# NOC:Engineering Economic Analysis - Video course

## COURSE OUTLINE

The course focuses on economic and cost analysis of engineering projects, giving insights on modern techniques and methods used on economic feasibility studies relating to design and implementation of engineering projects. The basic purpose of this course is to provide a sound understanding of concepts and principles of engineering economy and to develop proficiency with methods for making rational decisions regarding problems likely to be encountered in professional practice.

## COURSE DETAIL

| Week | Topics |
|---|---|
| 1. | Introduction to Engineering Economy, Time value of money, Cash flow diagrams, Interest and Interest rate, Discrete compounding and payment. |
| 2. | Interest formulae for discrete compounding and discrete payments- Gradient series factors, Nominal & Effective interest. |
| 3. | Economic equivalence, Methods of comparison of alternatives. |
| 4. | Replacement analysis, Economic life of the asset. |
| 5. | Depreciation and Depletion. |
| 6. | Elements of cost, Break even analysis, Economic order quantity. |
| 7. | Cost estimation, Decision under risk and uncertainty. |
| 8. | Effect of taxation on economic studies, Income tax analysis. |

NP-TEL

NPTEL

**http://nptel.ac.in**

Mechanical Engineering

**Pre-requisites:**

Basic Knowledge of economics & mathematics

**Coordinators:**

**Dr. Pradeep K. Jha**
Mechanical & Industrial Engineering IIT Roorkee

**References:**

1.Engineering Economy, (DeGarmo, Sullivan & Canada), Collier Macmillan.
2.Engineering Economy, (Thuesen & Fabrycky), Pearson.
3.Engineering Economics, (Panneerselvam), PHI.
4.Engineering Economic Analysis, (Newnan, Eschenbach & Lavelle), Oxford University Press.
5.Engineering Economy, (Blank & Tarquin), McGraw-Hill.