ME418 Operations & Manufacturing Strategy										
L	**T**	**P**	Credit	Area		**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
3	0/1	2/0	4	DEC/GEC		15/25	25	20/25	40/50	-

Objective: To allow students to develop the technical, analytic, and managerial skills necessary to perform the tasks successfully.

Syllabus		**Contact Hours**
Unit-1	**Productivity:** Production systems and their classifications; Productivity variables and measurement, Productivity-Total and partial productivity, Reasons and remedy for poor productivity.	**6**
Unit-2	**Work Study:** Work System Design: Taylor's scientific management, Gilbreth's contributions; method study, micro-motion study, principles of motion economy; work measurement - stop watch time study, micro motion and memo motion, work sampling, standard data, PMTS; job evaluation, merit rating, incentive schemes, and wage administration; business process reengineering, introduction to ergonomics and its applications.	6
Unit-3	**Production Planning and Control:** Types and characteristics of production systems Objective and functions of Production, Planning & Control, Routing, Scheduling and Operations scheduling, production scheduling, job shop scheduling problems, sequencing problems, scheduling tools and techniques, Loading, Dispatching and its sheets & Gantt charts.	8
Unit-4	**Quality Management:** Concepts of quality, total quality management, cost of quality; statistical quality control, Concept of specification limits, statistical control limits, process capability, Process control and control charts for both attributes and variable data. Acceptance Sampling- Single and double sampling, six sigma, ISO 9000 & ISO 14000.	8
Unit-5	**Resource Planning:** Enterprise resource planning (ERP), material required planning (MRP), manufacturing resource planning (MRP II), aggregate planning.	**8**
Unit-6	**Reliability and Maintenance:** Reliability, availability and maintainability; distribution of failure and repair times; determination of MTBF and MTTR, reliability models; system reliability determination; Maintenance management and its objectives, Various types of Maintenance Planning, House Keeping, 5S concepts.	6
	Total	**42**

Reference Book:	
1	Introduction to work Study; Oxford and IBH publishing Co. Pvt. Ltd, New Delhi
2	Industrial Engineering and Management; B. Kumar, Khanna Publication
3	Operation Management, Krajewski and Ritzwan, Pearson Education.
4	Work study and ergonomics, S.K. Sharma & Savita Sharma, Katson, Delhi.
5	Industrial Engineering & Management, Ravi Shanker, Galgotia Publication, Delhi

Course Outcomes

CO1	Understand the role of operations management in achieving organizational competitiveness.
CO2	Appreciate the concepts of lean production and maintenance management in operations.
CO3	Comprehend key decision areas of operations and analyze data for effective decision making in operations management.
CO4	Understand optimum allocation and efficient utilization of manpower, materials, equipment and technology at strategic and tactical levels in the organization
CO5	Develop and implement a production/operations strategy and integrate this strategy with the corporate, business and other functional strategies of both manufacturing- and service-oriented organizations.
CO6	Understand operations management concepts, techniques and models

CO-PO/PSO Matrix

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	1	1	1	2	2	1	1	1	1	2	2	1	3
CO2	3	3	2	2	2	2	2	1	1	1	1	3	3	2	2
CO3	3	3	3	2	2	2	1	1	1	1	1	2	2	1	3
CO4	3	3	3	3	2	2	2	1	1	1	1	2	3	1	2
CO5	3	3	3	3	3	2	2	1	1	1	1	3	3	2	3
CO6	3	3	3	3	3	2	2	2	1	1	1	2	3	2	3