

**Total No. of Pages : 02**

**Total No. of Questions : 09**

**B.Tech.(ME) (E-I 2011 Onwards) (Sem.-6)**  
**PRODUCT DESIGN AND DEVELOPMENT**  
**Subject Code : DE/ME-3.0**  
**Paper ID : [A2421]**

**Time : 3 Hrs.**

**Max. Marks : 60**

**INSTRUCTION TO CANDIDATES :**

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

## SECTION-A

**Q1. Write briefly :**

- a) Explain the concept of visual design line colour.
- b) What is the significance of elementary forms in design?
- c) What are the objectives of product graphics?
- d) What do you understand by the term '*Product Detailing*'?
- e) List the activities related to product design and development.
- f) What is the role of research & development in product design and development?
- g) What are the basic principles of graphic design?
- h) Describe form transition.
- i) Sketch design of three basic types of dynamic displays.
- j) Discuss economic aspects of product development.

### SECTION-B

Q2. Write short notes on :

- a) Discuss in brief the optimum locations of '*Hand controls*'.
- b) Visual communication aspects of product graphics.

Q3. Describe the basis of selecting the elementary form elements in product design.

Q4. Explain colour clarification dynamics.

Q5. Explain the role of designer in product development. Discuss the three main concepts of the unity principle.

Q6. Discuss the importance of product promotion.

### SECTION-C

Q7. Discuss the main ergonomic considerations in a good product design.

Q8. Write notes on the following :

- a) Colour Psychology.
- b) Manufacturing considerations in product development.

Q9. a) How the product detailing of fabricated products in sheet metal can be carried out?

- b) Differentiate between permanent and temporary fasteners.