

B.Tech IV Year II Semester (R13) Advanced Supplementary Examinations July 2017

**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) What is scheduling?
  - (b) List out the phases involved in activity planning.
  - (c) What is QFD?
  - (d) Define quality and quantity.
  - (e) What is overall function?
  - (f) Give the aim of abstraction.
  - (g) Explain ergonomics briefly.
  - (h) Give the levels of safety measures.
  - (i) What are the limitations of mechatronics?
  - (j) What are the applications of adaptronics?

**PART – B**

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

**UNIT – I**

- 2 Explain the steps involved in general problem solving process. Explain in detail the general decision process with a neat flow chart.

**OR**

- 3 (a) What will be a product is successful?  
(b) What are the three main steps involved in creating a network plan?

**UNIT – II**

- 4 Briefly explain the importance of task clarification. What method is used to support the preparation of list of requirements?

**OR**

- 5 What are the practical applications of 'Requirement list'?

**UNIT – III**

- 6 Explain how problem formulation is broadened.

**OR**

- 7 What are the practical applications of function structures? Explain.

**UNIT – IV**

- 8 Write a short note on design against corrosion.

**OR**

- 9 Write check list for embodiment design. What are the basic rules of embodiment design?

**UNIT – V**

- 10 Explain the basic architecture of mechatronics. What are the goals of mechatronics?

**OR**

- 11 Explain the concept of development of adaptronics solutions. Give an example.

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