

**M. Tech.-I (Mechanical CAD/CAM) (CBCS – 2015 Course) :**  
**WINTER - 2018**

**SUBJECT : PRODUCT DESIGN AND DEVELOPMENT**

Day : Monday  
Date : 10/12/2018

**W-2018-3123**

Time 11.00 AM TO 02.00 PM  
Max. Marks : 60

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**N.B.**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Answers to both the sections should be written in **SEPARATE** answer book.
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**SECTION – I**

**Q.1** Explain characteristics of successful product development. **(10)**

**OR**

Explain the generic product development process.

**Q.2** Give the hierarchy for needs of customer while designing and development of the product with suitable example. **(10)**

**OR**

Explain the tools of Industrial Engineering used in product design and development.

**Q.3** Explain hierarchical display of design parameters for drilling machine. **(10)**

**OR**

Explain the purpose and importance of concept testing.

**SECTION – II**

**Q.4** Explain what is supply chain management, state its role on product architecture with suitable example. **(10)**

**OR**

What is Product Architecture? Which system level design issues are considered in product architecture, justify with suitable example.

**Q.5** What is prototyping? Explain any two prototyping methods used in product design with its advantages and limitations. **(10)**

**OR**

What is industrial design? Explain detail procedure of industrial design.

**Q.6** Explain economic analysis process of a product development project. **(10)**

**OR**

Explain with suitable example which qualitative factors are influencing on project success.

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