https://nptel.ac.in/courses/112/107/112107238/>

	Name	Signature with Date
i. Faculty	Dr. R Sanjeev Kumar	
ii. Faculty II (for common Course)		
iii. Course Coordinator	Dr. R Sanjeev Kumar	
iv. Module Coordinator	Dr.G.Robert Singh	
v. Programme Coordinator	Dr. A Gopichand	

  
Principal