

# CBCS SCHEME

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21IS63

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

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. Why do we test software? Discuss what typical test cases information should include. (07 Marks)
- b. Define software quality. Discuss different types of quality attributed with example. (07 Marks)
- c. Explain the 2 fundamental approaches used to identify test cases. (06 Marks)

OR

- 2 a. State the triangle problem with all conditions along with flowchart for traditional implementation of triangle problem. (10 Marks)
- b. Define testing and debugging with neat diagram explain test and debug cycle. (10 Marks)

### Module-2

- 3 a. What is Boundary Value Analysis (BVA)? Interpret the usage of BVA for a function of 2 variables and highlight the limitation of BVA. (06 Marks)
- b. Highlight the guidelines and observations used in equivalence class testing. (06 Marks)
- c. Elaborate in detail about the various classes in equivalence class testing with relevant diagram. (08 Marks)

OR

- 4 a. What is equivalence class testing? Demonstrate weak robust and strong robust equivalence class testing for commission problem. (08 Marks)
- b. Formulate decision table along with test cases for next date function. (08 Marks)
- c. Write guidelines and observations for decision table based testing. (04 Marks)

### Module-3

- 5 a. Briefly describe various metric based testing methods used in path testing. (07 Marks)
- b. Define cyclomatic complexity. Explain in detail McCabe's basis path method with an suitable example. (07 Marks)
- c. Draw and explain different types of structural programming constructs used in path testing. (06 Marks)

OR

- 6 a. What is the use of dataflow testing? List and define various terms used in define-use testing. (07 Marks)
- b. Explain slice based testing for commission problem using relevant lattice. (07 Marks)
- c. With neat diagram, discuss Rapps-Weyukes hierarchy of dataflow coverage metrics. (06 Marks)

**Module-4**

- 7 a. With neat diagram, discuss 3 types of waterfall spin-offs models. (10 Marks)  
b. With suitable example, classify different types of decomposition based integration testing. (10 Marks)

**OR**

- 8 a. Draw and explain decomposition tree and context diagram for SATM machine. (10 Marks)  
b. Discuss different types of path integration testing with a suitable example. (10 Marks)

**Module-5**

- 9 a. Explain the basic set of requirement specification constructs used in system testing with suitable example. (10 Marks)  
b. Discuss briefly the different methods of functional strategies used for thread testing. (10 Marks)

**OR**

- 10 a. List different types of interactions used in interaction testing. Explain any 2 in detail. (10 Marks)  
b. With neat diagram, explain the use of client/server testing in interaction testing. (10 Marks)

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