Code No: 156CW **R18**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, February - 2023
SOFTWARE TESTING METHODOLOGIES
(Common to CSE, IT)

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 path testing.	[2]
b)	What is the difference between an error and a bug?	[3]
c)	Write a short note on random testing.	[2]
d)	What is the significance of data flow testing?	[3]
e)	Write a short note on path expressions.	[2]
f)	List out the different operators that are used to solve any boolean algebra.	[3]
g)	Define a transition bug.	[2]
h)	What is good state graph?	[3]
i)	Define a connection matrix.	[2]
j)	List the applications of graph matrices.	[3]

PART – B

(50 Marks)

2.a) Differentiate between testing and debugging.
b) Describe the model for testing. [5+5]

OR

3. Classify the different types of bugs and explain. [10]

4.a) State and explain the transaction flow testing techniques.
b) Compare static slicing with dynamic slicing. [6+4]

OR

5. How developers and testers treat nice and ugly domains? Illustrate with the help of examples. [10]

6.a) Illustrate maximum path count arithmetic with an example.
b) Describe the usage of regular expression in flow anomaly detection. [6+4]

OR

7.a) Justify the use of decision table implementation for designing test cases.
b) Explain the procedure for specification validation using KV charts. [5+5]

8. Explain the following terms:
   a) Design guideline for building finite state machine
   b) Inessential finite state behavior. [5+5]

OR

9.a) Write short notes on testability tips.
   b) Summarize the concept transition testing. [5+5]

10.a) Describe node-term reduction optimization.
   b) Give a brief summary on relations. [5+5]

OR

11. Write an algorithm for node reduction using matrix operations and explain. [10]

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