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15IS63

## Sixth Semester B.E. Degree Examination, Feb./Mar. 2022 Software Testing

Time: 3 hrs.

Max. Marks: 80

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

### Module-1

- 1 a. Define the following :  
i) Error ii) Fault iii) Failure iv) Incident v) Test vi) Test case. (06 Marks)  
b. Explain in portrays of software testing life cycle. (04 Marks)  
c. Explain the two fundamental approaches used to identify test cases. (06 Marks)

OR

- 2 a. List six types of faults and explain each with example. (06 Marks)  
b. Identify problem statement for a triangle with flowchart for traditional implementation. (05 Marks)  
c. Describe the GUI application currency converter and embedded device Saturn windshield wiper controller. (05 Marks)

### Module-2

- 3 a. Explain the usage of Boundary value analysis for a function of two variables and highlight the limitations of Boundary value analysis. (08 Marks)  
b. Explain weak normal, strong normal weak robust and strong robust equivalence class testing with example. (08 Marks)

OR

- 4 a. Explain the format of decision table. Build decision table for simple version of triangle problem. (08 Marks)  
b. Explain fault based testing and mutations analysis with terminologies. (08 Marks)

### Module-3

- 5 a. What is program graph? Draw program graph for triangle problem. (08 Marks)  
b. Define DD-path. Draw the DD-path graph for triangle problem. (08 Marks)

OR

- 6 a. Explain predicate node, du-paths and dc-paths. (06 Marks)  
b. What is scaffolding? Explain the purpose of scaffolding. (05 Marks)  
c. What is test oracle? Explain self-check oracle with a neat diagram. (05 Marks)

### Module-4

- 7 a. Explain Sensitivity, Redundancy, Visibility and Feedback. (08 Marks)  
b. Explain dependability properties. (08 Marks)

OR

- 8 a. Explain the five core steps of SRET with a neat diagram. (08 Marks)  
b. Explain risk planning with different types of risks. (08 Marks)

### Module-5

- 9 a. Explain integration testing strategies. (08 Marks)  
b. Explain System Testing and Acceptance testing. (08 Marks)

OR

- 10 a. Explain alternative life cycle models. (08 Marks)  
b. Explain call graph-base integration. (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.