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**Eighth Semester B.E. Degree Examination, July/August 2021**  
**Software Testing**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions.**

- 1 a. Define the following with respect to testing:  
i) Error ii) Fault iii) Failure iv) Incident v) Test case. (05 Marks)  
b. Explain in detail about functional testing and structural testing with neat diagram. (10 Marks)  
c. Draw the flow chart for traditional triangle program implementation. (05 Marks)
- 2 a. With a example, explain boundary value analysis and its limitations. (06 Marks)  
b. Explain about,  
(i) Weak Normal Equivalence Class Testing.  
(ii) Strong Normal Equivalence Class Testing.  
(iii) Weak Robust Equivalence Class Testing.  
(iv) Strong Robust Equivalence Class Testing. (08 Marks)  
c. With a neat diagram, explain about  
i) Robustness Testing. ii) Worst Case Testing (06 Marks)
- 3 a. Explain in detail about McCabe's basis path method with example. (10 Marks)  
b. Explain DU-path test coverage metrics. (05 Marks)  
c. Define the following terms for program P that has program graph G(P) and Set of variables V:  
i) Defining node of variable ii) Usage node of variable iii) P- use node of variable  
iv) DU-path with respect to variable v) DC-path with respect to variable (05 Marks)
- 4 a. With a neat diagram, explain specification based life cycle models. (06 Marks)  
b. Briefly explain about SATM system, draw context diagram, ER model and PIN entry FSM for SATM system. (08 Marks)  
c. Explain about decomposition-based integration. (06 Marks)
- 5 a. Briefly explain about basis concepts for requirements specification with respect to system testing. (10 Marks)  
b. Explain functional strategies for thread testing. (06 Marks)  
c. Explain about client/server testing. (04 Marks)
- 6 a. With a neat diagram, explain the relation of verification and validation activities with respect to artifact produced in software development project. (08 Marks)  
b. Explain six principles that characterize various approaches and techniques for analysis and testing. (12 Marks)
- 7 a. Explain about : i) Test oracles ii) Capture and Replay. (10 Marks)  
b. Explain Fault-based adequacy criteria. (06 Marks)  
c. Explain Scaffolding. (04 Marks)
- 8 Write a note on the following:  
i) Test & Analysis plan ii) Risk planning iii) Organizing documents iv) Quality and Process. (20 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.