QP Code : **2694**

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(3 Hours) [Total Marks : 100

N.B. : (1) Question no **1** is **compulsory**
     (2) Attempt **any four** question from remaining six question.
     (3) Assume suitable data if required with justification.

1. Attempt the following   20
    (a) Define MTBF, MTTR, FR, Reliability.
    (b) Explain importance of Electronic Diary in product design.
    (c) Compare single sided and double sided PCB's.
    (d) Discuss different types of IC packages.

2. (a) Explain various phases of software design.   10
    (b) What are various types of Oscilloscope. Explain in brief digital phosphor   10
       Oscilloscope.

3. (a) Explain the following terms.   10
       (i) Grounding   (ii) Shielding
    (b) Explain the Bathtub Curve for reliability indicating all its region. Also explain how   10
       failures are produced prior to shipment of the product.

4. (a) Explain the contents of standard PCB documents in electronic product.   10
    (b) What is ASM? Using ASM design lift controller.   10

5. (a) Explain various circuits used in SMPS for removing transients.   10
    (b) What are advantages and dis-advantages of DC analysis and AC analysis in product   10
       design.
    (c) Write a note on CPU simulator.   10

6. (a) What factors should be considered while designing high speed PCB   10
    (b) Explain
       (i) Signal Intergrity   a2zSubjects.com
       (ii) Oscilloscope probe.

7. (a) Why it is necessary to conduct following test on electronic product.   10
       (i) Radiated emission
       (ii) Conducted emission
       (iii) Conducted succeptibility
       (iv) Radiated Succeptibility
    (b) State various feature of logic analyzer and also explain the various triggering modes   10
       of it.

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