JYOTHI ENGG. COLLEGE LIBRARY THRISSUR EDUCATIONAL DISTRICT CHERUTHURUTHY

Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S8 (R,S) Exam April 2025 (2019 Scheme)

Course Code: CST458

Course Name: SOFTWARE TESTING

Max. Marks: 100 **Duration: 3 Hours**

PART A

Answer all questions, each carries 3 marks. Marks

1		Define the terms failure, error, fault and defect in software testing	(3)
2		List out any three popular software bugs	(3)
3		What is the unique role of a recordkeeper, and why is it important?	(3)
4		Describe the purpose and functionality of stubs and test drivers in software testing.	(3)
5		Differentiate between a Tour, a Tour with side trips, and a Tour with detours.	(3)
6		Explain two methods for calculating cyclomatic complexity.	(3)
7		What is functional testing, and what are the key steps involved in the process?	(3)
8		Define the concepts of partitions of a set and input domain modelling.	(3)
9		Describe the concept of symbolic execution with an example.	(3)
10		What are the benefits of Grey Box Testing?	(3)

PART B

Answer any one full question from each module, each carries 14 marks.

Module I

11	a)	Discuss the types of testing methods with suitable example 1) Black box testing 2) White box testing 3) Grey box testing	(6)
	b)	Create a set of positive and negative test cases to validate the functionality and reliability of an ATM machine	(8)

OR

12	a)	Explain how testing is conducted at various levels throughout the software development life cycle, covering both individual components and the complete system.	(7)
	b)	Illustrate and explain the various testing activities using a diagram	(7)

Module II

13	a)	Describe the JUnit framework and its role in unit testing	(6)

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b) With the help of a diagram, explain the steps in the code review process (8)

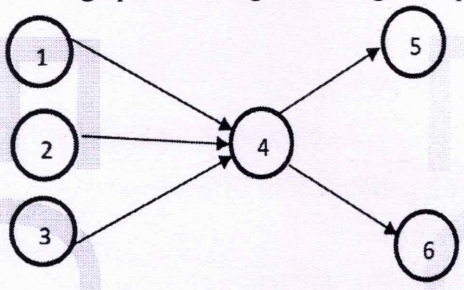
OR

14 a) Describe the seven types of mutation operators with examples. (7)

b) List and explain the four techniques used for selecting input test data (7)

Module III

15 a) Explain edge pair coverage covering multiple edges. (6)



b) Explain path selection criteria with reference to (8)

i. All path coverage criteria

ii. Statement Coverage Criteria

iii. Branch Coverage Criteria

iv. Predicate Coverage Criteria

OR

16 a) List and explain three path selection coverage criteria in software testing. (7)

b) Draw CFG to represent Exception handling (7)

Module IV

17 a) What are the guidelines for performing Boundary Value Analysis in software testing? (6)

b) Describe input domain modelling with examples. (8)

OR

18 a) Illustrate Random Testing with four steps. (7)

b) List the characteristics of the functionality-based approach and the interface-based approach. (7)

Module V

19 a) Discuss two techniques used in Grey Box Testing (8)

b) Explain briefly about parameterized unit testing (6)

OR

20 a) Explain Matrix Testing and Regression Testing in detail (8)

b) Explain symbolic testing and Symbolic Execution Tree (6)

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