Devi Ahilya Vishwavidyalaya, Indore, India Institute of Engineering & Technology						II Year B. Tech. (Mechanical Engineering) (Full Time)
Course Code & Name	**Instructions Hours per Semester and Credits**					
4RMPC1 **INDUSTRIAL ENGG. & MANAGEMENT**	**Classroom Instruction (CI)**		**Lab Instruction (LI)**	**Term Work (TW) and Self Learning (SL)**	**Total no. of Hours Per semester**	**Total Credits (Total Hours/30)**
	L	**T**	**P**	**TW+SL**		
	30	**10**	**0**	**50**	**90**	**3**

Course Learning Objective:

The course is designed

1. To understand fundamentals of industrial engineering management practices.
2. To understand the linkages of concepts and organizational efficiency and effectiveness.
3. To understand the concepts of productivity.
4. To understand the basic concepts of quality and its management.

Prerequisites: Basic knowledge of engineering and English is pre requisites for this subject.

COURSE CONTENTS

UNIT-I

Methods Engineering: Introduction to Productivity, Definition of Productivity, Benefits of Productivity, Dynamics of Productivity Change and Expectations from Productivity, Measures of Productivity. Work Study, Concepts, Process and advantages of Work Study. Concept of Work Content reasons of Excess Work Content, Techniques to reduce Excess Work Content.

UNIT-II

Method Study & Work Measurement:

Methods study, objectives, scope, process of it. Recording techniques, Work Measurement objectives, Techniques & process of it. Types of Elements, Time study equipment's, Performance rating, Allowances, Computation of Standard Time. Work place Design - Fundamental of Work place Design.

UNIT-III

Introduction to job Evaluation and Wage Incentive Schemes:

Introduction, Definitions, Objectives, Procedure of Job Evaluation, Job Analysis, Description, Specification, Job Evaluation Systems, Merit Rating.

Introduction of Wages, Definition, Minimum Wage, Factors influencing wages, Characteristics of a good wage system, types of wage payments, incentive schemes Characteristics of good incentive system and Incentive plans.

UNIT-IV

Organization and Management: Definition of Management, nature of management, Principles of Management and Management functions. Organization, Principles, Structures, Span of Control, Delegation, Centralization and Decentralization, Formal and Informal Organizations. Personal Management, Introduction, Communication, Motivation and Leadership.

UNIT-V

Quality Control:

Basic Concept of Quality, Attributes for quality product, Cost of Quality, Quality Characteristics & its types. Definition of Total Quality Control, Comparison of it with inspection. Quality of Design, Quality of Conformance & Quality of Performance. Quality planning Concepts of Variation, Theory of Control chart for variables and attributes. Introduction to TQM.

REOMMENDED BOOKS:

1. Industrial Labour Organization (I.L.O.), *Work study*.
2. Organization and Management, R.D. Agrawal, TATA Mc. Graw Hill Publishing Company Limited..
3. Industrial Engineering and Production Management, Martand Telsang, S. Chand and Co, New Delhi.
4. Mahajan, *Statistical Quality Control*, Dhanpat Rai, New Delhi.

Course Outcome:

Course Out Come (CO)	After completion of the course, students will be able to:
CO1	After studying this subject the students will be able to visualize the industrial operations with respect to Productivity.
CO2	After studying this subject the students will be able to visualize Production Operations, Quality and optimization of industrial processes.
CO3	This subject will help the student to understand the concepts of Industrial Engineering in higher semester of this course.
CO4	After studying this subject the students will be able to understand the basics of management likes its function, principles &Organization structures.
CO5	After studying this subject the students will be able to visualize Production Operations, Quality and Optimization of industrial processes.

CO-PO- PSO Relationship

CO	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PSO-1	PSO-2	PSO-3
CO 1	3	3	3	3		1	1	2	1	0	1	3	2	0
CO 2	3	2	3	1	3		2	2	2	1	0	3	2	0
CO 3	3	3	1	3	1	1	1	1	1	1	2	3	1	0
CO 4	3	2	1	1	1	1	0	3	1	3	3	2	1	0
CO 5	2	2	1	1	1	1	0	3	1	1	2	2	2	0

* CO (rows) mention nil/very small/insignificant contribution to the PO (column)

1→ relevant and small significance 2 → medium or moderate and 3 →strong