	Information of every subject	
1	Unit name:	-Industrial Engineering and Management
2	Code:	ME-51028
3	Classification:	Engineering subject
4	Credit value:	2.5
5	Semester/ Year Offered:	1/2
6	Pre-requisite:	
7	Mode of delivery:	Lecture, Tutorial
8	Practical	
	Tutorials	20%
	Viva	
	Mid-term/ final Examination	40% / 40%
9	Academic staff teaching unit:	
10	Course outcome of unit: In this course, students will be able **Semester (I)** a. To select the production system and calculate the productivity index b. To study the facility location and performance of layout planning c. To forecast quantitative and time series d. To study the material requirement and resource planning e. To calculate reorder point and lead-time f. To calculate the failure rate and maintenance cost g. To calculate the profit and break even point	
11	Synopsis of unit: In industrial engineering, production systems, productivity, plant location and layout, forecasting, inventory control, cost accounting and depreciation, and work	

	study have been discussed. These topics are required for better understanding of industrial engineering such as linear programming, transportation problems, assignment problems, sequencing of jobs, replacement analysis and decision making.
12	Topic: Semester (I) Chapter 1 Industrial Engineering and Management 1.1 Introduction 1.2 Production Systems 1.3 Selection of Production Systems 1.4 Productivity Chapter 2 Facility Location and Layout 2.1 Introduction 2.2 Facility Location 2.3 Transportation Method 2.4 Centrodial Method 2.5 Facility / Plant layout 2.6 Systematic Layout Planning 2.7 Block Diagram 2.8 Assembly Line Balancing 2.9 Group Technology 2.10 Cellular Manufacturing Chapter 3 Forecasting 3.1 Introduction 3.2 Forecasting Method 3.3 Time-series Forecasting 3.4 Forecasting Performance Measurement Chapter 4 Capacity Planning : MRP, MRP II and ERP 4.1 Introduction 4.2 Materials Requirement Planning 4.3 MRP II 4.4 Enterprise Resource Planning Chapter 5 Inventory Control

5.1 Introduction

5.2 Classification of Inventory

5.3 Inventory Cost

5.4 Continuous and Periodic Inventory Review Systems

5.5 Economic Order Quantity

5.6 Reorder Point

5.7 Order Quantity for Variable Demand

Chapter 6 Reliability and Maintenance Engineering

6.1 Reliability Curves

6.2 Failure Pattern

6.3 Evaluation of System Reliability (R_s)

6.4 Reliability Testing

6.5 Maintainability

6.6 Design for Maintainability

6.7 Maintenance Costs

6.8 Availability

6.9 Serviceability

Chapter 7 Cost Accounting and Depreciation

7.1 Cost Elements

7.2 Cost Accounting

7.3 Break-Even Analysis

7.4 Depreciation

14	Main references: "Industrial Engineering and Management"
15	Additional references: 1. Buffa Elwood S.(1986), Operation Management (Nwe Delhi: Wiley Eastern) 2. Francis, R.L. and White ,J.A. (1974), Facility layout and Location- An Analytical approach (Upper Saddle River, NJ: Prentice-Hall Inc.) 3. Wemmerlov,U.(1982),'Inventory Management and Control,'in Ed.G.Salvendy (ed), Handbook of Industrial Engineering (New York, John Wiley and Sons)