VALUE ENGINEERING
(Elective-II)

Course Code: 13ME1135

Course Educational Objectives:
To make the student to understand
❖ The concept of most effective cost reduction efforts available.
❖ Various terms, techniques and processes involved in value engineering so as to familiarize with this essential tool.

Course Outcomes:
The student will able to acquire knowledge on solving skills and appreciation of the difficulties involved in resolving their complexities.

UNIT-I (10 Lectures)
INTRODUCTION:
Value engineering concepts, advantages, applications, problem recognition, and role in productivity, criteria for comparison, element of choice.

ORGANIZATION:
Level of value engineering in the organization, size and skill of VE staff, small plant, VE activity, unique and quantitative evaluation of ideas.

UNIT-II (13 Lectures)
VALUE ENGINEERING JOB PLAN:

ANALYSIS FUNCTION:
Anatomy of the function, use esteem and exchange values, basic vs.
secondary vs. unnecessary functions. Approach of function, Evaluation of function, determining function, classifying function, evaluation of costs, evaluation of worth, determining worth, evaluation of value.

UNIT-III (12 Lectures)

VALUE ENGINEERING TECHNIQUES:
Selecting products and operation for value engineering action, value engineering programmes, determining and evaluating function(s) assigning rupee equivalents, developing alternate means to required functions, decision making for optimum alternative, use of decision matrix, queuing theory and Monte Carlo method make or buy, measuring profits, reporting results, Follow up, Use of advanced technique like Function Analysis System.

UNIT–IV (13 Lectures)

VERSATILITY OF VALUE ENGINEERING:
Value engineering operation in maintenance and repair activities, value engineering in non hardware projects. Initiating a value engineering programme Introduction, training plan, career development for value engineering specialties.

Fast diagramming: cost models, life cycle costs

UNIT–V (12 Lectures)

VALUE ENGINEERING LEVEL OF EFFORT:
Value engineering team, co-coordinator, designer, different services, definitions, construction management contracts, value engineering case studies.

TEXT BOOK:

REFERENCES:

