



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal - 500 043, Hyderabad, Telangana

COURSE CONTENT

PRODUCTION AND OPERATIONS MANAGEMENT								
III Semester: MBA								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
CMBD27	Core	L	T	P	C	CIA	SEE	Total
		4	0	-	4	40	60	100
Contact Classes: 45	Tutorial Classes: Nil	Practical Classes: Nil			Total Classes: 45			
Prerequisite: Quantitative Analysis and Business Decisions								

I. COURSE OVERVIEW:

This course introduces major concepts and tools used in the design and use of operations systems in organizations. It introduces the discipline and the role the function plays in a value creating organization. Emphasis is given both to familiarization of various production processes and service systems, and to quantitative analysis of problems/ issues arising in the management of operations. As competition becomes fiercer in an increasingly open and global marketplace, a company's survival and growth become greatly contingent on its ability to run its operations efficiently and to exploit its resources productively.

II. COURSES OBJECTIVES:

The students will try to learn:

- I. The skills which are necessary to analyze and synthesize the many inter relationships inherent socio-economic productive systems.
- II. The Enterprise Resource Planning and MRPII systems which are used in managing operations.
- III. The different leadership skills in business operations.
- IV. The cost systems of inventory control like ABC, VED, FNSD analyses and Value analysis.

III. COURSE OUTCOMES:

At the end of the course students should be able to:

- CO 1 Identify and assess the procedures, methods, and concepts of production and operations management to get a better understanding of logistics and supply chain operations
- CO 2 Demonstrate the ability to schedule and control production processes in order to reduce production time and costs.
- CO 3 Summarize the basic ideas of quality circles, quality assurance, and quality control to improve decision-making abilities.
- CO 4 Conclude the quality processes, tools, and techniques in the manufacturing and service sectors to improve their operational performance.
- CO 5 Describe the Materials Requirement Planning and MRPII systems to choose the optimum quality.
- CO 6 Recognize the importance of store management and inventory control to ensure their availability with minimum capital lock up.

IV. COURSE CONTENT:

MODULE - I: INTRODUCTION TO OPERATIONS MANAGEMENT (10)

Introduction to operations management, role of operations management in total management system, and interface between the operation systems and systems of other functional areas, process planning and process design, production planning and control: basic functions of production planning and control, production cycle, characteristics of process technologies, project, job shop, assembly, batch and continuous, inter relationship between product life cycle and process life cycle.

MODULE - II: SCHEDULING AND CONTROL OF PRODUCTION OPERATIONS (10)

Aggregate planning, operations scheduling and product sequencing: sequencing of products in multi-product multi stage situations, plant capacity and line balancing; Plant layout, different types of layouts, location and the factors influencing location; Maintenance management: objectives, failure concept, reliability, preventive and breakdown maintenance, replacement policies.

MODULE - III: QUALITY CONTROL (09)

Standards and specifications, quality assurance and quality circles, statistical quality control: control charts for variables, average, range and standard deviation; Control charts for attributes, fraction defective and number of defects, acceptance sampling plans, and OC curve work-study.

Various techniques in the methods study for identifying the most appropriate method; Work measurement, its uses and different methods, computation of allowance and allowed time.

MODULE - IV: MATERIALS MANAGEMENT (08)

Need and importance of materials management-materials requirement planning materials budgeting-techniques for prioritization of materials-sources of supply of materials, selection, evaluation and performance of suppliers make or buy decisions and its implications under various circumstances vendor rating, determinants of vendor rating, concept of waste management.

MODULE - V: STORES MANAGEMENT (08)

Objectives of stores management, requirements for efficient. Management o stores, safety stock inventory control, different systems of inventory control types of inventory; Costs systems of inventory control ABC, VED and FNSD analyses, value analysis, importance in cost reduction, concepts and procedures.

V.TEXT BOOKS:

1. Jay Heizer, Barry Render, Chuck Munson, "Operations Management", 12th edition, Pearson, 2020.
2. Stevenson J. William, "Operations Management", 13thedition, Tata McGraw-Hill, 2017.
3. Jay Heizer, Barry Render, "Operations Management", 11th edition, 2016.
4. B Mahadevan, "Operations Management: Theory and Practice", Pearson Education India, 3rd edition, 2015.
5. K Aswathappa, K Shridhara Bhat, "Production and Operations Management", Himalaya Publishing House Pvt. Ltd, 2nd edition 2015.
6. Panneerselvam R, "Production and Operations Management", Prentice Hall India Learning Private Limited, 3rd edition, 2012.
7. Mahadevan.B, "Operations Management", Pearson Education, Revised 2nd edition, 2010.
8. Stevenson J. William, "Operations Management", Tata McGraw-Hill, 9th edition, 2009.
9. James R Evans, David A. Collier, "Operations Management", Cengage Learning, 3rd edition, 2007.

VI. REFERENCE BOOKS:

1. Aswathappa K. and Sridhara Bhat, "Production and Operations Management", HPH, 2nd edition, 2010.

2. Ray Wild, “Operations Management, Thomson Learning, 1st edition, 2003.
3. Kanishka Bedi, “Production and Operations Management”, Oxford University Press, 2nd edition, 2007.
4. Upendra Kachru, “Production and Operations Management”, Excel Books, 2nd edition, 2010.

VII. Web References:

1. http://tn.upi.edu/pdf/Operations_Management.pdf
2. <https://notendur.hi.is/~kth93/3.20.pdf>

VIII. E-Text Books:

1. <http://ebooks.cambridge.org/ebook.jsf?bid=CBO9781139150002>
2. <http://www.ebook777.com/operations-management-11th-edition/>