

Semester	II	Specialization	NA
Course Code	205	Type	Generic – Core
Course Title	Operations and Supply Chain Management		

Course Objectives:	
1	To develop an understanding of the strategic importance of Operations & SCM and how it can provide a competitive advantage in the marketplace
2	To understand the relationship between Operations & SCM and other business functions, such as Marketing, Finance, Accounting, and Human Resources.
3	To develop knowledge of the issues related to designing and managing Operations & SCM and the techniques to do so.

**Syllabus:**

Unit Number	Contents	Number of Sessions
1	<p><b>1.1 Introduction to Operations Management (OM):</b> Definition, Evolution from production to operations management. Manufacturing trends in India, Services as a part of OM, Operations as a key functional area, OM a system perspective, functions of OM, challenges and current priorities of OM.</p> <p><b>1.2 Quality:</b> Definitions, Dimensions of Quality, Customers view and Manufacturer's view, Concept of Internal Customer, Overview of TQM and LEAN Management, Cause effect diagram (Ishikawa Fish Bone Diagram), Basic Concepts of Kaizen, 5S, Quality Circle.</p>	5 + 2
2	<p><b>Operations Processes</b></p> <p><b>2.1 Process Characteristics in Operations:</b> Volume Variety and Flow. Types of Processes and Operations Systems - Continuous Flow system and intermittent flow systems</p> <p><b>2.2 Process Product Matrix:</b> Job Production, Batch Production, Assembly line and Continuous Flow, Process and Product Layout</p> <p><b>2.3 Service System Design Matrix :</b> Design of Service Systems, Service Blueprinting</p>	7 + 2
3	<p><b>3.1 Production Planning &amp; Control (PPC):</b> Role and Functions</p> <p><b>3.2 Demand Forecasting:</b> Forecasting as a Planning Tool, Forecasting Time Horizon, Sources of Data for forecasting, Accuracy of Forecast, Capacity Planning</p> <p><b>3.3 Production Planning:</b> Aggregate production Planning, Alternatives for Managing Demand and Supply, Master Production Schedule, Capacity</p>	8 + 2

	<p>Planning - Overview of MRP, CRP, DRP , MRP II</p> <p><b>3.4 Production Control:</b> Scheduling, Loading, Scheduling of Job Shops and Floor Shops, Gantt Charts</p>	
4	<p><b>4.1 Inventory Planning and Control:</b> Continuous and Intermittent demand System, concept of inventory, need for inventory, types of inventory - seasonal, decoupling, cyclic, pipeline, safety. Implications for Inventory Control Methods.</p> <p><b>4.2 Inventory Costs:</b> Concept and behaviour of ordering cost, carrying cost, shortage cost.</p> <p><b>4.3 EOQ:</b> Basic EOQ Model - EOQ with discounts</p> <p><b>4.4 Inventory control:</b> Classification of material - ABC Analysis -VED, HML, FSN, GOLF, SOS.</p> <p>(Numerical expected on Basic EOQ, EOQ with discounts &amp; ABC), Inventory turns ratios, Fixed Order quantity Model - Periodic Review and Re-order Point</p>	8 + 2
5	<p><b>5.1 Supply Chain Management:</b> Definition, Functions of SCM, Evolution from Physical distribution to Logistics to SCM, Physical Goods and Services Perspectives. Generalized Supply Chain Management Model - Key Issues in SCM – Collaboration, Enterprise Extension, responsiveness, Cash to Cash Conversion,</p> <p><b>5.2 Supply chain integrated framework:</b> Resource base to end customers- Product/service value flow, market accommodation flow, information flow, cash flow.</p>	7 + 2

### Learning Resources:

1	Text Books	<p>Operations Management Theory &amp; Practice by B.Mahadevan , Pearson, 2<sup>nd</sup> Edition.</p> <p>Operations Now - Supply Chain Profitability &amp; Performance by Byron J. Finch, McGraw Hill, 3<sup>rd</sup> Edition.</p> <p>Operations &amp; Supply Chain Management by Dr. D. B. Bharati &amp; Rohan Dahivale Himalaya Publications</p> <p>Production and Operations Management Scitech Publications- Sushanta Tripathy</p> <p>Operations Management- K Shridhara Bhat Himalaya Publications</p>
2	Reference Books	<p>OM-Gaguly- Cengage Learning</p> <p>Supply Chain Logistics Management by Donald Bowersox, David Closs, M Bixby Cooper, Tata McGraw Hill, 2<sup>nd</sup> Edition.</p>

		<p>Operations Management by William J. Stevenson, TMGH, 9<sup>th</sup> Edition.</p> <p>Operations Management by Lee Krajewski, Larry Ritzman, Manoj Malhotra, Pearson Education, 8<sup>th</sup> Edition.</p> <p>Introduction to Materials Management, J.R. Tony Arnold, Stephen Chapman, Ramakrishnan, Pearson, 5<sup>th</sup> Edition.</p> <p>Supply Chain Management - Strategy, Planning &amp; Operation by Sunil Chopra, Peter Meindl, D. V. Kalra, Pearson Education.</p> <p>Production &amp; Operations Management by S N Chary, McGraw Hill, 7<sup>th</sup> Edition</p>
3	Supplementary Reading Material	<p>Contemporary Logistics by Paul Murphy, Donald Wood, PHI, 9<sup>th</sup> Edition</p> <p>The Goal by Eliyahu Goldratt</p>
4	Websites	<p><a href="http://www.apics.org">www.apics.org</a></p> <p><a href="http://www.supplychainmanagement.in">www.supplychainmanagement.in</a></p>
5	Journals	<p>International Journal of Operations and Quantitative Management</p> <p>Udyog Pragati</p> <p>International Journals of Logistics and Supply Chain Management</p> <p>International Journal of Logistics and Planning Supply Chain Management</p>