Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

ME SEM-II SUMMER EXAM 2012

Subject code:	1721405
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Subject Name: VALUE ENGINEERING

Date:12/07/12 Total Marks: 70 Duration:10.30am to 1.00pm

Instructions:

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.
- Q.1 (a) Discuss objectives of Function Phase. Explain technique of functional analysis and enlists key questions asked during functional analysis phase.
 - (b) Justify following statements (Any two):
 - 1. Value engineering concept is most applicable to the mega-complex-projects.

07

- 2. Object oriented approach will never lead to real worth.
- 3. Value engineering is not a design improving technique.
- Q.2 (a) What is FAST diagramming? Explain the ground-rules of preparing FAST diagram with schematic sketch.
 - (b) What is importance of creative thinking in value analysis? 07 Describes characteristics of creative people.

OR

- (b) What are the different methods of creative thinking in value 07 analysis? Describes characteristics of any creative method.
- Q.3 (a) State the advantages use of FAST diagram and prepare FAST 07 diagram for the 'External masonry wall'.
 - (b) Enlists functions served by followings in list-pattern. Find out the basic function of any ONE. Use weighted evaluation technique.
 - 1. Laptop OR Desktop,
 - 2. Rotary concrete mixer OR Construction lift.

OR

Q.3 (a) Define/explain followings:

Value management, exchange value, cost value; esteem value, basic function, secondary function & worth.

(b) Carry out function analysis of Septic tank & its components. Decide basic & secondary functions of septic tank and worth of it, also find cost/worth ratio. Refer given data. Assume standard design sketch of septic tank.

Sr. no.	Description	Cost in Rs.
1	C. C. sloping floor	3785.00
2	Enclosing walls	11234.00
3	Pre-cast RRC slab cover	4715.00
4	RRC baffle wall	2900.00
5	Inlet & outlet pipes etc.	1930.00
6	Ventilating CI pipe & cowl.	735.00
7	Iron foot step	220.00
8	Water proof plasters finish.	2350.00
Total cost		27869.00

- Q.4 (a) State the importance of cost models in VE. Describe any one cost model along with its benefits.
 - (b) Explain how 'necessity' and 'competition' stimulate the 07 creativity? Enlists any other such factors, if existing.

OR

- Q.4 (a) Differentiate between followings: 07
 (1) Cost estimate and cost model,
 - (2) Matrix model and Functional model.
- Q.4 (b) 'Value index is an indicator of the potential of the value project': Evaluate the statement giving suitable example.
- Q.5 Answer following questions: 14
 - 1. Explain the concept of life cycle costing approach.
 - 2. What you mean by 'filtration of ideas'? What one achieve through this?
 - 3. Distinguish between value & poor value.
 - 4. What you mean by 'filtration of ideas'? What one achieve through this?

OR

- Q.5 (a) Write short note on 'Six Phase Job-Plan'. 07
 - (b) Explain the impact of poor value of any project. Discuss the reasons for poor value.
