

<u>Prerequisites for the course:</u>	A basic course in Operations Management	
<u>Objective:</u>	To introduce tools and techniques of inventory management	
<u>Content:</u>	<p>Introduction Inventory concept; need for inventory; types of inventory, functions, use; Dependent and Independent Demand, Responsibility for inventory management. Strategic Inventory Management;</p> <p>Inventory Control Techniques: Inventory classification and its use in controlling inventory, Setup time and inventory control, safety stock determination; Strategies to increase Inventory Turns.</p> <p>Inventory Models: Fixed Order Versus Fixed Interval systems – Developing Special Quantity Discount Models – Inventory Model for Manufactured Items – Determination of Economic Lot Size under various situations; Replenishment Models – Inventory Models with uncertainty – Probabilistic Inventory Models</p> <p>Material Requirement Planning Systems (MRP): Data Requirements and Management; Bill of Materials, types of BOM, Modular BOM, Master Production Schedules; Managing MPS inventory records, lot sizing, process of MRP, and output of MRP.</p> <p>Make or Buy Decisions: Concept of outsourcing, Factors influencing Make or Buy Decisions, Trends in Make or Buy Decisions in context of core competency. Materials Management in JIT Environment; Zero inventory concept, Excess Inventory, Materials management in JIT environment, Vendor Management in JIT context.</p>	<p>3 hours</p> <p>5 hours</p> <p>5 hours</p> <p>5 hours</p> <p>6 hours</p>
<u>Pedagogy:</u>	Lectures/ tutorials/laboratory work/ field work/ outreach activities/ project work/ vocational training/viva/ seminars/ term papers/assignments/ presentations/ self-study/ Case Studies etc. or a combination of some of these. Sessions shall be interactive in nature to enable peer group learning.	
<u>References/Readings</u>	<ol style="list-style-type: none">1. Zipkin, P. H, Foundations of Inventory Management –McGraw Hill. 2000 or Latest Edition2. Seetharama L Narsimhan, Dennis W McLeavy, Peter J Billington, Production Planning And Inventory Control - Prentice Hall Of India Pvt Ltd, 1994 or Latest Edition3. Richard J. Tersine, Principles of Inventory and Materials Management, Prentice Hall, 1981 or Latest Edition4. Muller, Max; Essentials of Inventory Management; AMACON; 2011 or Latest Edition5. Toomey, John W; Inventory Management – Principles, Concepts and Techniques; Springer US; 2012 or Latest Edition	
<u>Learning Outcomes</u>	To be able to use inventory management tools for inventory decisions.	