

Reg. No.

Question Paper Code

11584

M.E. - DEGREE EXAMINATIONS, NOV/DEC 2022

Third Semester

M.E. - Computer Science and Engineering

20PCSEL305 - SOFTWARE QUALITY ASSURANCE AND TESTING

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|---|-------------------------------|
| 1. What are the four stages of Quality evolution? | 2,K2,CO1 |
| 2. Differentiate between Black box and White box testing. | 2,K2,CO1 |
| 3. Give a Decision table with an example. | 2,K2,CO2 |
| 4. What is meant by Software reliability? | 2,K2,CO2 |
| 5. Differentiate Integration and Unit Testing. | 2,K2,CO3 |
| 6. What is a Stress test? | 2,K2,CO3 |
| 7. What is Beta testing? | 2,K2,CO4 |
| 8. How is Test Effectiveness measured? | 2,K2,CO4 |
| 9. List the various Quality factors of Software. | 2,K1,CO5 |
| 10. What is a Quality Framework? | 2,K2,CO5 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Explain about:-
- (i) Verification techniques with an example. 6,K2,CO1
- (ii) Validation Strategies available in testing process. 7,K2,CO1
- OR**
- b) Discuss the importance of Quality Assurance in Testing process and Team Building in detail. 13,K2,CO1
12. a) Explain Hardware and Software Compatibility Matrix Test Plan for System Integration and built-in testing. 13,K2,CO2
- OR**
- b) Discuss the objectives of Testing, Testing Activities, and Test Case Selection. 13,K2,CO2

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

11584

13. a) Explain the following techniques used in testing : 7,K2,CO3
(i) Acceptance testing with an example. 6,K2,CO3
(ii) Regression and Regulatory testing.
OR
- b) Discuss the following in detail:- 7,K2,CO3
(i) Boundary Value Tests Power Cycling Tests. 6,K2,CO3
(ii) Load and Stability testing.
14. a) Discuss the Metrics for Monitoring Test Execution. 13,K2,CO4
OR
- b) Discuss in detail about Test Architectures in Local, distributed, Coordinated and Remote system test design. 13,K2,CO4
15. a) Explain ISO 9000:2000 standard in detail. 13,K2,CO5
OR
- b) Explain how software quality assurance is ensured in a software development system. 13,K2,CO5

PART - C (1 × 15 = 15 Marks)

16. a) Explain in detail about Safety Assurance, Damage Control and Hazard analysis using both Fault-trees and Event-trees. 15,K2,CO6
OR
- b) Discuss in detail about FSM-Based Testing in Web-Based Applications. 15,K2,CO6