

Program : Diploma in Automobile Engineering	
Course Code : 6052A	Course Title: Engineering Project Management
Semester : 6	Credits: 4
Course Category: Open Elective	
Periods per week: 4 (L:3, T:1, P:0)	Periods per semester: 60

Course Objectives:

- To develop the idea of project plan, from defining and confirming the project goals and objectives, identifying tasks and how goals will be achieved.
- To develop an understanding of key project management skills and strategies

Course Pre-requisites:

Topic	Course code	Course name	Semester
Basic knowledge in Mathematics		Mathematics I	1
Basic knowledge in Mathematics		Mathematics II	2

Course Outcomes:

On completion of the course, the student will be able to:

CO _n	Description	Duration (Hours)	Cognitive level
CO1	Explain the concept of project and its phases	14	Understanding
CO2	Make use of capital budgeting process and Social cost benefit analysis	14	Applying
CO3	Interpret projects from financial perspectives.	15	Understanding
CO4	Construct network diagrams for planning and execution of a given project.	15	Applying
	Series Test	2	

CO – PO Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3						
CO2	3		2				
CO3	3						
CO4	3		2				

3-Strongly mapped, 2-Moderately mapped, 1-Weakly mapped

Course Outline:

Module Outcomes	Description	Duration (Hours)	Cognitive Level
CO1	Explain the concept of project and its phases		
M1.01	Outline the importance of project management	1	Understanding.
M1.02	Explain project classification	2	Understanding.
M1.03	Explain project life cycle	4	Understanding.
M1.04	Summarize project priority matrix	3	Understanding.
M1.05	Summarize work break down structure in project management	2	Understanding.
M1.06	Outline triple constraint in project management	2	Understanding.
Content:			
Concept of a project: Classification of projects- importance of project management - The project life cycle - establishing project priorities (scope-cost-time) project priority matrix - work break down structure.			
CO2	Make use of capital budgeting process and social cost benefit analysis.		
M2.01	Outline capital budgeting process and its steps.	2	Understanding.
M2.02	Explain demand forecasting techniques	2	Understanding.
M2.03	Summarize marketing research process	2	Understanding.
M2.04	Explain basic techniques in capital budgeting.	2	Understanding.
M2.05	Outline payback period and accounting rate of return	3	Understanding.

M2.06	Utilize social cost benefit analysis of project	3	Applying
	Series Test – I	1	
Contents:			
Capital budgeting process: Planning - Analysis-Selection-Financing-Implementation - Review. Market and demand analysis - Demand forecasting techniques. Market planning and marketing research process - Technical analysis.			
Basic techniques in capital budgeting: Non discounting and discounting methods - payback period - Accounting rate of return - net present value - Benefit cost ratio - internal rate of return. Project risk. Social cost benefit analysis.			
CO3	Interpret project from financial perspective.		
M3.01	Explain cost of project.	2	Understanding
M3.02	Summarize different means of finance for project.	2	Understanding
M3.03	Interpret Cost Estimation of sales and production.	3	Understanding
M3.04	Outline the preparation of projected cash flow statement and balance sheet.	4	Understanding
M3.05	Explain project break even analysis.	4	Understanding
Contents:			
Financial estimates and projections: Cost of projects - means of financing - estimates of sales and production - cost of production - working capital requirement and its financing - profitability projected cash flow statement and balance sheet. Break even analysis.			
CO4	Construct network diagrams for planning and execution of a given project		
M4.01	Explain Project administration	1	Understanding
M 4.02	Explain progress payment in projects	2	Understanding
M4.03	Explain project scheduling and network planning	4	Understanding
M 4.04	Make use of CPM and PERT for project duration calculation	3	Applying
M 4.05	Plan least cost durationdetermination .	2	Applying
M 4.06	Explain post project evaluation	2	Understanding
M 4.07	Outline various project management software.	1	Understanding
	Series Test – II	1	

Contents:

Project administration: progress payments, expenditure planning, project scheduling and network planning, use of Critical Path Method (CPM), schedule of payments and physical progress, time-cost trade off. Concepts and uses of PERT cost as a function of time, Project Evaluation and Review Techniques/cost mechanisms. Determination of least cost duration. Post project evaluation. Introduction to various Project management softwares.

Text / Reference:

T/R	Book Title/Author
T1	Projects- Planning, Analysis, Selection, Financing, Implementation and review by Prasanna Chandra - Mc Graw Hill publications
R1	Project Management & Control by P. C. K Rao - Sultan Chand & Sons Publications
R2	Project Management by R.K Singal, MridulSingal and Rishi Singal - S.K. Katarika & Sons publications

Online Resources:

Sl.No	Website Link
1	www.villanovau.com/resources/project-management
2	www.apm.org.uk/resources/what-is-project-management
3	https://nptel.ac.in/courses/110/104/110104073/