Devi Ahilya University, Indore, India Institute of Engineering & Technology				I Year M.E.(Industrial Engineering and Management) Full Time			
Subject Code & Name	**Instructions Hours per Week**			**Credits**			
IMR1C3 PRODUCTION AND OPERATIONS MANAGEMENT	**L**	**T**	**P**	**L**	**T**	**P**	**Total**
	3	**1**	**1**	**3**	**1**	**1**	**5**
Duration of Theory Paper: 3 Hours							

Objective and Pre requisites: To inbuilt the foundation of different Operations strategies like Aggregate planning, Plant location decisions, capacity planning. To ensure the development of skills required for new product development their production planning & control.

COURSE CONTENTS

UNIT-1

Introduction:

Overview of operation management, nature & content of operation management, various schools of management thought, framework for managing operations strategy & competitiveness, strategic planning for production & operations.

UNIT-2

Product Design:

Product / service and process design, product development, morphology of design process , product life cycle concept need identification, conceptual design , creative design concepts , feasibility study, Preliminary design , detailed design , design for customer, for manufacturer and assembly , types of processes, process planning and selection process flow structure , product / process matrix , technologies in manufacturing , FMS and CIM.

UNIT-3

Operation Capacity Planning:

Operation capacity planning , design and system capacity , capacity planning models , economic analysis capital budgeting and analysis , capital investment evaluation techniques, facility location and layout, foreign locations , factory affecting location decisions , models , analysis and selection of layouts , cellular manufacturing layouts.

UNIT-4

Production Planning & Control:

Functions of production planning and control, forecasting, qualities and quantitative models for forecasting, accuracy of forecasting and selection of forecasting technique, aggregate planning, master production scheduling and MRP, operations scheduling, loading sequencing detailed scheduling and expediting, forward and backward scheduling, optimized production technology (OPT).

UNIT-5

Modern operations Techniques:

Overview of synchronous manufacturing and theory of constraints, introduction to Japanese contribution for WCM overview, JIT purchasing, KANBAN, KAIZEN concepts, modern trends in operations management, introduction to learn and agile manufacturing**.**

BOOKS RECOMMENDED:

[1]. Chase, Aquiline & Jacobs, *Production & Operations management.* Tata Mc.Graw Hill
[2]. Dilworth, *Production & Operations management.* 1999
[3]. Adams & Ebert, *Production & Operations management.* 1999
[4]. Monks, *Operations Management.* . Tata McGraw Hill, 1985

LABORATORY EXPERIMENTS:

1. Study and analysis of Production planing & Control situations in industry.
2. Study and analysis of variuous Forecasting Models.
3. Developmentr and analysis of Aggregate Planning Maodels.
4. Development and Analysis of matertrial requirement planning for the given data.
5. Study and analysis of prodution Sheduling.
6. Case studies related to proudction & Operations Management(manufacturing Sector).
7. Case studies related to proudction & Operations Management(Service Sector).