U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

January / February 2025 Semester End Main Examinations

Programme: B.E. **Semester: V**

Branch: Industrial Engineering & Management **Duration: 3 hrs.**

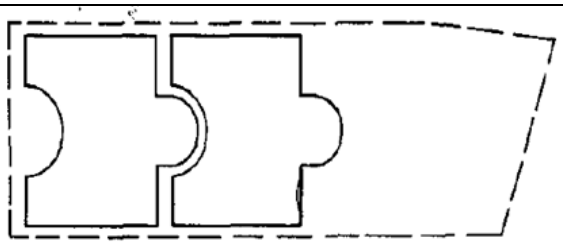
Course Code: 23IM5PEVAE **Max Marks: 100**

Course: Value Engineering

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		UNIT - I	CO	PO	Marks
1	a)	Discuss about any ten reasons which are responsible for poor value and unnecessary cost of a product.	CO1	PO4	**10**
	b)	Discuss about the unsuspected areas responsible for unnecessary costs in a product	CO1	PO4	**10**
		OR			
2	a)	What symptoms prompt us to apply VE or VA to any product or process?	CO1	PO4	**10**
	b)	What is the significance of VA zone?	CO1	PO4	**10**
		UNIT - II			
3	a)	What is the significance of function analysis phase in a VE job plan? What are its objectives? Using any two examples demonstrate the same.	CO1	PO4 PO6	**10**
	b)	What is creativity? Give Suggestions for developing and improving the same	CO1	PO4 PO6	**10**
		OR			
4	a)	What is the process used for applying value engineering to an item? Explain in brief	CO1	PO4 PO6	**15**
	b)	Apply VA to the leaver bracket as shown below to reduce the cost	CO1	PO4 PO6	**05**



- Made of 1/8 -inch-thick steel & 3 inches wide.
- A die the size and shape of the required part was used. It blanked each item as required from the material, leaving a slight amount of trim all around.
- The part cost 11 paisa
- Its function was evaluated at between 2 and 3 paisa.

		UNIT - III			
5	a)	Define a function. With suitable examples elaborate on the rules used and their advantages for functional definition	*CO1*	*PO4* *PO6*	**10**
	b)	Using a suitable example, discuss the Procedure used to evaluate the interacting functions	*CO1*	*PO4* *PO6*	**10**
		OR			
6	a)	Identify and Evaluate the functions of a pencil with an eraser	*CO1* *CO3*	*PO4* *PO6*	**06**
	b)	Apply Paired comparison and evaluation Matrix technique to buy a Diesel engine power generating set. (Assume the data suitably wherever necessary). Use the following table for constructing Paired comparison and evaluation Matrix	*CO1* *CO3*	*PO4* *PO6*	**14**

Alternative Available model	Initial investment(Rs. Lakhs)	Operating costs	Performance	Maintenance	Pollution problems	Size	Expected life in years
W	12.00	Second lowest	Excellent	Difficult	Some problems	big	10
X	9.50	Highest	Fair	Easy	Many problems	small	8
Y	15.00	Lowest	Good	Difficult	Least problems	smallest	12
Z	8.00	Highest	Poor	Easy	Worst problems	biggest	5

			UNIT - IV			
	7	a)	Elaborate on steps used for the selection of VE projects	*CO1*	*PO4* *PO6*	**10**
		b)	Discuss the guidelines for formation of VE teams	*CO1*	*PO4* *PO6*	**10**
			OR			
	8	a)	Discuss about the value engineering's relationship with the materials management	*CO1*	*PO4* *PO6*	**10**
		b)	With suitable examples show how VE can be applied for cost reduction and improving competitiveness.	*CO1*	*PO1* *PO4* *PO6* *PO11*	**10**
			UNIT - V			
	9	a)	What are the purposes of a FAST diagram in VE? Construct a FAST diagram for a pencil with an erasure	*CO1*	*PO4* *PO6*	**10**
		b)	What is the importance of VAMP in any organization? Discuss the objectives of it.	*CO1*	*PO4* *PO6*	**10**
			OR			
	10	a)	Define BPR. Mention the expected outcomes of BPR Implementation in an organization	*CO1*	*PO4* *PO6*	**08**
		b)	With suitable example explain Life cycle costing concept	*CO1*	*PO4* *PO6*	**08**
		c)	What is QFD? Explain the same briefly with suitable example	*CO1*	*PO4* *PO6*	**04**

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