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**B.Tech. (Sem. - 6<sup>th</sup>)**

**PRODUCT DESIGN AND DEVELOPMENT**

**SUBJECT CODE : PE - 306**

**Paper ID : [A0222]**

[Note : Please fill subject code and paper ID on OMR]

**Time : 03 Hours**

**Maximum Marks : 60**

**Instruction to Candidates:**

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.
- 3) Attempt any **Two** questions from Section - C.

**Section - A**

**Q1)**

**(10 × 2 = 20)**

- a) List various basic elements of visual design line color.
- b) What is the significance of elementary forms in design?
- c) Discuss form in relation to ergonomics.
- d) What are basic principles of graphic design?
- e) List any two permanent and temporary fasteners.
- f) What is the role of designer in product development?
- g) How product promotion is carried out?
- h) Explain interrelation of colors.
- i) What is role of variety and size in visual design?
- j) Discuss economic aspects of product development.

## Section - B

(4 × 5 = 20)

- Q2) Explain the concept of visual design-line color with special relationships and composition in three dimensions.
- Q3) Explain color clarification dynamics.
- Q4) What are the various manufacturing aspects of product development?
- Q5) How details for plastic products are given?
- Q6) Discuss visual communication of product graphics.

## Section - C

(2 × 10 = 20)

- Q7) (a) Differentiate between permanent and temporary fasteners.  
(b) Discuss graphics of displays and control panel.
- Q8) (a) How details for fabricated products in sheet metal are given.  
(b) Discuss form transition. Also discuss colors and its relation to traditions.
- Q9) What do you understand by product development? Discuss manufacturing aspect of product development.

