R18

Code No: 156CW

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, March - 2024

SOFTWARE TESTING METHODOLOGIES

(Common to CSE, IT, ITE, CE(SE), CSE(DS), CSE(IOT))

Time: 3 Hours **Max. Marks: 75**

Note: i) Question paper consists of Part A, Part B.
ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

1.a)	What is debugging? Explain.	[2]
b)	What are phases of testing? Explain.	[3]
c)	Define Petri net model.	[2]
d)	What is meant by domain testing and interface testing?	[3]
e)	What are identity elements rules?	[2]
f)	Define the motivation logic-based testing.	[3]
g)	Define state-symbol product.	[2]
h)	Explain about equivalent state graphs in detail.	[3]
i)	Define partial ordering relations.	[2]
j)	Write about matrix powers.	[3]

PART – B

(50 Marks)

2.a)	Distinguish between link markers and link counters with examples.	
b)	What are coding bugs? Explain in detail.	[5+5]
	OR	
3.a)	Explain about a model for testing with a neat diagram.	
b)	What is the role of control flow graphs in path testing? Explain in detail.	[5+5]
4.a)	Explain about inspections, reviews, walkthroughs in transaction-flow testing.	
b)	Define data flow testing. Explain about data-flow anomaly state graph.	[5+5]
	OR	
5.a)	Briefly explain about transaction-flow testing techniques.	
b)	Discuss in detail about restrictions of domain testing.	[5+5]
6.a)	Explain about approximate minimum number of paths with suitable example.	
b)	Discuss about decision tables and structures with an example.	[5+5]
	OR	
7.a)	Describe maximum path count arithmetic with example.	
b)	Write and explain the rules of Boolean algebra.	[5+5]

8. Explain about software implementation of state graph in detail. [10]

OR

9. Discuss about transition bugs in state graphs with suitable example. [10]

10. Explain the following:
a) Partitioning algorithm
b) Matrix representation software. [5+5]

OR

11. Explain the following:
a) Node-reduction algorithm
b) Win Runner Tool. [5+5]

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