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Total No. of Pages : 01

Total No. of Questions : 08

M.Tech.(EPDT) (2016 & Onwards) (Sem.-1)

ELECTRONIC PRODUCT DESIGN

Subject Code : MTET-103

M.Code : 74137

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

Q 1. a) Explain fault tree analysis and rules for fault tree construction.

b) Discuss issues involve in designing of electronic product.

Q2. a) Define Mean time to failure (MTTF) and Mean time between failure (MTBF).

b) The failure rate per hour of a certain electronic product is given by $0.02 \left(1 + 30e^{-2t} + e^{-\frac{t}{20}} \right)$. Find MTTF at $t = 10^4$ hrs.

Q3. a) What are ergonomics and aesthetic consideration? Why are they important?

b) Briefly explain different levels of packaging and interconnect structure .

Q4. Explain the steps involved in finite element analysis

Q5. a) Explain CAD process with a block diagram and its advantages.

b) Explain how packaging could be critical to the success of a product.

Q6. a) Give the guidelines for designing enclosure considering thermal management.

b) Draw the thermal equivalent of heat sink.

Q7. Explain top-down and bottom-up approach in product development.

Q8. Write short notes on :

a) Types of interconnections

b) Treatment of vibration

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.