

B.E. DEGREE EXAMINATIONS: APRIL/MAY 2012

Eighth Semester

MECHANICAL ENGINEERING

U07MEE15: Product Design and Costing

Time: Three Hours

Maximum Marks: 100

Answer All Questions:-

PART A (10 x 1 = 10 Marks)

1. Value Analysis is the systematic application of recognized technique which identify the function of
 - A. Cost
 - B. Product
 - C. Process
 - D. Material
2. Profit of product is
 - A. Sales-Fixed cost
 - B. Sales – Variable cost
 - C. Sales- (Fixed + Variable cost)
 - D. Sales-(Fixed + Variable + Operating cost)
3. Concurrent Engineering is
 - A. Integrated Process
 - B. Integrated Product
 - C. Integrated Technology
 - D. Integrated Manufacturing
4. Customized product is
 - A. Configuration required by customer
 - B. Choice of material required by the customer
 - C. Aesthetic required by the customer
 - D. Mode of operation required by the customer
5. Symbolic mode is represent the models by
 - A. Drawings
 - B. Symbols
 - C. Pictures
 - D. Figures
6. Standardization is the process of
 - A. Improve the Quality
 - B. Improve the Design
 - C. Improve the Process
 - D. Reduce the Cost
7. Fixed cost such as marketing, Security, Finance, Legal and Administrative cost are often called as
 - A. General and Administrative Costs
 - B. Maintenance and Administrative Costs
 - C. Management Administrative Costs
 - D. Overhead and Administrative Costs
8. The cost involved in direct functions of manufacturing operation and occur over and over again is called as
 - A. Recurring cost
 - B. Non –recurring cost
 - C. Variable costs
 - D. Fixed costs

9. Sophisticated approach used to formulate algorithm that facilitated finding a solution for a complex problem called as
A. Genetic algorithm B. Fozzy logic C. Neural Network D. Case based reasoning
10. A numerical technique for finding approximate solutions of partial differential equations as well as integral equations called as
A. Finite Element Method B. Finite Difference Method
C. Finite Element Modeling D. Finite Difference Scheme

PART B (10x2=20 Marks)

11. What is meant by 4C's of design?
12. What is the information's collected through market research?
13. Write down the purpose of value analysis.
14. Write down the criteria for material selection.
15. Define product modeling.
16. What is meant by process chain?
17. What are the contents in bill of materials?
18. What is the impact of budget in product coasting?
19. List the significance of FEM tool in product design.
20. What is meant by Intelligent Information System? Explain with suitable example.

PART C (5x14=70 Marks)

21. a) What is meant by Concurrent Engineering. Explain with an example.

(OR)

- b) What is meant by product life cycle? Explain in details.

22. a) What is meant by BEP. How do you make BEA?

(OR)

- b) What are the steps involved in value analysis? Explain briefly.

23. a) Briefly explain the role of product models in Engineering Design.

(OR)

- b) What is meant by process chain? How it would meet industrial demand?

24. a) Briefly explain the following

(i) Operation Process Chart

(ii) Flow Process Chart

(OR)

b) List out 10 reasons why reducing the number of parts in a product might reduce production cost. Also list some reasons why cost must increase?

25. a) What is meant by technological discontinuity? Explain with an example.

(OR)

b) Briefly explain the concept of life cycle management.
