KUMARAGURU
college of technology
character is life

M.E DEGREE EXAMINATIONS: DEC 2015

(Regulation 2014)

Third Semester

CAD/CAM

P14CCTE39: Integrated Product Design And Development Strategies

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

Answer all the Questions:-
PART A (10 x 1 = 10 Marks)

1. Arrange in a sequence of selecting the pair of concept development process.   CO5 [K1]
   1) Test product concept and set final specification
   2) Generate product concepts and select product concepts
   3) Plan downstream development and development plan
   4) Identifying the customer need and establish target specification

   a) 4-1-3-2   b) 4-2-1-3

   c) 4-3-2-1   d) 4-1-2-3

2. Organizations have hierarchical structures because   CO4 [K2]

   a) it is convenient to do so   b) it is done by every organization

   c) specific responsibilities can be   d) it provides opportunities for
      assigned for each level   promotions

3. On-line transaction processing is used when   CO2 [K3]
   i) it is required to answer random queries
   ii) it is required to ensure correct processing
   iii) all files are available on-line
   iv) all files are stored using hard disk

   a) i , ii   b) i, iii

   c) ii ,iii, iv   d) i , ii ,iii

4. Matching type item with multiple choice code   CO1 [K1]

List I	List II
A. CAE	i. Design, assembly and Testing
B. CAD	ii. Computational Fluid Dynamics
C. CAM	iii. 2D and 3D diagram
D. Manufacturing Electronically	iv. Numerical Control

a) 2-4-3-1   b) 2-1-3-4

c) 2-3-1-4   d) 2-3-4-1

5. The path is an unbroken chain of critical activities between the first and
   last event of network diagram with maximum durations, also known as   CO1   [K₁]

   a) Longest path   b) Straight line path

   c) Projectable path   d) Critical Path

6. Which of the following is a detailed version of the idea stated in   CO3   [K₁]
   meaningful consumer terms?

   a) product selection   b) product plan

   c) product concept   d) product testing

7. Assertion (A): The birth of industrial design is often traced to Western   CO4   [K₄]
   Europe.
   Reason (R): European designers believed that a product should be
   designed "from the inside out"
   a) Both A and B are wrong   b) A is correct and B is wrong

   c) A is wrong and B is correct   d) Both A and B are correct

8. Which of the following is the constituent of the economic value?   CO5   [K₁]

   a) Zero value   b) Royal value

   c) Use value   d) Normal Value

9. Match and find best pairing for a Production Management System   CO5   [K₁]
      (i) Performance appraisal of machines
      (ii) Introducing new production
      (iii)Tactical information technology
      (iv)Strategic information to decide on replacement machines
   a) (i) and (ii)   b) (ii) and (iv)

   c) (i) and (iii)   d) (iii) and (iv)

10. In motor car manufacturing the following type of information is strategic. CO3   [K₂]

   a) Decision on introducing a new   b) Scheduling production
      model
   c) Assessing competitor car   d) Computing sales tax collected

PART B (10 x 2 = 20 Marks)

11. List the strategic importance of product development.   CO1   [K₁]

12.	Identify the factors to promote understanding the customers.	CO1	[K2]
13.	Generalize the steps involved to decompose a complex problem into similar sub problem.	CO2	[K3]
14.	List the benefits of concept selection methodology.	CO2	[K1]
15.	Predict the significance of integrate product design .	CO3	[K4]
16.	Draw the diagram of incidental interaction graph.	CO3	[K4]
17.	Categorize the various types of modularity in product architecture.	CO4	[K4]
18.	Generalize the ergonomic needs in assessing the need for industrial design.	CO4	[K3]
19.	Define the term DFA index.	CO5	[K1]
20.	Categorize the types of prototypes with an example.	CO5	[K4]

PART C (6 x 5 = 30 Marks)

21.	Describe the organization process management and improvement with a case study.	CO1	[K2]
22.	Categorize the classification of concept with tree diagram.	CO2	[K4]
23.	Discuss about the various steps involved in concept scoring method and write the benefits of this method.	CO3	[K2]
24.	Explain about related system level design issues with suitable example.	CO4	[K2]
25.	Define the term industrial design and detail the process of industrial design.	CO4	[K1]
26.	Identify the project risk areas and discuss about the various steps in accelerating the projects.	CO5	[K4]

PART D (4 x 10 = 40 Marks)

27.	Explain the various steps of internal and external search for structured	CO1	[K2]

approaches with suitable example.

28. Define the term product architecture and detail about the establishing of architecture with neat sketch. CO3 [K$_1$]

29. Describe about managing the industrial design process and assessing the quality in industrial design with example. CO4 [K$_2$]

30. Envisage the importance of PERT chart. Discuss the PERT chart and Gantt chart with a case study, and also write the cost estimation of redesigned intake manifold of General Motors. CO5 [K$_4$]

****