SEAT No. :

P4349

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

Time :2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

   1)   *Attempt Q.1 or Q.2, Q.3or Q.4, Q.5or Q,6, Q7or Q8.*

   2)   *Neat diagrams must be drawn wherever necessary.*

   3)   *Figures to the right indicates Full marks.*

   4)   *Use of Non programmable calculator is permitted.*

   5)   *Assume suitable data, if necessary.*

Q1) a)   Explain man machine dialogue.   **[8]**

       b)   Explain in detail the need of Prototyping.   **[6]**

       c)   What is real time software ? Explain its significance in product design with example.   **[6]**

OR

Q2) a)   Explain the factors to be considered for packaging of electronic products.   **[8]**

       b)   How the specifications are formulated. Explain the difference between specifications and requirements.   **[8]**

       c)   List and explain the different commonly identifiable limitations of software.   **[4]**

Q3) a)   What is bypassing and decoupling issues in PCB?   **[8]**
          Explain with suitable example.

       b)   What are the grounding methodologies?   **[6]**
          Explain with suitable diagram.

       c)   Explain the techniques for ESD protection.   **[4]**

OR

Q4) a)   Discuss the PCB layout design rules for analog circuits and digital circuits.   **[8]**

       b)   Explain the need of functional partitioning on PCB with diagram.   **[6]**

       c)   Explain the need of multilayer PCB design in detail.   **[4]**

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

b) What is debugging ? Explain the steps of debugging. **[8]**

<div align="center">OR</div>

Q6) a) Compare the conducted EMI with radiated EMI. **[8]**

b) Enlist the important parameters to be considered while selecting passive, active and switching components. **[8]**

Q7) a) Define the documentation and explain different types of documentations. **[8]**

b) What is the importance of Bill of Material? Explain the Bill of Material with suitable example. **[8]**

<div align="center">OR</div>

Q8) a) What is accountability and liability with respect to product documentation? **[8]**

b) Explain the layout of documentation. **[8]**

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