	Mahatma Gandhi University **Kottayam**

Programme	**Bachelor in Business Administration (Honours)**					
Course Name	OPERATIONS MANAGEMENT					
Type of Course	CORE COURSE					
Course Code	MG4CCRBBA202					
Course Level	**NA**					
Course Summary	**Course Summary:** This course introduces students to the fundamental principles of operations management, focusing on planning, production systems, quality control, and emerging technologies. It simplifies complex concepts through case studies and practical examples to help students understand and apply operations management practices effectively in real-world scenarios. **Course Objectives** 1. To enable students to understand the role and scope of operations management in business. 2. To familiarize students with various types of production systems and process designs. 3. To introduce quality control, production planning, and inventory management concepts. 4. To highlight the importance of technology, sustainability, and global trends in operations.					
Semester	**4**	**Credits**			**4**	Total Hours
Course Details	**Learning Approach**	Lecture	Tutorial	Practical	Others	
		4	0	0	0	60
Pre-requisites, if any	NA					

CO No.	Expected Course Outcome	Learning Domains *	PO No:
1	Understand core principles and functions of operations management.	U	1
2	Optimize operational processes through effective process design, and capacity planning.	A	2
3	Understand materials and inventory management, use work study techniques to improve productivity, and examine different plant layouts for better efficiency.	A	5
4	Implement quality management principles and analyse the impact of technology and sustainable practices in modern operations	An	10

COURSE CONTENT

Module	Course description	Hrs	CO No.
1 Introduction to Operations Management:			**10Hrs**
1.1	Definition, importance, objectives; key decisions of operation manager. Production vs Operations Management.	5	CO1
1.2	Production/operations functions; types of production systems (job shop, batch, continuous, cellular); five Ps of production.	5	CO1
2 Process and Planning and Control			**20 Hrs**
2.1	Process Selection: Definition, Characteristics that influence the choice of alternative processes (volume and variety).	5	CO2

2.2	Process types in manufacturing: project, jobbing, batch, line, mass, continuous; Process types in services: professional services, services shops, mass services.	5	CO2
2.3	Functions and objectives of production planning; steps in process planning; production planning techniques for various process choices.	6	CO2
2.4	Techniques of production control characteristics of control systems; capacity and layout decisions.	4	CO2
3. Material Management and Productivity Improvement Techniques 18 Hrs			
3.1	Materials and Inventory Management: Scope of materials management; purchasing methods. inventory control—objectives, functions, importance.	7	CO3
3.2	Work Study and Plant Layout: Work study; Method study; Work measurement: time study: stop watch time study; Work sampling.	8	CO3
3.3	Types of plant layouts; factors influencing plant layout.	3	CO3
4 Quality Management and Emerging Trends			**12 Hrs**
4.1	Meaning of quality management; Quality characteristics of goods and services, Quality control, importance and objectives.	2	CO4
4.2	The principles of Total Quality Management (TQM), and the implementation of Six Sigma and Lean Manufacturing.	2	CO4
4.3	Emerging trends- Introduction to sustainability and technological innovations in operations- 3-pillars or the 3 E's of sustainability (Environmental, Economic and Eco-friendly sustainability).	4	CO4
4.4	The industrial revolution 4.0., Application of Iot in industry	4	CO4

References

Text Books (Latest Editions):

6. Mahadevan, B, Operations Management: Theory & Practice, 3rd ed., Pearson Education.

7. Alan Muhlemann, John Oakland et al.: Production and Operations Management Pearson, 6th edition.
8. B. Mahadevan Operations Management: Theory and Practice, Pearson, 2nd edition
9. K.S. Chandrasekar, Operations Management, Himalaya Publishing House, Mumbai
10. Adam Jr Everetl E. R J, Production and Operations management , prentice-hall, 1992, 2000 5th ed.
11. Chary, Production and Operations management, Tata mcgraw-hill, 1997 9th *edition.*
12. Hill T, Operations Management , palgrave, 2000
Haleem A, Production and Operations management ,galgotia publication, 2004

Suggestive Assessment Activities:

1.1 Quizzes/Exams:

For testing CO-based learning domains.

1.2 Case Study – Role of Operations Manager – individual

Select a local manufacturing or service company (e.g., bakery, hospital, workshop, courier service). Interview an operations manager or research online about their responsibilities. Prepare a report (800–1000 words) covering: Definition and importance of operations management, Key decisions taken by the operations manager, Objectives and challenges faced in daily operations.

