Code No: 155GE **R18**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year I Semester Examinations, January/February - 2023
SOFTWARE TESTING METHODOLOGIES
(Computer Science and Engineering – Artificial Intelligence and Machine Learning)

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)	Define a flow graph.	[2]
b)	State the purpose of testing and mention how it is different from debugging.	[3]
c)	What are domain bugs?	[2]
d)	Explain about interface range/domain compatibility testing.	[3]
e)	Define logic-based testing.	[2]
f)	Write a brief note on decision tables.	[3]
g)	Define a dead state in state graphs.	[2]
h)	Explain about transition bugs in brief.	[3]
i)	Define partial ordering relation.	[2]
j)	What are the basic principles of graph matrices?	[3]

PART – B

(50 Marks)

2.a) What are coding bugs? Explain.
b) Explain about control flowgraphs in detail. [5+5]

OR

3.a) Summarize the basic concepts of path testing.
b) Discuss about implementation and application of path testing. [5+5]

4.a) Explain about testing two-dimensional domains in detail.
b) Describe data-flow model with suitable example. [5+5]

OR

5.a) Discuss about closure compatibility and span compatibility.
b) Where do domains come from? Explain nice domains. [5+5]

6. Define KV chart. Explain about one, two, three and four variable KV charts with suitable examples in detail. [10]

OR

7.a) Explain about path products path sums with examples.
b) Discuss about flow – anomaly detection. [5+5]

8. What is state testing? Explain in detail about state bugs with examples. [10]

OR

9.a) What are the design guidelines for building finite-state machine? Explain.
b) Describe software implementation of state testing. [5+5]

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

OR

11. Explain the following:
a) Applications of graph matrices.
b) Overview of graph matrices. [5+5]

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