NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

DEPARTMENT OF PRODUCTION ENGINEERING

COURSE PLAN – PART I			
Name of the programme and specialization	B.Tech.		
Course Title	Operations Management		
Course Code	PROE 10	No. of Credits	03
Course Code of Pre-requisite subject(s)	---		
Session	July 2022	Section (if, applicable)	circuit branches
Name of Faculty	Karthikeyan R	Department	Production Engineering
Official Email	414119053@nitt.edu	Mobile No.	9080964272
Name of Course Coordinator(s) (if, applicable)	Dr. D. Lenin Singaravelu		
Official E-mail		Telephone No.	
Course Type (please tick appropriately)	☐ Core course	☑ Elective course	

Syllabus (approved in BoS)

- Overview of Production System, Objectives of Operation Management, Scope of Operations Management, Operations Management Framework, Relationship of operations with other Functional areas, Manufacturing Vs Service sector, Operations Decision making, Production Design Process, and Process choices.
- Measures of capacity, Factors affecting capacity, Capacity planning, Systematic approach to capacity planning, Long-term and short-term capacity decisions, Tools for capacity planning, Capacity Requirement planning- Business process outsourcing.
- Aggregate Planning strategies and methods-Pure and mixed strategies-Transportation method- LPP method.
- Master Production Schedule, MRP-Lot sizing methods - Wagner and whitens algorithm, MRP II, CRP.
- Assembly Line Balancing – algorithms, Group technology – Production Flow analysis – Rank order clustering, Business Process Reengineering-JIT.

COURSE OBJECTIVE
To understand various components and functions of operation management such as Aggregate Planning, process planning, production scheduling, and Assembly Line Balancing.

MAPPING OF COs with POs	
Course Outcomes	**Programme Outcomes (PO)** (Enter Numbers only)
1. Perform production management tasks.	**1, 2, 3, 5, and 7**
2. Describe the various components and functions of production planning and control such as capacity planning, aggregate planning, process planning, production scheduling, line balancing.	**1, 2, 3, and 7**
3. Know the recent trends like manufacturing requirement Planning (MRP II) and Master production schedule (MPS).	**1, 2, 3, and 7**

COURSE PLAN – PART II

COURSE OVERVIEW

This course will help the students to analyze and improve business processes in services or manufacturing by learning how to increase productivity and deliver higher quality standards. Key concepts include designing and selection of processes, Capacity Planning, Aggregate Planning, Master Production Schedule, Assembly Line Balancing, and more. After completing this course, students can apply these skills to a real-world business challenge.

COURSE TEACHING AND LEARNING ACTIVITIES

(Add more rows)

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	Week 1	Overview of Production System, Objectives of Operation Management	PPT, Chalk and Talk
2	Week 2	Scope of Operations Management, Operations Management Framework	PPT, Chalk and Talk

3	Week 3	Relationship of operations with other Functional areas	PPT, Chalk and Talk
4	Week 4	Manufacturing Vs Service sector, Operations Decision making, Production Design Process, and Process choices	PPT, Chalk and Talk
5	Week 5	Measures of capacity, Factors affecting capacity	PPT, Chalk and Talk
6	Week 6	Capacity planning, Systematic approach to capacity planning	PPT, Chalk and Talk
Cycle Test 1			
7	Week 7	Long-term and short-term capacity decisions, Tools for capacity planning	PPT, Chalk and Talk
8	Week 8	Capacity Requirement planning-Business process outsourcing	PPT, Chalk and Talk
9	Week 9	Aggregate Planning strategies and methods-Pure and mixed strategies	PPT, Chalk and Talk
10	Week 10	Transportation method- LPP method.	PPT, Chalk and Talk
Cycle Test 2			
11	Week 11	Master Production Schedule, MRP-Lot sizing methods	PPT, Chalk and Talk
12	Week 12	Wagner and whitens algorithm, MRP II, CRP	PPT, Chalk and Talk
13	Week 13	Assembly Line Balancing – algorithms	PPT, Chalk and Talk

14	Week 14	Group technology – Production Flow analysis	PPT, Chalk and Talk
15	Week 15	Rank order clustering, Business Process Reengineering - JIT.	PPT, Chalk and Talk

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Cycle test- 1	Week 7	60 Minutes	20
2	Cycle test- 2	Week 11	60 Minutes	20
3	Assignments/Viva/Quiz	Sept-Nov	---------	20
CPA	Compensation Assessment*	Week 14	60 Minutes	20
4	Final Assessment *	Week 16	180 Minutes	40

***mandatory; refer to guidelines on page 4**

COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)

1. Feedback from the students during class committee meeting
2. End semester feedback on course outcomes

COURSE POLICY (including compensation assessment to be specified)

COMPENSATION ASSESMENT POLICY

90 minutes examination including all syllabus

ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)

- At least 75% attendance in each course is mandatory.
- A maximum of 10% shall be allowed under On Duty (OD) category.
- Students with less than 65% of attendance shall be prevented from writing the final assessment and shall be awarded 'V' grade.

ACADEMIC DISHONESTY & PLAGIARISM

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both

students get the same penalty of zero mark.

- The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.
- The above policy against academic dishonesty shall be applicable for all the programmes.

ADDITIONAL INFORMATION, IF ANY

FOR APPROVAL

Karthikeyan R (414119053)
Research scholar,
Production Engineering Dept

Course Faculty _____ **CC- Chairperson** _____ **HOD** _____