

Course syllabus

Department of Civil Engineering, Indian Institute of Technology Madras

CE6030 - Construction economics and finance

Credit Distribution: C:9 L:3 T:0 P:0 E:0 O:6 TH:0

Course Type: Theory

Description: This course basically aims to introduce the various aspects of engineering economics. Construction economics and finance deals with the systematic evaluation of cost and benefit associated with different projects.

Course Content: Engineering economics : Basic principles – Time value of money, Quantifying alternatives for decision making, Cash flow diagrams, Equivalence-Single payment in the future (P/F, F/P), Present payment compared to uniform series payments (P/A, A/P), Future payment compared to uniform series payments (F/A,A/F), Arithmetic gradient, Geometric gradient. 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. Depreciation, Inflation and Taxes Financial management: Construction accounting, Chart of Accounts, Financial statements Profit and loss, Balance sheets, Financial ratios, Working capital management.

Text Books

- Bose, D. C., Fundamentals of Financial management, 2nd ed., PHI, New Delhi, 2010..

Reference Books

- Blank, L.T., and Tarquin,A.J (1998) Engineering Economy,4th Edn. Mc-Graw Hill Book Co.
- Collier C and GlaGola C (1998) Engineering Economics & Cost Analysis, 3rd Edn. Addison Wesley Education Publishers.
- Patel, B M (2000) Project management- strategic Financial Planning, Evaluation and Control, Vikas Publishing House Pvt. Ltd. New Delhi.
- Steiner, H.M. (1996) Engineering Economic principles, 2nd Edn. Mc-Graw Hill Book Co.

Prerequisite: NIL