

Roll No.

Total Pages : 3

326302

December, 2019
M.Tech. (MTA), 3rd Semester
Value Engineering (MMTA-301-2)

Time : 3 Hours]

[Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART - A

1. (a) Discuss the terms Function and worth. (1.5)
- (b) Difference between Economic value and Aesthetic value. (1.5)
- (c) Explain the process of Brain storming and Idea gaming with example. (1.5)
- (d) What are the key costs of the product? (1.5)
- (e) Explain the product planning process. (1.5)

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- (f) Explain the design for stiffness and rigidity in brief. (1.5)
- (g) Explain the role value engineering in the product quality. (1.5)
- (h) Explain how ergonomics affects the design and development process for new product. (1.5)
- (i) What do you mean by Decision Matrix? (1.5)
- (j) What is the function of unnecessary cost? (1.5)

PART - B

- 2. (a) Distinguish between value engineering and cost reduction techniques. (10)
- (b) What do you mean by 'Make or Buy Decisions'? (5)
- 3. (a) Discuss how the customer's needs are interpreted during product development process. (10)
- (b) Explain main characteristics of successful product design. (5)
- 4. Explain the different phases of value engineering job plan with suitable examples. (15)

5. (a) What do you understand by value? How team approach helps in value analysis in an organization? Discuss. (7)
- (b) What is cost? Explain the procedure for Calculating the Life Cycle Cost. (8)
6. (a) What is FAST diagram? Discuss points to be considered for construction of FAST diagram. (7)
- (b) Bowl of multistage submersible pump is manufactured by casting process. Suggest the suitable material and alternative manufacturing process to reduce air pollution and cost and improve the quality of the product. (8)
7. Discuss a case study in value engineering and analysis of any manufacturing industry. (15)
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