

# GUJARAT TECHNOLOGICAL UNIVERSITY

## MAM (MASTERS IN APPLIED MANAGEMENT)

### DUAL DEGREE PROGRAMME

Year – IV (Semester – VIII) (W.E.F. December 2015)

**Subject Code: 4180503**

**Subject Name: Operations Management**

### 1. Course Objective:

- Understand the role of the operations management (OM) functions in the functioning of an Organization.
- Offer a broad survey of the concepts and tools used in the operations management.

**2. Course Duration:** The course duration is of 36 sessions of 75 minutes each, i.e. 45 hours.

### 3. Course Contents:

Module No	Module Content	No. of Sessions	Marks (70 External Exam)
I	Introduction to Production and Operations Management: Overview, Nature and Scope of Production and Operations Management, Production and system, Production as an organizational function, decision making in production, Characteristics of Modern operations management, Design of Production system – Product design and process design, Difference between Manufacturing and Service operations	7	18
II	Facility Location, Facility layouts planning and analysis, (Line balancing problems), Concept of Inventory management, the hierarchical approach to planning and various methods of inventory management, Capacity and aggregate planning, Material handling, Material Requirement Planning	7	18
III	Production planning and control, Project management using CPM, PERT and Crashing, operations Scheduling using Job sequencing (up to n – jobs and three machines)	7	17
IV	Quality Control – Economics of quality, purpose of inspection and quality control, Control charts for variables and attributes, Acceptance sampling – understanding of OC curve, AQL, AOQL	7	17
V	Visit of manufacturing unit and understanding of layout and processes performed therein. Visit of service facility like, bank, hospitals, ATM, Restaurants, Malls to understand service operations and service management. Prepare a report on how the above concepts are used in selected industry and make suggestions	8	(20 marks of CEC, Internal Evaluation)

#### 4. Teaching Methods:

The course will use the following pedagogical tools:

- Lectures
- Problem Solving.
- Assignments

#### 5. Evaluation:

A	Projects/ Assignments/ Quizzes/ Individual or group Presentation/ Class participation/ Case studies etc	Weightage 50 marks (Internal Assessment)
B	Mid-Semester Examination	Weightage 30 marks (Internal Assessment)
C	End –Semester Examination	Weightage 70 marks (External Assessment)

#### 6. Basic Text Books:

Sr. No.	Author	Name of the Book	Publisher	Edition
T1	Kanishka Bedi	Production and Operation Management	Oxford University Press	Latest Edition
T2	Chase R. B., Jacobs, F. R., Aquilano, N. J. and Agarwal N.	Operations Management for Competitive Advantage	Tata McGraw Hill	Latest Edition
T3	K. Aswathappa and K. Shridhara Bhat	Production and Operations Management	Himalaya Publications	Latest Edition
T4	Russell, Roberta S. and Taylor, Bernard W.	Operations Management Along the Supply Chain,	John Wiley and Sons (Wiley India)	Latest Edition

## 7. Reference Books:

Sr. No.	Author	Name of the Book	Publisher	Edition
R1	Kachru Upendra	Production and Operations Management	Excel Books.	Latest Edition
R2	Heizer, Jay and Render, Barry	Operations Management	Pearson Education	8th edition
R3	S. A. Chunawala, Dr. Patel	Production and Operations Management	Himalaya Publications	Latest Edition
R4	Martin K. Starr	Production and Operation Management	Cenagage Learning	Latest Edition
R5	Evans / Collier	Operation Management	Cenagage Learning	Latest Edition
R6	Buffa, Elwood S. and Sarin, Rakesh K	Modern Production and Operations Management	John Wiley	8th edition

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

Productivity Journal, Indian Management, Business India, Supply Chain, etc.

## 9. Session Plan:

Session Nos.	Topics to be covered
1 – 2	Introduction to Production and Operations Management: Overview, Nature and Scope of Production and Operations Management
3 – 4	Production and system, Production as an organizational function, decision making in production, Characteristics of Modern operations management
5 – 7	Design of Production system – Product design and process design, Difference between Manufacturing and Service operations
8 – 9	Facility Location, Facility layouts planning and analysis
10 – 12	Concept of Inventory management, the hierarchical approach to planning and various methods of inventory management
13 – 14	Capacity and aggregate planning, Material handling, Material Requirement Planning
15 – 18	Production planning and control, Project management using CPM, PERT and Crashing
19 – 21	operations Scheduling using Job sequencing (up to n – jobs and three machines)
22 – 23	Quality Control – Economics of quality, purpose of inspection and quality control

24 – 26	Control charts for variables and attributes
27 – 28	Acceptance sampling – understanding of OC curve, AQL, AOQL, LTPD
29 – 36	Practical Module: 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