

M.E DEGREE EXAMINATIONS: NOV/DEC 2014

(Regulation 2013)

Third Semester

CAD / CAM

P13CCTE33: Integrated Product Design and Development Strategies

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

1. What is product life cycle?
2. State the various strategies involved in the product development processes.
3. What do you understand by mechanism analysis?
4. What is meant by topology and geometry of CAD model?
5. What is change management?
6. How do you understand customer needs?
7. Differentiate between aesthetics and ergonomics.
8. What is meant by an axiomatic design?
9. Briefly explain the application of rapid prototyping.
10. What is meant by 'poke yoke'?

Answer any FIVE Questions:-

PART B (5 x 16 = 80 Marks)

Q.No:11 is Compulsory

11. Imagine an interactive computer tool that would allow a large group (say, 30 or more people) to participate in the concept selection process? How might such a tool work?
12. For what types of products would the initial focus of the concept generation activity be on the form and user interface of the product and not on the core technology? Describe specific example?

13. There are thousands of architectural decisions to be made in the development of an automobile. Consider all of the likely fundamental and incidental interactions that any one functional element (say, safety restraints) would have with the others. How would you use the documentation of such interactions to guide the decision about what chunk to place this functional element in?
14. Distinguish between CAD/CAM hardware systems based on Windows NT & UNIX and give their relative merits and demerits.
15. (i) Explain the procedure for FMEA of a product. (8)
(ii) What are the concepts of DFMA? Explain? (8)
16. Explain the generic products and types of product configuration in detail.
