

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE PLAN – PART I

Name of the programme and specialization	B.Tech. - VII Semester		
Course Title	Operations Management (Open Elective)		
Course Code	PROE10	No. of Credits	3
Course Code of Pre-requisite subject(s)	MAIR11		
Session	July 2018	Section (if, applicable)	
Name of Faculty	R.Rajesh	Department	Production Engineering
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Name of Course Coordinator(s) (if, applicable)	Dr. V. Senthilkumar		
E-mail	vskumar@nitt.edu	Telephone No.	
Course Type	<input type="checkbox"/> Core course <input checked="" type="checkbox"/> Elective course		
Syllabus (approved in BoS)			
<p>Overview of Production System, Objectives of Operation Management, Scope of Operations Management, Operations Management Frame work, Relationship of operations with other Functional areas, Manufacturing Vs Service sector, Operations Decision making, Production Design Process and Process choices</p> <p>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</p> <p>Aggregate Planning strategies and methods-Pure and mixed strategies- Transportation method- LPP method</p> <p>Master Production Schedule, MRP-Lot sizing methods - Wagner and whitens algorithm, MRP II, CRP</p> <p>Assembly Line Balancing – algorithms, Group technology – Production Flow analysis – Rank order clustering, Business Process Re-engineering - JIT</p>			
COURSE OBJECTIVES			
To understand various components and functions of Operations management such as Aggregate Planning, Process Planning, Production Scheduling, Assembly Line Balancing.			

COURSE OUTCOMES (CO)**Course Outcomes****Aligned Programme Outcomes (PO)**

1. Perform production management tasks.
2. Describe the various components and functions of production planning and control such as capacity planning, aggregate planning, process planning, production scheduling and line balancing.
3. Know the recent trends like manufacturing requirement Planning (MRP II) and Master production schedule (MPS).

PO2, PO 5 and PO 11

COURSE PLAN – PART II**COURSE OVERVIEW**

Operations management refers to the systematic design, direction, and control of processes that transform inputs into services and products for internal, as well as external customers. It is an administration of business practices aimed at ensuring maximum efficiency within a business which in turn helps to improve profitability.

Operations management activities are organizing work, selecting processes, arranging layouts, locating facilities, designing jobs, measuring performance, controlling quality, scheduling work, managing inventory and planning production.

COURSE TEACHING AND LEARNING ACTIVITIES

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	Week 1	Production System, Objectives, Scope and Framework of Operations Management	PPT
2	Week 2	Manufacturing Vs Service sector, Operations Decision making	PPT
3	Week 3	Production Design Process and Process choices	PPT, C&T
4	Week 4	Capacity planning, Systematic approach to capacity planning, Long-term and short-term capacity decisions	PPT, C&T
5	Week 5	Tools for capacity planning, Capacity Requirement planning, Business process outsourcing	PPT, C&T

Cycle Test -1

6	Week 6	Aggregate Planning strategies and methods, Pure and mixed strategies	PPT, C&T
7	Week 7	Transportation method- LPP method	C&T
8	Week 8	Master Production Schedule, MRP Lot sizing methods	PPT, C&T
9	Week 9	Wagner and whitens algorithm, MRP II, CRP	C&T
Cycle Test -2			
10	Week 10	Assembly Line Balancing algorithms, Group technology	PPT, C&T
11	Week 11	Production Flow analysis, Rank order clustering	PPT, C&T
12	Week 12	Business Process Re-engineering, JIT	PPT, C&T

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Cycle Test -1	End of 5 Weeks	1 Hr	20%
2	Cycle Test -2	End of 9 Weeks	1 Hr	20%
3	Assignment	Once in 4 Weeks	-----	10%
4	Compensation Assessment	End of 12 Weeks	1.5 Hr	20%
5	Final Assessment	End of Semester	3 Hrs	50%

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

- Course exit survey will be collected at the end of the semester.
- Feedback during class committee meeting

COURSE POLICY (preferred mode of correspondence with students, compensation assessment policy to be specified)

- Attending classes regularly and continuously is required for the students to understand the concepts.
- Attendance will be taken in every class. If the student is not able to maintain 75% attendance, he/she is required to write the compensation assessment and obtain a minimum of 15 marks to become eligible to write the final assessment.
- Participation in the discussions is mandatory during the tutorial classes.
- Strict academic disciplines have to be maintained inside the class room.
- If any student is not able to attend any of the continuous assessments (1, 2, and 3) due to genuine reason, student is permitted to attend the compensation assessment with % weightage equal to maximum of the CAs. However, a student absent for more than one CAs, maximum of the % weightage among the assessments for which the student was absent will be considered for computing marks for CA.
- Reassessment shall be conducted for failed / absented (in final assessment) in the beginning of next session. Failed (in final assessment) candidates shall get a maximum of E grade in the reassessment.

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

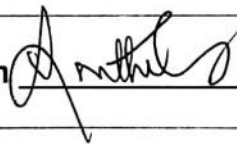
- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental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

FOR APPROVAL

Course Faculty



CC-Chairperson



HOD



Guidelines:

- a) The number of assessments for a course shall range from 4 to 6.
- b) **Every course shall have a final assessment on the entire syllabus with at least 30% weightage.**
- c) **One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered. Details of compensation assessment to be specified by faculty.**
- d) **The passing minimum shall be as per the regulations.**
- e) **Attendance policy and the policy on academic dishonesty & plagiarism by students are uniform for all the courses.**
- f) **Absolute grading policy shall be incorporated if the number of students per course is less than 10.**
- g) Necessary care shall be taken to ensure that the course plan is reasonable and is objective.