

Construction Economics

01CP0208 (PEC)

Objective of the Course:

- To understand the Economics in civil engineering
- To understand concept of alternatives for decision making
- To learn importance of Economic and finance in infrastructure development

Credit Earned: 3

Students learning outcomes:

After successful completion of the course, it is expected that student will be able to,

1. Understand the challenges faced by India in the areas of social and economic infrastructure
2. Learn mode of sources and finance development of projects.
3. Identify different issues related to economics and financial management.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE (I)	Viva (V)	Term Work (TW)	
03	00	00	03	50	30	20	25	25	150

Detailed Syllabus

Sr No.	Title of the unit	Number of hours
1	Introduction to Engineering Economics:	12
	Introduction, Flow in an economy, Law of supply and demand, Concept of Engineering Economics, Engineering & Economic efficiency, Scope of engineering economics, Component of costs, Marginal cost, Marginal Revenue, sunk cost, Opportunity cost, Break-even analysis, V ratio, Value engineering, Replacement and maintenance analysis, Economic decision making, Benefit cost ration method	
2	Principles of Economics	10
	Role of Civil Engineering in economic development, Importance of economic background to measurement, Economic decision making, Time value of money, Cash flow diagrams, objectives of business firm, factors bearing on size of firm, motives to growth, economic importance of infrastructures.	
3	Economic Impact of Infrastructures	12
	Demand and supply effect, Comparison of alternatives: Present, future and annual worth method of comparing alternatives, Rate of return, Incremental rate of return, Break-even comparisons, Capitalized cost analysis, Benefit-cost analysis.	

4	Depreciation, Inflation and Taxes	10
	Depreciation, Inflation, Taxes. Equipment economics: Equipment costs, Ownership and operating costs, Buy/Rent/Lease options, Replacement analysis.	
		42

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	10%	20%	25%	20%	20%

Instructional Method and Pedagogy:

1. Use of Learning Management system like canvas
2. Demonstration through presentations on power point and videos and lectures
3. Brainstorming and group discussion sessions
4. Collaborative learning

Recommended Study Material:

Reference Book:

1. Senthil, L. Madan and N. Robindro Singh (2011), Engineering Economics and Cost Analysis, Lakshmi Publications, New Delhi
2. Senthil, L. Madan and N. Robindro Singh (2011), Engineering Economics and Cost Analysis, Lakshmi Publications, New Delhi
3. Leland Blank and Anthony Tarquin, (2017), Engineering Economy, 7th Edition, McGraw Hill Education, New Delhi.
4. Degarmo E Paul (1997) Engineering Economy, Prentice Hall Inc New Jersey