TEC-033

(Following Paper ID and Roll No. to be filled in your Answer Book)							
PAPER ID: 0389	Roll No.					ř	

B.Tech.

(SEM VIII) EVEN SEMESTER THEORY EXAMINATION, 2009-2010

RELIABILITY AND QUALITY MANAGEMENT

Time: 3 Hours

Total Marks: 100

Note: (i) Attempt all questions.

- (ii) All questions carry equal marks.
- 1. Write short notes on any two of the following:
 - (a) Explain the following in reference to Reliability.
 - (i) Quality
 - (ii) Availability
 - (iii) Maintainability
 - (b) Discuss various causes and types of failure which are responsible for system failure.
 - (c) How reliability and quality affect the cost of any product? Explain giving suitable examples.

- 2. Answer any two of the following:
 - (a) Explain Weibull Distribution. Where is it applied? Give examples.
 - (b) Write notes on the following:
 - (i) Sample space
 - (ii) Gamma Distribution
 - (c) In how many ways the word 'PROBABILITY' be arranged?
- 3. Answer any two of the following:
 - (a) Explain in detail the construction of Bath Tube Curve. Discuss its significance.
 - (b) What do you mean by Redundancy? Explain various types of redundancies.
 - (c) Discuss various methods of analyzing data to establish reliability of a system/component.
- 4. Answer any two of the following:
 - (a) Describe the design, manufacturing and application factors that influence the following failure modes of integrated circuits:
 - (i) Electro migration
 - (ii) Latch up
 - (iii) Electrostatic damage
 - (b) Write short notes on **any two** of the following:
 - (i) Stress derating
 - (ii) Sneak Analysis
 - (iii) Design for Production, Test and Maintenance
 - (c) Explain the following failure mechanisms :
 - (i) Fatigue
 - (ii) Wear
 - (iii) Temperature

- 5. Answer any two of the following:
 - (a) What do you understand by ISO Certification? Explain. What is the difference in ISO 9000, 9001 and ISO 14000.
 - (b) Explain the difference between Quality, Quality Control and Total Quality Management.
 - (c) Write notes on any two of the following:
 - (i) SWOT Analysis.
 - (ii) Kaizen.
 - (iii) Pareto Analysis.
 - (iv) Quality Policy.

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