Reg. No. :

Question Paper Code: 42214

M.E. DEGREE EXAMINATION, MAY 2015.

Second Semester

CAD/CAM

14PCD204 – INTEGRATED PRODUCT DESIGN AND PROCESS DEVELOPMENT

(Regulation 2014)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions.

PART A - (5 x 1 = 5 Marks)

1. Identification in the customer need is done by
   (a) Client request   (b) Modification of an existing design
   (c) Generation of new product   (d) All the above

2. Brainstorming is a method to foster
   (a) Productivity   (b) Creativity   (c) Both (a) and (b)   (d) None

3. The purpose of the product architecture is to define the_____ of the product
   (a) Basic physical building blocks   (b) Structure
   (c) Complicated building blocks   (d) Design and cost

4. The job of designer is to _____ information
   (a) Collect   (b) Organise   (c) Improve   (d) All the above

5. A prototype reduces the risk of costly _____
   (a) Iteration   (b) Analysis   (c) Design   (d) All the above

PART - B (5 x 3 = 15 Marks)

6. Write down the importance of Product development.

7. What are the external approaches in concept generation?

8. Bring out the need for product development management.

9. List the steps involved in integrated process design.

10. Mention the planning steps involved in prototype design.

PART - C (5 x 16 = 80 Marks)

11. (a) Discuss the concept of product development and enumerate the major characteristics of successful product development. (16)

Or

(b) Explain the involvement of customer in product development and management requirements. (16)

12. (a) Discuss in detail concept testing and the various methods of implementing concept testing. (16)

Or

(b) (i) Explain the concept of product performance. (8)

(ii) Explain in detail the establishment of product specifications. (8)

13. (a) (i) Explain in detail product development management. (8)

(ii) Briefly explain interface specification of product architecture. (8)

Or

(b) (i) Explain rough geometric layout with example. (8)

(ii) Explain how design issues make an impact in product architecture. (8)

14. (a) (i) Explain technology driven and user driven products. (8)

(ii) Explain the management of industrial design process. (8)

Or

(b) (i) Explain briefly about system level of design. (8)

(ii) Explain the process of CAE/CAD/CAM in industrial design. (8)

15. (a) (i) Briefly explain the component cost and assembly cost. (8)

(ii) Explain estimation methods used in manufacturing costs. (8)

Or

(b) (i) Explain briefly about economic analysis process. (8)

(ii) Explain basic principles used in prototype design. (8)

42214