Introduction

Basic Terminologies

i) Capital → financial resources involved in establishing and sustaining a project.

ii) Assets → An economic resources of entity (including money, resources, physical resources & intangible resources)

iii) Interest → The fee that is charged for use of someone else's money. Two types
   a) Simple interest
   b) Compound interest

iv) Discount rate → The interest rate used to calculate the present value of the future cash flows.

v) Break even point → The state when there is neither loss nor profit.

vi) Depreciation → The decline in value of assets with the passage of time.

vii) Salvage value → value of reusable item after depreciation

viii) ~~Scrap value~~ Inflation → decline in purchasing power of money

ix) Deflation → increase in purchasing power of money

x) Scrap value → value of non-reusable item.

xi) Opportunity cost → the best rejected project is the opportunity forgone.

xii) Capital recovery → Annual equivalent of the capital cost

xiii) Intangibles → non measurable aspects of economics like good will, brand name, prestige.

xv) Time value of money → relationship between interest and time.

1.2 Principle of Engineering Economics

a) Develop the alternatives
b) Focus on the differences
c) Use of consistent view point
d) Use of common unit measure
e) Consider all the relevant criteria
f) Revisit the decision.

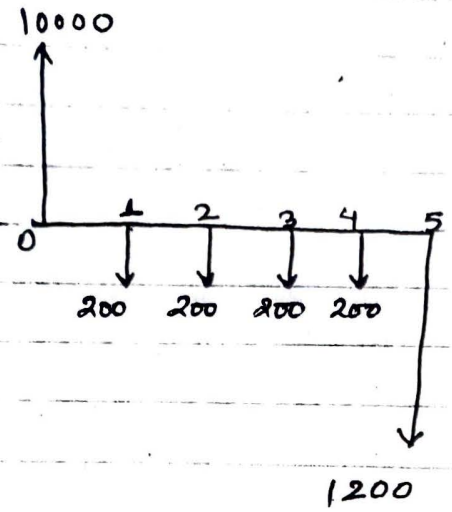
1.3 Role of Engineers in Economics

1) Understand the problem and define the objectives
2) Collect revelent information
3) Define the feasible alternative solution and make realistic estimates.
4) Identify the criteria for decision making using one or more attributes.
5) Evaluate each alternative, using sensitivity analysis to enhance the evaluation.
6) Select the best alternative
7) Implement the solution and monitor the results.

1.4 Cash Flow Diagram

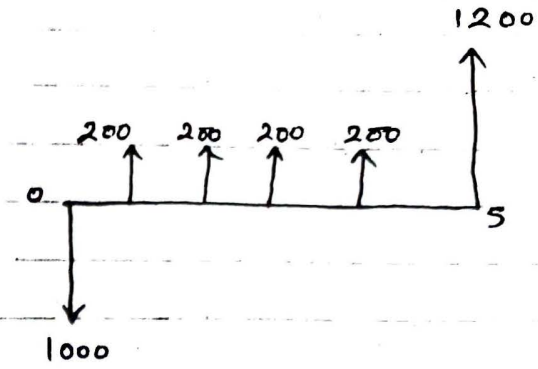
a) Inflow (↑): Profit, gain, withdraw[illegible] renue, inco
b) Outflow (↓): loss, deposit, paym[illegible] investment
tax, cost, exp[illegible]

a)



Borrower's view point

b)



Lender's View point.

→ Cash flow diagram is adopted to show the cash flow for a project over time.

Engineering Economics.

⊛ "Engineering Economics refers to those aspects of economics and its tools of analysis most relevant to the Engineer's decision making process".

⊛ Engineering Economics is devoted to the problem solving and decision making at the operations level.

⊛ Engineering Economics is useful to identify alternative uses of limited resources and to se the preferred course of action.