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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