

**AE407: Production And Operations Management**

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:** This course aims to introduce the students to operations strategy, product and process design; demand forecasting and inventory control methods

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		Contact Hours
<b>Unit-1</b>	Operations strategy and competitiveness: Introduction to POM, Operations strategy, strategy design process, corporate and operations strategies, Operations competitive dimensions.	<b>8</b>
<b>Unit-2</b>	Product and Process Design : Product design and development processes, product life cycle, Process flow chart, Types of processes, Process performance, Learning curve.	<b>6</b>
<b>Unit-3</b>	Facility location and Layout: Factors affecting the location decisions, methods of facility location-factor rating systems, centroid method, and profit volume analysis; Types of layout, Block diagram and Assembly Line Balancing.	<b>6</b>
<b>Unit-4</b>	Demand Forecasting: Qualitative and quantitative forecasting, Time series and regression models, Measures of forecasting errors.	<b>8</b>
<b>Unit-5</b>	Inventory model: Importance of inventory, understocking and overstocking, Fixed order quantity models and fixed time period models (EOQ models), Selective inventory management- ABC, VED, and FSN analysis.	<b>8</b>
<b>Unit-6</b>	Lean Manufacturing : JIT manufacturing system, Toyota production systems- KANBAN model, and elimination of waste	<b>6</b>
<b>Total</b>		<b>42</b>

**Reference Books:**

1	Jay Heizer, Barry Render, Operations Management,; Publisher-Pearson learning (ISBN 9780132658812)
2	Chase, Jacob, and Aquilano ,Operations management for competitive advantage;; Publisher-TMH(ISBN 9780072983937)
3	Buffa and Serin, Modern Production/Operations Management, Publisher- John Weily India (ISBN 8126513721)

**Course Outcomes**

CO1	To study Operations strategy and competitiveness
CO2	To study Product design and development processes, product life cycle, Process flow chart, Types of processes, Process performance.
CO3	To study Facility location and Layout and Assembly Line Balancing.
CO4	To study Qualitative and quantitative forecasting, models and Measures of forecasting errors
CO5	To study Importance of inventory, models and Selective inventory management.
CO6	To study Lean Manufacturing JIT,TPS ,KANBAN model, and elimination of waste.

**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