

B.TECH.**THEORY EXAMINATION (SEM–VI) 2016-17****PRODUCT DEVELOPMENT & DESIGN****Time : 3 Hours****Max. Marks : 100****Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.****SECTION – A****1. Explain the following:****10 x 2 = 20**

- (a) What do you understand by Product design and development Process?
- (b) Explain new product development process?
- (c) Explain concept of Taguchi loss function?
- (d) What is the difference between prototype and production design?
- (e) What is concurrent engineering
- (f) Define democratization of innovation.
- (g) Explain Product life cycle management
- (h) What do you understand by innovation and its type?
- (i) What is stage gate?
- (j) What do you understand by Prototypes?

SECTION – B**2. Attempt any five of the following questions:****5 x 10 = 50**

- (a) What do you understand by Prototypes? Compare its different types? Explain Product planning process in brief? Discuss concept development process?
- (b) What do you understand by innovation and its type? Explain role of Intellectual property in innovation?
- (c) Explain QFD in brief with its benefits and application?
- (d) Explain product and process patents along with patenting process?
- (e) What do you mean by DFA explain with its guidelines?
- (f) What do you mean by DFM explain with its guidelines?
- (g) Explain Product data management (PDM) with its utilities?
- (h) What are the environment requirements for new product development? Explain in detail.

SECTION – C**Attempt any two of the following questions:****2 x 15 = 30**

- 3** Explain Stage-Gate-Roadmap for New Product Development.
- 4** What do you understand by holistic product development approaches? Explain with various environment requirements?
- 5** **Write short notes on the following (Any three)**
 - (i) Sources of New ideas
 - (ii) Product specification
 - (iii) Form and function
 - (iv) House of Quality