

COST MANAGEMENT OF ENGINEERING PROJECTS

III Semester: M.Tech (ST)								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
BCSB28	Open Elective	L	T	P	C	CIA	SEE	Total
		3	-	-	3	30	70	100
Contact Classes: 45		Tutorial Classes: Nil			Practical Classes: Nil			Total Classes: 45
<p>COURSE OBJECTIVES: The course should enable the students to:</p> <ol style="list-style-type: none"> I. Establish systems to help streamline the transactions between corporate support departments and the operating units. II. Devise transfer pricing systems to coordinate the buyer-supplier interactions between decentralized organizational operating units. III. Use pseudo profit centers to create profit maximizing behavior in what were formerly cost centers. <p>COURSE OUTCOMES (COs):</p> <p>CO 1: Understand the concept of strategic cost management, strategic cost analysis – target costing, life cycle costing and Kaizen costing and the cost drive concept.</p> <p>CO 2: Describe the decision-making; relevant cost, differential cost, incremental cost and opportunity cost, objectives of a costing system.</p> <p>CO 3: Understand the meaning and different types of project management and project execution, detailed engineering activities.</p> <p>CO 4: Understand the project contracts, cost behaviour and profit planning types and contents, Bar charts and Network diagram.</p> <p>CO 5: Analyse by using quantitative techniques for cost management like PERT/CPM.</p> <p>COURSE LEARNING OUTCOMES (CLOs):</p> <ol style="list-style-type: none"> 1. Understand the concept of Strategic Cost Management Determine losses of pre-stress in pre-stressed concrete structures 2. Understand the concept of Strategic Cost Analysis - Target Costing, Life Cycle Costing & Kaizen Costing 3. Analyze the decision making and Pricing Strategies. 4. Understand the concept of cost concepts in decision-making; Relevant cost, Differential cost, Incremental cost and Opportunity cost. 5. Determination of Costing System and Inventory valuation. 6. Creation of a Database for operational control. 7. Analyze the provision of data for decision making. 8. Understand the Project: meaning, Different types, why to manage, cost overruns centers, various stages of project execution. 9. Analyze the conception to commissioning. Project execution as conglomeration of technical and nontechnical activities. 10. Able to analyze the Detailed Engineering activities. Pre project execution main clearances and documents. 11. Understand the data required with significance and project contracts. 								

<p>12. Understand the Project contracts. Project execution, project cost control. Bar charts, network diagram and Project commissioning.</p> <p>13. Understand the behavior of profit planning, marginal costing, distinction between marginal costing and absorption costing, break-even analysis.</p> <p>14. Understand the material requirement, planning, enterprise resource planning, total quality management and theory of constraints.</p> <p>15. Understand the thermal, flexible budgets, performance budgets, zero-based budgets. Measurement of divisional profitability pricing decisions including transfer pricing.</p> <p>16. Analyze quantitative techniques for cost management.</p> <p>17. Able to analyze the linear Programming, PERT/CPM, Transportation Problems.</p> <p>18. Able to analyze the simulation, learning Curve Theory.</p>		
UNIT-I	INTRODUCTION	Classes: 09
Introduction and Overview of the Strategic Cost Management Process.		
UNIT -II	COST CONCEPTS	Classes: 09
Cost concepts in decision-making; Relevant cost, Differential cost, Incremental cost and Opportunity cost. Objectives of a Costing System; Inventory valuation; Creation of a Database for operational control; Provision of data for Decision Making.		
UNIT-III	PROJECT MANAGEMENT	Classes: 09
Project: meaning, Different types, why to manage, cost overruns centers, various stages of project execution: conception to commissioning. Project execution as conglomeration of technical and nontechnical activities. Detailed Engineering activities. Pre project execution main clearances and documents. Project team: Role of each member. Importance Project site: Data required with significance. Project contracts. Types and contents. Project execution Project cost control. Bar charts and Network diagram. Project commissioning: mechanical and process.		
UNIT-IV	COST BEHAVIOR AND PROFIT PLANNING	Classes: 09
Cost Behavior and Profit Planning Marginal Costing; Distinction between Marginal Costing and Absorption Costing; Break-even Analysis, Cost-Volume-Profit Analysis. Various decision-making problems. Standard Costing and Variance Analysis. Pricing strategies: Pareto Analysis. Target costing, Life Cycle Costing. Costing of service sector. Just-in-time approach, Material Requirement, Planning, Enterprise Resource Planning, Total Quality Management and Theory of constraints. Activity-Based Cost Management, Bench Marking; Balanced Score Card and Value-Chain Analysis. Budgetary Control; Flexible Budgets; Performance budgets; Zero-based budgets. Measurement of Divisional profitability pricing decisions including transfer pricing.		
UNIT-V	QUANTITATIVE TECHNIQUES	Classes: 09
Quantitative techniques for cost management, Linear Programming, PERT/CPM, Transportation Problems, Assignment problems, Simulation, Learning Curve Theory.		
Text Books:		
<p>1. Robert S Kaplan Anthony A. Alkinson, Management & Cost Accounting.</p> <p>2. N.D. Vohra, Quantitative Techniques in Management, Tata McGraw Hill Book Co. Ltd.</p>		
Reference Books:		
<p>1. Cost Accounting A Managerial Emphasis, Prentice Hall of India, New Delhi.</p> <p>2. Charles T. Horngren and George Foster Advanced Management Accounting.</p> <p>3. Ashish K. Bhattacharya, Principles & Practices of Cost Accounting A. H. Wheeler publisher.</p>		

Web References:

1. <https://nptel.ac.in/courses/110/101/110101132/>
2. <https://nptel.ac.in/courses/105104161/>

E-Text Books:

1. <https://easyengineering.net/construction-engineering-and-management-by-seetharaman/>