



Course Syllabus  
Gyanmanjari Institute of Commerce  
Semester-3 (B. Com)

**Subject:** Production and Operation Management - BCOXX13311

**Type of course:** Major

**Prerequisite:**

Prior knowledge in Fundamental of Management ,basic economics is essential to grasp the concepts of Production, including understanding Organizational behavior and Information System . Additionally knowledge of Supply chain Management helps in understanding Production and Operation Management.

**Rationale:**"Production and Operations Management (POM) plays a pivotal role in any organization by ensuring the efficient utilization of resources to produce goods and services. It enables firms to streamline processes, reduce costs, and enhance overall productivity, thus gaining a competitive edge in the market. POM encompasses various strategic and tactical decisions, from product design to inventory management, all aimed at meeting customer demand while maintaining high standards of quality and efficiency. By studying POM, individuals can grasp the intricacies of modern business operations and contribute effectively to organizational success."

**Teaching and Examination Scheme:**

Teaching Scheme			Credits	Examination Marks			Total Marks
CI	T	P	C	SEE	CCE		
					MSE	ALA	
4	0	0	4	100	30	70	200

*Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; SEE - Semester End Evaluation; MSE- Mid Semester Examination; V – Viva; CCE-Continuous and Comprehensive Evaluation; ALA- Active Learning Activities.*

4 Credits \* 25 Marks = 100 Marks (each credit carries 25 Marks)

SEE 100 Marks will be converted in to 50 Marks

CCE 100 Marks will be converted in to 50 Marks

It is compulsory to pass in each individual component.





**Continuous Assessment:**

Sr. No	Active Learning Activities	Marks
01	<b>Group Projects:</b> Assign group projects that require students to work together to solve a production management problem or analyze a case study. Collaboration enhances communication and teamwork skills while reinforcing course concepts. Report must be submitted on GMIU Web Portal.	10
02	<b>Field Visit:</b> Students have to visit any manufacturing industries. They have to observe production processes, inventory management systems, and scheduling techniques etc. Observation data must be submitted as per the format given by faculty on GMIU Web Portal.	10
03	<b>Industry Analysis and Forecasting :</b> After observation (as per ALA-2) students have to conduct industry analysis and forecasting for innovative projects. Require students to prepare documentation assessing the probability of project completion by the due date based on industry trends and market conditions. Documentation should include market research findings, competitor analysis, and demand forecasts. Upload data on GMIU Web portal.	10
04	<b>Supply Chain Mapping and Analysis Reports:</b> Assign students to map out the supply chain of a chosen company or industry. Require students to analyze the supply chain, identify key stakeholders, and document the flow of materials, information, and finances. Documentation should include diagrams, process flowcharts, and written analysis of strengths, weaknesses, opportunities, and threats (SWOT) within the supply chain. After Preparation of (SWOT) Analysis Report. Student will Upload on GMIU Web portal	10
05	<b>ABC Analysis Projects:</b> Assign students to conduct ABC analysis for a product portfolio or inventory items. Require students to document their analysis, categorizing items based on their value contribution and frequency of demand. Documentation should include ABC classification tables, insights into inventory segmentation, and recommendations for prioritizing inventory management efforts. After preparation of ABC Analysis Projects students will Upload on GMIU Web portal	10



06	<b>Risk Quantification Projects:</b> Assign students to quantify specific types of risks such as financial risks, operational risks, or strategic risks. Require students to document their risk quantification methodologies, data sources, and calculations. Documentation should include risk assessment models, probabilistic analyses, and sensitivity analyses to assess the impact of different risk scenarios. After preparation of Risk Quantification Projects students will Upload on GMIU Web portal	10
07	<b>Attendance</b>	10
Total		70

**Course Content:**

Sr. No	Course content	Hrs.	% Weightage
1	<b>Introduction to Production Management</b> <ul style="list-style-type: none"> <li>● Objectives</li> <li>● Introduction</li> <li>● Production Management</li> <li>● Scope of Production Management</li> <li>● Production System</li> <li>● Types of Production</li> <li>● Benefits of Production Management</li> <li>● Responsibility of a Production Manager</li> <li>● Decisions of Production Management</li> </ul>	7	10





