KUMARAGURU college of technology
character is life

Register Number:…………….…

M.E DEGREE EXAMINATIONS: DEC 2022

(Regulation 2018)

Third Semester

INDUSTRIAL ENGINEERING

P18IEE3014: Value Engineering

COURSE OUTCOMES

CO1: Understand the concepts of value stream mapping for improving process performance

CO2: Apply Value engineering techniques for real time industrial problems.

CO3: Understand the importance of Team approach in Value engineering.

CO4: Classify the various cost models of Value Engineering and phases involved in a job plan

CO5: Extend the value engineering knowledge with reference to industrial case studies.

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Select the order in value engineering process during design phase   CO2   [K_L]

   a) Information Phase   b) Recommendation phase

   c) Creative phase   d) Evaluation phase

2. Select the value engineering evaluation methods   CO2   [K_L]

   a) Job Plan   b) Costs

   c) Available Facts   d) Best Sources

3. Order the selection of remembers in value engineering team approach   CO3   [K_L]

   a) Information gathering   b) Evaluate

   c) Develop   d) Creative thinking

4. Matching type item with multiple choice code   CO4   [K_L]

List I	List II
A. value engineering	i. Cost
B. incentive clauses	ii. systematic evaluation
C. keywords in VE	iii. brainstorming
D. purpose of the speculation in VE?	iv. One way to target VE results

a)   i - iv - ii- iii   b)   ii - iv - i- iii

c)   iii - i - iv- ii   d)   i - ii - iii- iv

5. Matching type item with multiple choice code   CO3   [K_L]

List I	List II
A. Analysis phase in VE	i. perform detailed design and construction.
B. Screening process in VE	ii. communicates the things
C. Rating Index	iii. best alternatives
D. Lessons Learned	iv. eliminate ideas that do not meet environmental

a)   ii - iv - i - iii   b)   iii - iv - i - ii

c)   i - ii - iv- iii   d)   iii - i - ii- iv

6.   CO4   [K_L]

List I	List II
A. CII Best Practices	i. Functional
B. decision analysis	ii. enhanced project performance
C. Screening Process	iii. Development
D. one step of VE	iv. Sensitivity Analysis

a)   ii - iv - i - iii   b)   i - ii - iv - iii

c)   iii - iv - i - ii   d)   iv - ii - i - iii

7. Assertion (A): In VE approach, value of product is directly proportional to its functions   CO1   [K_L] and inversely proportional to its cost

Reason (R): directly proportional to its functions as well as its cost

a)   A is true but R is false   b)   Both A and R are true and R is the correct explanation of A.

c)   A is false but R is true.   d)   Both A and R are false.

8. Assertion (A): The aim of value engineering is to minimize the overall cost of   CO1   [K_L] production without affecting the quality of product

Reason (R): Determine the value of overall production

a)   Both A and R are true and R is the correct explanation of A.   b)   A is true but R is false

c)   Both A and R are false.   d)   A is false but R is true.

9. Which of the following is a non-value-added activity?   CO5 [K$_L$]

     a) Clear and truthful advertising   b) Designs that meet engineering specifications but have limited customer input

     c) Competent and timely after-sales customer help   d) Use of suppliers that provide high-quality inputs

10. Which of the following are techniques commonly used by organizations to manage costs over their value chain?   CO5 [K$_L$]

     a) Activity-based management   b) The target costing process

     c) Just-in-time procedures   d) All of the above

PART B (10 x 2 = 20 Marks)

11.	Classify values.	CO1	[K$_2$]
12.	Infer the impact of VE application.	CO1	[K$_2$]
13.	Outline Godson feasibility ranking.	CO2	[K$_2$]
14.	Explain ABC analysis.	CO2	[K$_2$]
15.	Contrast team building.	CO3	[K$_2$]
16.	Summarize the selection of consultant.	CO3	[K$_2$]
17.	Explain matrix cost models.	CO4	[K$_2$]
18.	Illustrate the steps in LCC.	CO4	[K$_2$]
19.	Infer information phase.	CO5	[K$_2$]
20.	Outline audit phase.	CO5	[K$_2$]

PART C (6 x 5 = 30 Marks)

21.	Contrast the function identification on product	CO1	[K$_3$]
22.	Examine the customer oriented FAST diagram.	CO2	[K$_4$]
23.	Build the task flow diagram.	CO3	[K$_3$]
24.	List the uses of project models.	CO4	[K$_4$]
25.	Explain functional analysis.	CO5	[K$_2$]
26.	Outline the team structure.	CO3	[K$_2$]

Answer any FOUR Questions
PART D (4 x 10 = 40 Marks)

27. Categorize the status of VE in India and origin country. CO1 [K₄]

28. Examine break even analysis with suitable case study. CO2 [K₄]

29. Inspect the conduct of VE project study. CO3 [K₄]

30. Evaluate the Life Cycle Costing CO4 [K₅]

31. Discuss the functional analysis with suitable case study. CO5 [K₄]

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