

ELECTIVE – IV (A) **Contract Management**

COURSE OBJECTIVES:

The course provides basic knowledge of rate analysis and estimating and to understand necessity and methods of valuation. The role of Architect, Engineer, Contractor and Owner in a construction project and to know about different acts related to construction and also to understand the construction contracts used in infrastructure projects.

Course Content

Branch	Subject Title	Subject Code	Credit allotted subject wise		
			L	T	P
M.E.(CTM)	Contract Management	MECTM-2232 (A)			
			3	-	-

Unit-I

Quantity Surveying: Basic principles of estimating. Construction costs. Different methods and stages of estimating. Specification of construction items and method of statement. Principles of rate analysis and valuation.

Unit-II

Claims and Arbitration: Indian contract act and arbitration act. Variations in work and conditions. Claims and disputes. Liquidated damages. Rights. Responsibilities and duties of client (Owner). Architect. Engineer. Contractor etc. Purchase order as contracts insurance contract and claims.

Unit-III

Legal Frame Work of Construction: Contract labors act 1970 and other acts and laws relating to labors management. Wages. Bonus and Industrial disputes.

Unit-IV

Contract Conditions: Important contract clauses. Terms of payments. Retention. Acceptance and final payment. Time of completion. Extension of time. Maintenance period etc.

Unit-V

Construction Contracts: BOT projects, Variation in BOT projects. Infrastructural projects, International contract rules and regulation.

COURSE OUTCOMES:

After completion of this course, the student will be able to:

- CO1: Write the specifications and perform rate analysis of various construction items.
- CO2: Prepare estimate of building/road works and valuation.
- CO3: Differentiate between rights and responsibilities of Architect, Engineer, Contractor and Owner in a construction project.
- CO4: Apply the provisions of various acts and laws applicable in construction.
- CO5: Draft tender document for construction project.
- CO6: Identify the role of project participants and financing of infrastructure projects.

Reference Books:

1. Construction Engineering and Management by S. Seetharaman, Publisher Umesh Pub.
2. Construction Planning and Management by B. Sengupta, Pub. Tata McGraw-Hill Education
3. Construction and Project Management Theory And Practices by N.K. Jha, Pub. Pearson Education India
4. Construction Contracts by Jimmie Hinze, Publisher Tata McGraw-Hill Education
5. Estimating and Costing by B.N. Datta

ELECTIVE – IV (B)
Project Economics & Financial Management

COURSE OBJECTIVES:

Acquire knowledge of economics to facilitate the process of economic decision making Acquire knowledge on basic financial management aspects• Develop the skills to analyze financial statements•

Course Content

Branch	Subject Title	Subject Code	Credit allotted subject wise		
			L	T	P
M.E.(CTM)	Project Economics & Financial Management	MECTM-2232 (B)	3	-	-

UNIT- I

ECONOMICS, COST AND PRICING CONCEPTS

Economic theories – Demand analysis – Determinants of demand – Demand forecasting – Supply – Actual cost and opportunity cost – Incremental cost and sunk cost – Fixed and variable cost – Marginal costing – Total cost – Elements of cost – Cost curves – Breakeven point and breakeven chart – Limitations of break even chart – Interpretation of break even chart – Contribution – P/V-ratio, profit-volume ratio or relationship – Price fixation – Pricing policies – Pricing methods.

UNIT –II

CONCEPTS ON FIRMS AND MANUFACTURING PRACTICES

Firm – Industry – Market – Market structure – Diversification – Vertical integration – Merger – Horizontal integration

Unit-III

Legal Frame Work of Construction: Contract labors act 1970 and other acts and laws relating to labors management. Wages. Bonus and Industrial disputes.

Unit-IV

CONCEPTS OF FINANCIAL MANAGEMENT

Financial management – Scope – Objectives – Time value of money – Methods of appraising project profitability – Sources of finance – Working capital and management of working capital

Unit-V

ACCOUNTING SYSTEM, STATEMENT AND FINANCIAL ANALYSIS

Accounting system – Systems of book-keeping – Journal – Ledger – Trail balance – Financial statements – Ratio analysis – Types of ratios – Significance – Limitations .

COURSE OUTCOMES:

After completion of this course, the student will be able to:

CO1: Evaluate the economic theories, cost concepts and pricing policies

CO2: Understand the market structures and integration concepts

CO3: Understand the measures of national income, the functions of banks and concepts of globalization

CO4: Apply the concepts of financial management for project appraisal

CO5: Understand accounting systems and analyze financial statements using ratio analysis

CO6: Understand the impact of inflation, taxation, depreciation. Financial planning, economic basis for replacement, project scheduling, and legal and regulatory issues.

Reference Books:**TEXT BOOKS:**

1. Prasanna Chandra, — Financial Managementll (Theory & Prac ce) TMH
2. Weston & Brigham, — Essen als of Managerial Financell

REFERENCES:

1. Pandey, I. M., —Financial Managementll
2. Fundamentals of Financial Managementll- James C. Van Horne.
3. <http://stanford.edu/dept/MSandE>