

# CBCS SCHEME

17IS63



## Sixth Semester B.E. Degree Examination, Dec.2023/Jan.2024 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. Define the terms : (i) Error (ii) Fault (iii) Failure (iv) Incident (v) Test cases (05 Marks)
- b. With a neat diagram, explain the currency converter system. (08 Marks)
- c. Explain testing and debugging with a neat diagram. (07 Marks)

OR

- 2 a. Explain the triangle problem statement along with the flowchart for traditional implementation. (10 Marks)
- b. Differentiate between functional testing and structural testing. (05 Marks)
- c. Explain the portrays of software testing life cycle. (05 Marks)

### Module-2

- 3 a. Explain boundary value analysis. Mention its limitations. Derive BVA test cases for the triangle problem. (10 Marks)
- b. Explain fault based testing with its terminologies and assumptions. (10 Marks)

OR

- 4 a. Explain weak normal, weak robust and strong robust equivalence class testing with the commission problem as an example. (10 Marks)
- b. Explain the format of decision table. Build decision table for simple version of triangle problem. (10 Marks)

### Module-3

- 5 a. Write a note on:  
(i) Statement testing (ii) Branch testing (10 Marks)
- b. What is the use of dataflow testing? List and define various terms in define-use testing. (10 Marks)

OR

- 6 a. What is program graph? Draw program graph for triangle problem. (10 Marks)
- b. Explain : (i) Test oracles (ii) Capture and Replay. (10 Marks)

### Module-4

- 7 a. Explain clean room process model (08 Marks)
- b. Describe six principles which constitute the core of software testing. (06 Marks)
- c. Write a short note on a standard organization of an analysis and test plan. (06 Marks)

OR

- 8 a. Explain Software Reliability Engineered Testing (SRET) approach. (08 Marks)
- b. Explain risk planning with different types of risks. (08 Marks)
- c. Briefly discuss the dependability properties in process framework. (04 Marks)

**Module-5**

- 9 a. Draw the context diagram of the SATM system and explain the same. (10 Marks)  
b. In brief explain : (i) Unit testing (ii) System testing (iii) Acceptance testing  
(iv) Usability testing. (10 Marks)

OR

- 10 a. Explain call graph based integration testing. (10 Marks)  
b. What is regression testing? Explain code based regression test selection and control flow and data flow regression test selection. (10 Marks)

\*\*\*\*\*