1.3 Presentation – Types of Production Systems & Five Ps

Students can form a group of 3–4, prepare a PowerPoint presentation (8–10 slides) covering: The four types of production systems: job shop, batch, continuous, cellular (with real-life examples), Explanation and application of the Five Ps: Product, Plant, Processes, Programs, People. Choose one company and analyse how it incorporates the Five Ps and which production system it follows. Present to the class in 10 minutes.

1.4 Concept mapping of production systems

Students create a visual map showing how different components of a production system interact, helping reinforce their conceptual understanding.

CO2:

2.1 Quizzes/Exams:

For testing CO-based learning domains.

2.2 Field Visit Report – Manufacturing or Service Process Type

Visit a local business (manufacturing or service-based) or observe one online (e.g., YouTube videos of factories or hospitals). Identify and describe the process type: For manufacturing: project, jobbing, batch, etc. For services: professional service, service shop, mass service and explain your reasoning in a short report (500–700 words).

2.3 Flowchart – Steps in Process Planning

Choose a simple product (like a sandwich, a chair, or a printed brochure). Draw a flowchart or diagram showing the steps in planning its production — from design to material selection to process choice. Label each step and explain the decisions taken.

CO3:

3.1 Quizzes/Exams:

For testing CO-based learning domains.

3.2 Work Study Mini Project – Time Study or Work Sampling

Choose a repetitive task at home or college (e.g., serving tea in the canteen, arranging books, or photocopying documents). Use a stopwatch (phone timer) to: Measure the time taken for the task over 5–10 cycles. Calculate the average time, identify delays or inefficiencies. Suggest how the task can be improved (e.g., rearranging tools, reducing movements).

Submit your observations in a 1-page report.

3.3 Plant Layout Design – Sketch and Analysis

Identify and apply layout principles to real or hypothetical spaces. Choose a simple workspace (e.g., kitchen, classroom, computer lab, workshop). Draw a rough layout of the space, labeling equipment, workstations, and material flow. Identify the type of layout it follows (process, product, fixed-position, etc.). Suggest two improvements considering safety, space utilization, or workflow. Submit as a sketched layout with a short explanation.

3.4 Case study analysis on quality control practices

Students examine and analyze a real or hypothetical case involving quality control methods to understand their application in operations.

CO4:

4.1 Quizzes/Exams:

For testing CO-based learning domains.

4.2 Assignment on Sustainability and Industry evolution to 1.0 to 4.0

Write a detailed report on the sustainability concept and industry evolution from 1.0 to 4.0 with relevant examples.

4.3 Debate: AI/IoT in operations – pros and cons

A structured classroom debate where students argue both for and against the use of AI and IoT in operations management.

4.4 Report on Six Sigma in Everyday Life

Think of a daily process that often has errors or delays (e.g., classroom attendance, printing documents, morning routine). Identify the defects (errors, delays, inefficiencies). Apply the DMAIC approach (Define, Measure, Analyze, Improve, Control) in a simplified way to propose a solution. Submit a 1-page case analysis using a table or flowchart.

ASSESSMENT

Continuous Comprehensive Assessment(CCA) - Maximum Marks: 30

Sl. NO	Component	Activity	Max. Marks
1	Tests/Quizzes	Short answer, multiple-choice quizzes.	10
2	Group presentation/ Concept mapping/ Field Visit Report/ Flowchart/Mini Project/Layout Design/Debate/Report Writing	Assessment methods specified in the syllabus.	10
3	Case Studies/Seminars/Presentation	Assessments specified by the teacher (Assessment methods defined in the syllabus may also be used).	5
4	Individual or Group Presentation	Presentation of above assessments topic.	5
Total Marks			**30**

End Semester Assessment(ESE) Maximum Marks: 70

Sl. NO	Component	Activity	Max. Marks
2	**Written Examination**	Short answer (four to five sentences) (a choice between two options for each question-answer five short answer questions, one from each pair (1a/1b, 2a/2b, 3a/3b, 4a/4b, 5a/5b).	5x3=15
		Short Essay (a choice between two options for each question-answer three short essay questions, one from each pair (6a/6b, 7a/7b, and 8a/8b).	3x5=15
		Long Essay (a choice between two options for each question-answer two long essay questions, one from each pair (9a/9b, 10a/10b)	2x20= 40
Total Marks			**70**