2	<b>Production Planning and Control</b> <ul style="list-style-type: none"> <li>● Characteristics of Production Planning and Control</li> <li>● Objectives of Production Planning and Control</li> <li>● Stages of Production Planning and Control</li> <li>● Functions/scope of production planning &amp; Control</li> <li>● Challenges in Production Planning and Control</li> <li>● Factors Affecting Production Planning and Control</li> <li>● Production Planning System</li> <li>● Making the Production Plan</li> <li>● Process Planning</li> <li>● Manufacturing Planning and Control System</li> <li>● Role of Production Planning and Control in Manufacturing Industry</li> </ul>	8	15
3	<b>Project Management</b> <ul style="list-style-type: none"> <li>● Introduction</li> <li>● Meaning of Project Management</li> <li>● Approaches</li> <li>● Project Controlling and Project Control Systems</li> <li>● Types of Project Management</li> <li>● Role Technique</li> <li>● Brief History of CPM/PERT</li> <li>● PERT vs CPM</li> <li>● Planning, Scheduling &amp; Control</li> <li>● The Framework for PERT and CPM</li> <li>● Drawing the CPM/PERT Network</li> <li>● The Backward Pass – Latest Finish Time Rule</li> <li>● Tabulation &amp; Analysis of Activities</li> <li>● The PERT (Probabilistic) Approach</li> <li>● PERT Calculations for the Social Project</li> <li>● Estimating Risk</li> <li>● Expected Length of a Project</li> <li>● Probability of Project Completion by Due Date</li> <li>● Innovation Management</li> <li>● Function and Intention of Innovation Management</li> <li>● Classifications in Innovation Management</li> <li>● The 8 Phases of an Innovation Management Process</li> <li>● Uses of Innovation Management</li> </ul>	15	25

4	<b>Supply Chain Management Structure</b> <ul style="list-style-type: none"> <li>● Basics of MRP ,MRP vs. ERP</li> <li>● Objectives of Material Requirements Planning</li> <li>● JIT - Background and History ,Objectives and Benefits</li> <li>● Definition of Supply Chain Management</li> <li>● Information Technology and SCM</li> <li>● Logistics - An Integral Component of Supply Chain Management</li> <li>● Logistics Operations in Supply Chain Network</li> <li>● Logistics Service Providers keeps Supply Chain Moving</li> <li>● International Logistics, Finished Goods Supply Chain</li> <li>● Spare Parts Supply Chain, Reverse Logistics</li> <li>● 3PL Contract Logistics Operations, Warehouse Management System</li> <li>● Documentation in Supply Chain Management, Aggregate Product Planning</li> <li>● Factors Affecting Aggregate Planning, Aggregate Planning as an Operational Tool</li> <li>● Importance of Aggregate Planning, Aggregate Planning Strategies</li> </ul>	15	25
5	<b>Defining Inventory</b> <ul style="list-style-type: none"> <li>● Different Types of Inventory</li> <li>● Need for Inventory Management</li> <li>● Finished Goods Inventory</li> <li>● Independent and Dependent Demand Inventories</li> <li>● Inventory Costs</li> <li>● Inventory Classification - ABC Classification, Advantages &amp; Disadvantages</li> <li>● Factors affecting Inventory Operations</li> <li>● Inventory Turnover as Indicator of Health Inventory and Business</li> <li>● Inventory Planning</li> <li>● Good Inventory Management Practices</li> <li>● Inventory Management Techniques</li> </ul>	15	25



**Suggested Specification table with Marks (Theory):100**

Distribution of Theory Marks (Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	30%	40%	30%	-	-	-

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

**Course Outcome:**

After learning the course, the students should be able to:	
CO1	Make suitable and optimized strategies for production management.
CO2	Plan, coordinate, and optimize production processes for efficient resource utilization and timely delivery of goods
CO3	Effectively plan, execute, and control projects to achieve organizational goals.
CO4	Understand the interconnected components of supply chains to develop strategies for efficient coordination, optimization, and risk management within global business networks.
CO5	Explore the principles and techniques for managing inventory effectively to balance cost efficiency with ensuring product availability.

**Instructional Method:**

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.



### Reference Books:

1. Operations Management by William J. Stevenson
2. Modern Production/ Operations Management by E S Buffa and Rakesh K Sarin
3. Operations Management for Competitive Advantage by Richard B Chase, F Robert Jacobs
4. Operations Management by Norman Gaither and Greg Frazier

