



**Sixth Semester B.E. Degree Examination, June/July 2025**  
**Software Testing**

18IS62

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

**Module-1**

- 1 a. Define Software Quality. Explain how it impacts software testing. (05 Marks)
- b. Differentiate between Correctness and Reliability with examples. (05 Marks)
- c. What are Test cases? Discuss the importance of test-case design in software testing. (05 Marks)
- d. Explain the SATM (Simple Automatic Teller Machine) problem and its significance in testing. (05 Marks)

**OR**

- 2 a. Explain the different between Testing and Debugging. (05 Marks)
- b. Discuss various test generation strategies. (05 Marks)
- c. Illustrate the Error and Fault taxonomies with examples. (05 Marks)
- d. Explain the currency converter problem and its application in testing. (05 Marks)

**Module-2**

- 3 a. Explain Boundary Value Analysis (BVA) with an example. (05 Marks)
- b. Discuss Robust Worst-case testing for the NextDate functions (05 Marks)
- c. How do Equivalence classes help in software testing? Explain with an example. (05 Marks)
- d. Write a note on Decision Table testing and its applications. (05 Marks)

**OR**

- 4 a. Explain the concept of Fault-based testing. (05 Marks)
- b. What are the assumptions in fault-based testing? Discuss their relevance. (05 Marks)
- c. Describe Mutation Analysis and its role in software testing. (05 Marks)
- d. Explain the Fault-based adequacy criteria with an example. (05 Marks)

**Module-3**

- 5 a. Explain the important of Structural Testing. (05 Marks)
- b. Differentiate between Statements testing and Path testing. (05 Marks)

- c. Discuss the concept of Basis Path testing and its significance. (05 Marks)
- d. Explain Self-checks as Oracles in test execution. (05 Marks)

**OR**

- 6 a. What is Data-Flow testing? Explain Definition-Use testing. (05 Marks)
- b. Discuss the concept of Slice-based testing with an example. (05 Marks)
- c. What is scaffolding in testing? Differentiate between Generic and Specific scaffolding. (05 Marks)
- d. Explain Capture and Replay in test execution. (05 Marks)

**Module-4**

- 7 a. Explain the basic principles of the Process Framework in software testing. (05 Marks)
- b. What are Dependability Properties? Explain their impact on software quality. (05 Marks)
- c. Discuss the role of Risk Planning in monitoring the software testing process. (05 Marks)
- d. Explain the significance of Documenting Analysis and Test. (05 Marks)

**OR**

- 8 a. Explain Quality goals and how they are related to software testing. (05 Marks)
- b. Discuss the importance of Planning and Monitoring the testing process. (05 Marks)
- c. Explain the components of Test Strategy Document. (05 Marks)
- d. What are Test Design Specifications? Provide an example. (05 Marks)

**Module-5**

- 9 a. Explain the different Integration Testing Strategies. (05 Marks)
- b. Discuss the importance of Component-Based Software Testing. (05 Marks)
- c. What is Regression Testing? Explain Regression Test Selection Techniques. (05 Marks)
- d. Differentiate between System Testing and Acceptance Testing. (05 Marks)

**OR**

- 10 a. Explain the traditional view of testing levels. (05 Marks)
- b. Discuss Path-Based Integration Testing with an example. (05 Marks)
- c. Explain the concept of Decomposition-Based Integration. (05 Marks)
- d. How does usability testing impact software quality? (05 Marks)

\*\*\*\*\*

2 of 2