Total No. of Questions : 8]

SEAT No. :

P3732

[Total No. of Pages : 2

[5461] - 569
B.E. (E & TC) (Elective - II)
Electronic Product Design
(2015 Pattern)

Time :2 ½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Neat diagrams must be drawn wherever necessary.***
2) ***Figures to the right indicate full marks.***
3) ***Attempt Q.No. 1 or 2, Q.No. 3 or 4, Q.No 5 or 6 & Q.No. 7 or 8.***

Q1) a) Discuss noise coupling mechanisms and how to minimize these at circuit board. **[6]**

b) What is the significance functional model? Explain with example. **[6]**

c) In finding software faults in real time embedded system explain the features and limitations of debugger, simulator and emulators. **[8]**

OR

Q2) a) What is need of shielding explain with suitable example? **[6]**

b) What is importance of design specifications in product design? **[6]**

c) Explain different stages in software development at which bugs may enter and list common bugs and ways to eliminate them. **[8]**

Q3) a) What are different sources of ESD and how to minimize ESD. **[8]**

b) Write a short note on followings: **[10]**

i) Radiated and conducted Immunity.

ii) Grounding methodologies in PCB design.

OR

Q4) a) Explain PCB termination techniques for high frequency design. **[6]**

b) Write a note on Critical Frequencies of PCB. **[6]**

c) What are the design techniques used to prevent crosstalk. **[6]**

Q5) a) Explain how different blocks are partitioned in complicated circuit. **[6]**

b) Explain how conducted EMI and radiated EMI originate. **[4]**

c) What are the different steps in the debugging? Differentiate the troubleshooting from debugging? **[6]**

P.T.O.

OR

Q6) a) State importance of EMI/EMC test and give typical set up. **[8]**

b) Compare different types of ADCs with respect to resolution, power consumption, multiple inputs and nonlinearity. **[8]**

Q7) a) Explain in brief accountability and liability of documents in product design. **[8]**

b) What is importance of PCB fabrication drawing and wiring diagram. **[8]**

OR

Q8) a) Differentiate schematic diagram and interconnection diagram. **[8]**

b) Write a short note on followings : **[8]**

i) Engineering notebook.

ii) Service manual.