

Total No. of Questions : 8]

SEAT No. :

P3119

[Total No. of Pages : 2

[5354]-609

**B.E. (E & TC) (End Semester)**  
**ELECTRONIC PRODUCT DESIGN**  
**(2012 Pattern) (Elective - II)**

*Time : 2 ½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *Answer all questions.*
- 2) *Figures to the right side indicate full marks.*

- Q1)** a) Explain five elements of successful design in detail. [10]  
b) What is need of prototyping? [5]  
c) Write in brief about risk management in software testing. [5]

OR

- Q2)** Write short notes on any four : [20]  
i) Vibration & shock testing.  
ii) Importance of energy coupling & grounding.  
iii) Need of filtering & shielding.  
iv) Ergonomics & Aesthetics of the product.  
v) IP standards in packaging.

- Q3)** a) Explain different types of termination methods in PCB designing. [8]  
b) Explain the need of ESD protection in PCB designing. [5]  
c) Explain the need of multilayer PCB design in detail. [5]

OR

- Q4)** a) Explain microstrip & stripline geometry for PCB design with neat diagrams & derive the equations for characteristic impedance. [10]

**P.T.O.**

b) Write short note on any two of the following : [8]

i) Image plane

ii) Aspect Ratio

iii) Functional Partitioning.

**Q5)** a) Explain the significance of EMI & EMC in product testing. [8]

b) Compare active and passive components with example. [4]

c) What are different testing methods to ensure quality of product? [4]

OR

**Q6)** a) What are the parameters in designing & selection of D to A converter? [8]

b) What is significance of testing & debugging in product design. [8]

**Q7)** a) What is role of documentation in quality product design. [8]

b) What are the methods of documentation? [8]

OR

**Q8)** a) Explain bill of material for digital counter. [8]

b) Write short note on any two of the following : [8]

i) Presentation of documents.

ii) Accountability & Liability in documentation.

iii) Vishal Techniques of documentation.

