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[5670]-606

B.E. (E&TC)

ELECRONIC PRODUCT DESIGN

(2015 Pattern) (End Sem.) (Elective-II)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

1) *Answers Q.1 or Q.2 and Q.3 or Q.4 and Q.5 OR Q.6, and Q.7 OR Q.8.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right side indidate full marks.*
4) *Use of calculator is allowed.*
5) *Assume suitable data, if necessary*

Q1) a) How to formulate specifications? Explain difference between Specifications and requirements with suitable example. **[7]**

b) Explain in details the factors affecting packaging of electronic product.**[6]**

c) Mention different software model. Describe waterfall model of software development with suitable diagram. **[7]**

OR

Q2) a) Explain successful design elements in electronic product design. **[7]**

b) Explain the advantage and guidelines of system partitioning. **[6]**

c) What is embedded and real time software? Explain its significance in product design. **[7]**

Q3) a) Discuss PCB Layout design rules for analog circuits, digital circuits and high speed circuits. **[7]**

b) Explain design techniques for ESD Protection and cross talk. **[7]**

c) Write short note on Bypass and Decoupling capacitors. **[4]**

OR

Q4) a) Explain configurations of routing topologies in PCB layout designing.**[7]**

b) Explain different grounding methodologies and compare them. **[7]**

c) Write short note on functional partitioning. **[4]**

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Q5) a) What are the steps of debugging? **[8]**

b) Mentioned steps for troubleshooting of analog circuits and digital circuits. Also discuss check list for power circuits during trouble shooting. **[8]**

OR

Q6) a) State the important parameters to be considered while selecting passive, active and switching components. **[8]**

b) Compare different types of ADCs with respect to types, resolution, conversion time, power consumption, non linearity and error. **[8]**

Q7) a) With the help of suitable example explain how the bill of material is prepared. **[8]**

b) Explain the need of documentation? **[8]**

OR

Q8) a) Discuss about records, accountability and liability with respect to documentation. **[8]**

b) Define documentation. What are the different types of documents to prepare by the electronic product manufacturer? **[8]**

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