

MAJOR ELECTIVES-III

VALUE ENGINEERING

Objectives:

To impart knowledge to know, to target & to remove unnecessary cost associated with every design & project.

To establish importance of *rupee saved over rupee generated*.

Course content:

Fundamental of Value Engineering

Basic terms and definitions.

Overview of the systematic approach, general phase, information phase, function phase, creative phase, valuation phase, investigation and recommendation phase.

Value Engineering Job Plan

Project selection, phases.

Function – cost – worth, FAST diagramming, VE versus quality, performance and other parameters.

Cost control theory, life cycle cost theory.

Environmental impact assessment with value engineering approach.

Case studies, applications of value engineering, for a building project and waste-water treatment plant.

Tutorials on

1. Systems approach & utility of computers.
2. Information phase projects under executive by Government/company.
3. Functional analysis of items/services.
4. Function analysis of projects covered under future no:2
5. Preparation of VE job plan & FAST diagnosis for projects.
6. Cost function value analysis with shifts.
7. EIA with VE approach for the projects under study.
8. VE application to the project under their by student as case study.

GUJARAT TECHNOLOGICAL UNIVERSITY
M E (Civil) CONSTRUCTION ENGINEERING AND MANAGEMENT

References :

- (i) Value Engineering : A Practical Approach for Owners, Designers & Contractors by Larry W. Zimmerman & Others - CBS Publication
- (ii) Value Engineering : A Systematic Approach by Arthur E. Mudge - Mc Graw Hill
- (iii) Value Engineering : Theory by Donald E. Parker - Soundaram Publishers
- (iv) Value Analysis in Design and Construction by O' Brien, J.J. - Mc Graw Hill