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8E8074		
<p>B.Tech. VIII Semester (Main) Examination, May 2016</p> <p>Mechanical Engineering</p> <p>8ME4.1A Product Development and Launching</p>		

Time : 3 Hours

Maximum Marks : 80
Min. Passing Marks : 24

Instructions to Candidates:

Attempt any five questions, selecting one question from each unit. All questions carry equal marks. (Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.)

Units of quantities used/calculated must be stated clearly

Unit - I

1. Explain in detail the generic product development process for a market pull product (16)

OR

1. a) Differentiate between 'Need based development' and 'Technology based development' with suitable examples (4)
- b) Explain with diagram the various stages involved in product life cycle. Also highlight its importance in context of product design (12)

Unit - II

2. Describe the process of economic justification in the early stages of new product development (16)

OR

2. How need identification and analysis of alternatives generated is done during product development? Explain in detail (16)

Unit - III

3. a) Differentiate between creative idea and innovation with suitable examples (6)
b) Explain briefly the following :
i) Concept feasibility (5)
ii) Concept selection (5)

OR

3. Describe the main tools of creativity that an organization can use to generate innovative and creative product ideas (16)

Unit - IV

4. a) What are the principal requirements of a good product design (6)
b) Describe the various ergonomical and aesthetical considerations which are useful in product design (10)

OR

4. Describe in detail the process to review a product design from manufacturing point of view. (16)

Unit - V

5. Discuss in detail the major challenges faced by an organization which aims to generate a new product (16)

OR

5. Write short note on
i) Acid test (8)
ii) Design structure matrix(DSM) (8)