



FACULTY OF ENGINEERING & TECHNOLOGY

Second Year Master of Engineering

Branch: Thermal Engineering

Course Code: 102440302

Course Title: PROJECT ENGINEERING AND MANAGEMENT

Type of Course: Professional Elective Course

Course Objectives: This course examines project management in theory and practice and the roles and responsibilities of the project manager. The course offers a practical approach to managing projects, focusing on organizing, planning, and controlling the efforts of the project

Teaching & Examination Scheme:

Contact hours per week			Course Credits	Examination Marks (Maximum / Passing)				
Lecture	Tutorial	Practical		Internal		External		Total
				Theory	J/V/P*	Theory	J/V/P*	
3	0	2	4	40/16	20/08	60/24	30/12	150/60

* J: Jury; V: Viva; P: Practical

Detailed Syllabus:

Sr.	Contents	Hours
1	INTRODUCTION Introduction to Project management, Characteristics of projects, Definition and objectives of Project Management, Stages of Project Management, Project Planning Process, Establishing, Project organization, role of Project Manager	6
2	PROJECT SCREENING AND SELECTION TECHNIQUES Project screening and Selection Techniques – Structuring concepts and Tools - Work Breakdown Structure, Organization, Breakdown Structure, and Linear Responsibility Chart – Project, Planning Tools- Bar charts, Line of Balance – Critical Path Method, and Project Evaluation and Review Technique- Risk Analysis and Management	8
3	PROJECT ESTIMATE AND ANALYSIS Types of Estimates and Estimating Methods- Capital Cost, Estimation - Project Budgeting - Project cash flow analysis	6
4	PROJECT SCHEDULING Project Scheduling with Resource Constraints- Resource, Leveling- Resource constrained scheduling with multiple resources- linear programming formulation – Introduction to staff scheduling and rostering	8
5	MONITORING TECHNIQUES Monitoring Techniques and time control System- Project Cost , Control -Time cost Tradeoff procedure, lowest cost schedule, Computer applications in project management	6
6	PROJECT MANAGEMENT Management of Software Engineering Projects, New Product, Development Projects, R&D Projects and Large Scale, Construction Projects -Case Studies	8



Suggested Specification table with Marks (Theory) (Revised Bloom's Taxonomy):

Distribution of Theory Marks						R: Remembering; U: Understanding; A: Application, N: Analyze; E: Evaluate; C: Create
R	U	A	N	E	C	
10	20	20	35	15	0	

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

1	Shtub, Bard and Globerson Project Management: Processes, Methodologies, and Economics, 2/E, Prentice Hall Inc
2	Lock, Project Management Handbook, Gover Publishing Ltd
3	Cleland and King, Project Management Handbook, Wiley
4	Wiest and Levy, A Management Guide to PERT/CPM Prentice Hall of India
5	Horald Kerzner, Project Management: A Systemic Approach to Planning, Scheduling and Controlling, CBS Publishers
6	S. Choudhury, Project Scheduling and Monitoring in Practice, South Asian Publishers
7	Harlod Kerzner and Van Nostrand, Project management: A systems approach to planning scheduling and controlling, John Wiley & Sons

Course Outcomes (CO):

Sr.	Course Outcome Statements	%weightage
CO-1	Students should be able to understanding of the principles of project management	10
CO-2	Estimate different types of projects and its management	30
CO-3	Understand the different techniques and prepared cost estimation	30
CO-4	Know the scheduling and monitoring techniques	20
CO-5	To lead a project team	10



List of Practicals / Tutorials:

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1	Study of stages of Project management
2	Study of Project selection techniques
3	Study of critical path method with case study
4	Study of project monitoring techniques
5	Study of project estimation with case study
6	Study of project management tools
7	Study of project management software (like Wrike, Asana, Podio, JIRA etc)
8	Study of time management with case study
9	Study of risk management
10	Study of project planning process

Curriculum Revision:	
Version:	1
Drafted on (Month-Year):	Apr-21
Last Reviewed on (Month-Year):	Jul-21
Next Review on (Month-Year):	Apr-23