

GUJARAT TECHNOLOGICAL UNIVERSITY**ME SEM-II SUMMER EXAM 2012****Subject code: 1721405****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. 07

- (b) Justify following statements (Any two): 07**
1. Value engineering concept is most applicable to the mega-complex-projects.
 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. 07

- (b) What is importance of creative thinking in value analysis? Describes characteristics of creative people. 07**

OR

- (b) What are the different methods of creative thinking in value analysis? Describes characteristics of any creative method. 07**

Q.3 (a) State the advantages use of FAST diagram and prepare FAST diagram for the 'External masonry wall'. 07

- (b) Enlists functions served by followings in list-pattern. Find out the basic function of any ONE. Use weighted evaluation technique. 07**
1. Laptop OR Desktop,
 2. Rotary concrete mixer OR Construction lift.

OR

Q.3 (a) Define/explain followings: 07
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. 07

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. 07
- (b) Explain how 'necessity' and 'competition' stimulate the creativity? Enlists any other such factors, if existing. 07

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. 07

- 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. 07
