Code: 13A03809

R13/SS

B.Tech IV Year II Semester (R13) Regular & Supplementary Examinations April 2018

PRODUCT DESIGN

(Mechanical Engineering)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) Explain activity planning.
(b) What is meant by interdisciplinary cooperation?
(c) What is meant by updating and partial requirement list?
(d) Briefly explain working structure.
(e) How to abstract to identify essential problems in conceptual design?
(f) Explain practical applications of working structure.
(g) Write the steps in embodiment design.
(h) What is meant by fault-free design?
(i) Write the applications of mechanical connections.
(j) What are the goals and limitations of adaptronics?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 Explain in detail product development organizations.

OR

3 What role does basic technological research play in the product development process? Explain.

UNIT – II

4 Explain overall steps involved in task clarifications.

OR

5 Explain in detail the effective preparing design analysis task in a product development project.

UNIT – III

6 Explain practical applications of working structures in detail.

OR

7 Explain conceptual design with two basic case studies.

UNIT – IV

8 What are various principles of embodiment design explain each in detail?

OR

9 Explain design to ergonomics, production, assembly, recycling and maintenance.

UNIT – V

10 Explain in detail about mechanical connections with suitable cases studies.

OR

11 Explain about goals and limitations of mechatronics with suitable cases studies.

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