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**Question Paper Code : 40357**

M.E./M.Tech. DEGREE EXAMINATION; NOVEMBER/DECEMBER 2018.

Elective

Computer Science and Engineering

CP 5005 — SOFTWARE QUALITY ASSURANCE AND TESTING

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Differentiate verification and validation.
2. List the origins of defects.
3. What is system testing?
4. What is boundary value analysis? Give example.
5. What is stress testing?
6. State the metrics of monitoring test execution.
7. What is a quality metric? Give any two examples of quality metrics.
8. Specify any four characteristics of ISO 9000 : 2000.
9. State the importance of Root cause analysis.
10. What is risk identification in quality assurance?

PART B — (5 × 13 = 65 marks)

11. (a) (i) Differentiate black box and White box testing techniques with suitable examples. (8)
- (ii) Illustrate items to be recorded in the management review report. (5)

Or

- (b) Explain in detail about objectives of testing and various testing activities. (13)

12. (a) Discuss about various software integration techniques. (13)

Or

- (b) What is acceptance test? Discuss about selection of acceptance criteria of an acceptance test plan. (13)

13. (a) Discuss about load, stability reliability and regression test with suitable example. (13)

Or

- (b) What is a finite state? Explain the use of finite state machine in software testing. (13)

14. (a) Illustrate the importance of McCall's quality factors and criteria for software quality. (13)

Or

- (b) Explain the various levels of Maturity Model and Key Process Areas (KPA) with neat diagram. (13)

15. (a) Explain the various methodologies and standards for defect prevention. (13)

Or

- (b) Compare and contrast various quality assurance techniques and activities. (13)

PART C — (1 × 15 = 15 marks)

16. (a) Consider a ticketing system where children under age 6 are allowed to travel for free, people under 18 as well as senior people older than 64 pay Rs 10 while adults need to pay Rs 20. Design test cases for the ticketing system using equivalence partitioning and boundary value analysis. (15)

Or

- (b) Consider a web based application through which the students of affiliated colleges of Anna University can pay their examination fees each semester. Discuss what types of testing must be carried out before the above application find its actual use. (15)