BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: BE **SEMESTER : VII**
BRANCH: MECH **SESSION : MO/17**

SUBJECT: PE7015 VALUE ENGG

TIME: 3 HOURS **FULL MARKS: 60**

INSTRUCTIONS:
1. The question paper contains 7 questions each of 12 marks and total 84 marks.
2. Candidates may attempt any 5 questions maximum of 60 marks.
3. The missing data, if any, may be assumed suitably.
***4*. Before attempting the question paper, be sure that you have got the correct question paper.**
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

Q.1(a)	What is value? What are the different types of value?	[2]
(b)	What is value analysis? How does value analysis differs from other cost reduction? Illustrate with example?	[4]
(c)	Explain the reasons for unnecessary cost. How will you eliminate them?	[6]
Q.2(a)	What is function? How will you identify a secondary function?	[2]
(b)	What is relation between value and quality? Does the value increases with improvement in quality? Justify your answer?	[4]
(c)	What are the factors demanding special attention in value engineering? With help of example explain what factors are considered to evaluate. (i) a consumable and (ii) an engineering product	[6]
Q.3(a)	What is problem identification?	[2]
(b)	What is the role of need analysis in the design process?	[4]
(c)	How need for a particular product are analysed? Briefly discuss the different kinds of needs?	[6]
Q.4(a)	What is value engineering job plan? List the different phases of value analysis?	[2]
(b)	What are the different methods of selecting project for VE? Discuss briefly.	[4]
(c)	What is value potential? How it is enumerated in the function phase? Explain with a suitable example.	[6]
Q.5(a)	List some techniques of decision making?	[2]
(b)	Discuss the acceptance problem of value engineering. Suggest some points to improve the acceptability of value engineering proposals?	[4]
(c)	How the effectiveness of VE is evaluated? Discuss with the help of an example?	[6]
Q.6(a)	What are the various techniques of cost control?	[2]
(b)	What is cost control? What are the various objectives of cost control?	[4]
(c)	An industry producing 200 toy car per day involves the following cost: Direct material cost: 300 direct labour cost: 400 factory overhead: 300 Assuming a profit of 10% of the selling price and selling on cost (overhead) 20% of the factory cost, calculate the selling price of one toy car.	[6]
Q.7(a)	Discuss the application of VA/VE in the following: i) Transportation ii) Design engineering	[6]
(b)	Explain Functional analysis systems techniques with a suitable example.	[6]

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