P2024

[5059] - 629

B.E. (Electronics and Telecommunication Engineering)
(Elective - II(B))
ELECTRONIC PRODUCT DESIGN
(2012 Pattern)

Time : 2.30 Hours]   *[Max. Marks : 70*

Instructions to the candidates:

1)   Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.

2)   Neat diagrams must be drawn wherever necessary.

3)   Figures to the right indicate full marks.

4)   Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.

5)   Assume suitable data, if necessary.

Q1) a)   Explain different types of Energy coupling mechanisms in brief.   **[8]**

   b)   Explain how mapping of functions to hardware is done in architectural design.   **[6]**

   b)   List and explain different commonly identifiable limitations of software.**[6]**

OR

Q2) a)   Explain filtering actions by frequency selective filters, common mode filters and amplitude selective filters.   **[7]**

   b)   Explain the concept of coupling and cohesion with respect to partitioning of a system.   **[6]**

   c)   Discuss about the development plan of risk abetment in software development.   **[7]**

Q3) a)   Explain with neat diagrams, the different considerations for effective image planes.   **[8]**

   b)   Explain the need of functional partitioning on PCB. Also explain how it is effectively done?   **[8]**

Q4) Define/Explain the following terms associated with PCB design. **[16]**

a) Containment

b) Electromagnetic interference (EMI)

c) Electromagnetic compatibility (EMC)

d) Immunity

e) Susceptibility

f) Suppression

g) Electrostatic discharge (ESD)

h) Transmission modes of RF energy

Q5) a) With the help of suitable examples explain how the equipment are important for effective troubleshooting and debugging. **[8]**

b) Discuss tips for troubleshooting of analog circuits and digital circuits. Also discuss the check list for powering circuits during troubleshooting and debugging. **[8]**

OR

Q6) a) With respect to debugging process, explain the different ways of characterization of component or problem. **[8]**

b) Explain how simulation, prototyping and parametric testing support the engineering development, system integration and training. **[8]**

Q7) a) List types of documents, their specific subtypes. Also explain their specific use and format. **[12]**

b) Discuss about records, accountibility and liability with respect to documentation. **[6]**

Q8) a)   Explain role of audience in documentation.   **[8]**

b)   Write short notes on following documents.

   i)   Engineering notebook.   **[5]**

   ii)   Drawing and schematic.   **[5]**

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