

Total No. of Questions :8]

SEAT No. :

**P1863**

**[4859]-1044**

[Total No. of Pages :2

**B.E. (E & TC)**

**b-ELECTRONIC PRODUCT DESIGN**

**(2012 Pattern) (Elective - II) (End - Sem) (Semester - I) (404185)**

*Time :2½ Hours]*

*[Max. Marks :70*

*Instructions to the candidates:*

- 1) Attempt Q. No. 1 or Q. No. 2, Q.No. 3 or Q.No. 4, Q.No. 5 or Q.No. 6, Q.No.7 or Q.No.8.*
- 2) Figures to the right side indicate full marks.*
- 3) Neat diagrams must be drawn wherever necessary.*
- 4) Assume suitable additional data if necessary.*
- 5) Use of nonprogrammable calculator is permitted.*

- Q1)** a) Explain successful design elements in Electronic Product design. [7]
- b) How to formulate specifications? Explain difference between specifications and requirements with suitable example. [6]
- c) State different software models. Explain waterfall model of software development with suitable diagram. [7]

OR

- Q2)** a) Explain the concept of design for manufacturing in electronic product Design. [7]
- b) Draw a flow chart of formulation of test plan and explain. Explain how test plan is formulated. [6]
- c) What is real time software? Explain its significance in product design with example. [7]
- Q3)** a) Explain configurations of routing topologies in PCB layout Designing.[7]
- b) Explain importance of grounding methodologies. compare those Technologies. [7]
- c) Write short notes on: [4]
- i) Image planes.
  - ii) Functional partitioning.

OR

**P.T.O.**

- Q4)** a) Write short notes on: [10]  
i) Bypassing and decoupling capacitors.  
ii) Impedance matching.  
b) Explain design techniques for ESD protection. [4]  
c) What are the design techniques used to prevent crosstalk. [4]

- Q5)** a) Write short notes on (any two): [8]  
i) Active components  
ii) Passive components  
iii) Electromechanical Components  
b) What are the steps of debugging? [8]

OR

- Q6)** a) Compare different types ADCs with respect to parameters: Resolution, conversion time, power dissipation, errors. [8]  
b) Explain validation and verification in manufacturing of electronic product with suitable flow chart. [8]  
**Q7)** a) What are the methods of documentation? [8]  
b) Explain the need of documentation? [8]

OR

- Q8)** a) What is bill of material? Explain with example. [8]  
b) Explain visual techniques of documentation. [8]

EEE