Code No: 156CW **R18**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, August/September - 2024
SOFTWARE TESTING METHODOLOGIES
(Computer Engineering – Software Engineering)

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 software testing?	[2]
b)	Explain about link counters with example.	[3]
c)	What is domain testing?	[2]
d)	Discuss about data flow anomalies.	[3]
e)	Define logic-based testing.	[2]
f)	Explain about Don't care and impossible terms.	[3]
g)	Define finite-state machine.	[2]
h)	Explain about state graphs.	[3]
i)	Define idempotent generator.	[2]
j)	Discuss about node-reduction optimization.	[3]

PART – B

(50 Marks)

2.a)	What are structural bugs? Explain in detail.	
b)	Distinguish between the designer and the tester.	[5+5]
	OR	
3.a)	Explain about coding bugs with suitable examples.	
b)	What is path testing? Explain about path instrumentation.	[5+5]
4.a)	What are dataflow testing strategies? Explain.	
b)	Briefly explain about transaction flow testing techniques.	[5+5]
	OR	
5.a)	Discuss in detail about the data-flow model with example.	
b)	Where do domains come from? Explain testing one-dimensional arrays.	[5+5]
6.a)	Explain about the mean processing time of routine with an example.	
b)	Describe motivational overview of logic-based testing.	[5+5]
	OR	
7.a)	Discuss about lower path arithmetic count with example.	
b)	Explain decision tables and structures with a sample program.	[5+5]

8. Discuss about software implementation of state graph. [10]

OR

9. Describe testability tips of state graphs. [10]

10. Explain the following:
    a) JMeter
    b) Properties of relations. [5+5]

OR

11. Explain the following:
    a) Matrix representation software
    b) Partial ordering relations. [5+5]

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