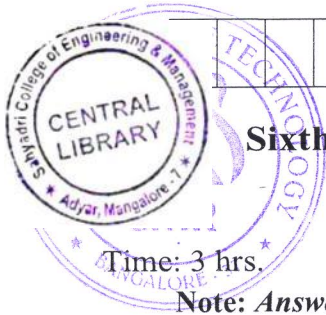17IS63

Sixth Semester B.E. Degree Examination, Feb./Mar. 2022
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 following :
        i)   Error
        ii) Faults
        iii) Failure
        iv) Test.   **(04 Marks)**
    b. Briefly explain the different types of test metrics.   **(08 Marks)**
    c. With a neat diagram, explain the SATM (Simple Automatic Teller Machine) System.   **(08 Marks)**

OR

2   a. Explain the following :
        i) Testability
        ii) Verification   **(04 Marks)**
    b. Write a structured programming version of a triangle program implementation.   **(08 Marks)**
    c. With a neat diagram, explain levels of testing.   **(08 Marks)**

Module-2

3   a. Explain the following :
        i) Equivalence partitioning
        ii) Boundary value analysis.   **(04 Marks)**
    b. With a neat figure, explain about
        i) Robustness testing
        ii) Worst case testing.   **(08 Marks)**
    c. Explain fault based adequacy criteria.   **(08 Marks)**

OR

4   a. Explain Random testing with an example.   **(04 Marks)**
    b. Explain the basic decision table terms. Draw the decision table for triangular problem.   **(08 Marks)**
    c. What is mutation analysis? Explain mutation analysis terminology.   **(08 Marks)**

Module-3

5   a. Write a short note on dataflow converge with complex structure.   **(04 Marks)**
    b. Describe the following with an example :
        i) Statement testing
        ii) Branch testing.   **(08 Marks)**
    c. With the help of commission problem, derive du paths for variables locks, stocks, barrels, sales and commission.   **(08 Marks)**

<div align="center">OR</div>

6	a.	Write a note on slice based testing.	(04 Marks)
	b.	Discuss:	
		i) Scaffolding	
		ii) Caphere and Replay.	(08 Marks)
	c.	Explain McCabe's basis path testing method with an example.	(08 Marks)

<div align="center">**Module-4**</div>

7	a.	Write a quality goal of a software system.	(04 Marks)
	b.	Explain the following principles:	
		i) Sensitivity	
		ii) Redundancy	
		iii) Partition	
		iv) Visibility.	(08 Marks)
	c.	List and explain dependability properties with examples.	(08 Marks)

<div align="center">OR</div>

8	a.	Write the steps to organizing the documents.	(04 Marks)
	b.	Explain the following :	
		i) Risk planning	
		ii) Monitoring the process.	(08 Marks)
	c.	How to improve the quality process?	(08 Marks)

<div align="center">**Module-5**</div>

9	a.	Explain acceptance testing.	(04 Marks)
	b.	Explain different integration testing strategies.	(08 Marks)
	c.	Explain path based integration testing.	(08 Marks)

<div align="center">OR</div>

10	a.	Explain call graph based integration.	(04 Marks)
	b.	What is Regression testing? What are the different regression testing strategies? Explain.	(08 Marks)
	c.	Explain the upper level SATM Finite state machine.	(08 Marks)

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