

# GUJARAT TECHNOLOGICAL UNIVERSITY

## MASTER OF BUSINESS ADMINISTRATION

Year – I (Semester – II) (W.E.F. Academic Year 2017-18)

**Subject Name: PRODUCTION & OPERATIONS MANAGEMENT (POM)**

**Subject Code: 3529206      Subject Credits: 3      Total Marks: 150**

### 1. Course Objectives:

- a) To enable the students to understand the role of Production and Operations Management in the functioning of an organization
- b) To understand practical implications of the concepts and tools used in Production and Operations Management

**2. Course Duration:** The course duration is of **36 sessions of 75 minutes** each.

### 3. Course Contents:

Module No.	Contents	No. of Sessions	Marks (out of 70)
I	<b>Introduction of Production &amp; Operation Management;</b> system and function view of organizations, scope, Evolution and future of production and operation management; <b>Process design</b> -different types of process with its. merits and demerits, process classification based on order, process selection, different type of manufacturing process, process performance and evaluation etc. <b>Product design;</b> types of products and designing, evaluation of design	6	14
II	<b>Layout;</b> different types of layout, <b>Facility location;</b> (theoretical concept only) <b>Aggregate Production Planning (APP);</b> objective, strategies and cost of APP, master production schedule, Rough cut capacity planning etc (theoretical concept only) <b>Material Requirement Planning(MRP)</b> (theoretical concept only), <b>Lean and Just In Time production system</b> (theoretical concept only), Forecasting for Inventory and Production Control	8	14
III	<b>Operations scheduling;</b> sequencing (n-jobs on one machine) (theoretical concept with examples) <b>Project management;</b> Project	12	21

	scheduling by using network PERT/CPM (theoretical concept with examples) <b>Queuing systems (Waiting Line Analysis)</b> (theoretical concept with examples), Line Balancing		
IV	<b>Quality management;</b> definition, experts views on quality, dimensions of quality, focus on quality, cost of quality and quality cost audit, statistical process control, types of variation. control charts (theoretical concept with examples), total quality management (TQM), Six sigma, ISO 9000 and other ISO series, <b>health and safety</b>	10	21
V	<b>Application:</b> <ul style="list-style-type: none"> <li>• Introduction to ERP and its application</li> <li>• Visit any industrial unit and understand the processes performed in the unit. Use the theoretical knowledge to understanding the operations. Prepare a report on how the above concepts used in selected industrial unit under the guidance of your subject teacher.</li> </ul>	---	Internal Evaluation (30 Marks of CEC)

#### 4. Teaching Methods:

The course will use the following pedagogical tools:

- Discussion on concepts and issues in Production & Operations management.
- Case discussion covering a cross functional work of production with other functional areas in both manufacturing and service industry.
- Projects/ Assignments/ Quizzes/ Class participation etc

#### 5. Evaluation:

The evaluation of participants will be on continuous basis comprising of the following Elements:

A	Continuous Evaluation Component comprising of Projects/Quiz/Test/Class Attendance/ Participation (List of activities)	(Internal Assessment- 50 Marks)
B	Mid-Semester examination	(Internal Assessment-30 Marks)
C	End –Semester Examination	(External Assessment-70 Marks)

#### 6. Textbooks:

Sr. No.	Author	Name of the Book	Publisher	Edition
1	Russell, Roberta S. and Taylor, Bernard	Operations Management Along the	John Wiley and Sons (Wiley India)	Latest Edition

2	Chase R. B., Jacobs, F. R., Aquilano, N. J. and Agarwal N. K.,	Operations Management for Competitive Advantage	Tata McGraw Hill	Latest Edition
3	Arun kumar,N. Meenakshi	Production and Operation Management	Cenagage	Latest Edition

### 7. Reference Books:

Sr. No.	Author	Name of the Book	Publisher	Edition
1	Heizer, Jay and Render, Barry	Operations Management	Pearson Education	Latest Edition
2	Buffa, Elwood S. and Sarin, Rakesh K	Modern Production and Operations Management	John Wiley and Sons (Wiley India)	Latest Edition
3	Kanishka Bedi	Production and Operation Management	Oxford University Press	Latest Edition
4	Collier, Evans, Ganguli	Operation Management	Cenagage	Latest Edition
5	S. A. Chunawala, Dr. Patel	Production and Operations Management	Himalaya Publications	Latest Edition
6	Martin K. Starr	Production and Operation	Cenagage	Latest Edition

### 8. List of Journals/Periodicals/Magazines/Newspapers, etc.

1. International Journal of Operations & Production Management
2. Journal of Operations Management
3. Manufacturing and Service Operation Management
4. European Journal of Operational Research

Note: The list of reading sources are the only the suggestive list of reading material for the course. It should not be considered as the exclusive prescribed sources. The students and faculty have the freedom to choose any of the other reading material for the teaching and learning process.

### 9. Session Plan (36 sessions of 75 minutes):

Session No.	Topics to be covered
1-2	<b>Introduction of Production &amp; Operation Management;</b> system and function view of organizations, scope, Evolution and future of production and operation management

3-4	<b>Process design</b> -different types of process with its merits and demerits, process classification based on order, process selection, different type of manufacturing process, process performance and evaluation etc. process performance and evaluation
5-6	<b>Product design</b> ; types of products and designing, evaluation of design
7-9	<b>Layout</b> ; different types of layout, <b>Facility location</b> ; (theoretical concept only)
10-11	<b>Aggregate Production Planning (APP)</b> ; objective, strategies and cost of APP, master production schedule, Rough cut capacity planning etc. (theoretical concept only)
11-14	<b>Material Requirement Planning(MRP)</b> (theoretical concept only), <b>Lean and Just In Time production system</b> (theoretical concept only), Forecasting for Inventory and Production Control
15-18	<b>Operations scheduling</b> ; sequencing (n-jobs on one machine) (theoretical concept with examples)
19-22	<b>Project management</b> ; Project scheduling by using network PERT/CPM (theoretical concept with examples)
23-26	<b>Queuing systems (Waiting Line Analysis)</b> (theoretical concept with examples), Line Balancing
27-28	<b>Quality management</b> ; definition, experts views on quality, dimensions of quality, focus on quality, cost of quality and quality cost audit
29-30	Statistical process control, types of variation.
31-33	Control charts (theoretical concept with examples)
34-35	Total Quality Management (TQM) , Six Sigma,
36	ISO 9000 and other ISO series, <b>health and safety</b>

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