9. Old question papers

Code No: 156CW **R18**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, August - 2022
SOFTWARE TESTING METHODOLOGIES
(Common to CSE, IT)

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

Answer any five questions
All questions carry equal marks
- - -

1.a) To what extent can testing be used to validate that the program is fit for its purpose? Discuss and explain various dichotomies.
b) Explain various consequences of bugs. What are the remedies for test bugs? Explain. [7+8]

2.a) State and explain various path selection rules for path testing.
b) What is the purpose of testing? Discuss the principles of test case design. [7+8]

3.a) What are the transaction flows? Explain their complications.
b) Discuss the following strategies of data flow testing with suitable examples:
i) All-predicate-uses (APU) strategy
ii) All-computational (ACU) strategy. [7+8]

4.a) What is meant by Data-flow testing? Compare the path flow and data-flow testing strategies.
b) What is meant by a nice domain? Give an example for nice two-dimensional domains. [8+7]

5.a) How can we check the consistency and completeness in the decision tables? Explain.
b) Define path product, path expression and path sum. Give examples for these. [7+8]

6.a) Define decision table and explain don't care and impossible terms.
b) Explain test case design and sketch KV charts of three and four variables. [7+8]

7.a) What are principles of state testing? Explain its advantages and disadvantages.
b) Differentiate between good state graphs and bad state graphs. [8+7]

8.a) Write an algorithm for Node Reduction and illustrate the applications of it.
b) Define graph matrices and evaluate graph matrix with pictorial graph. [8+7]

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, August/September - 2021
SOFTWARE TESTING METHODOLOGIES
(Common to CSE, IT)

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

Answer any five questions
All questions carry equal marks
- - -

1.a) State and explain various dichotomies in software testing.
b) Explain the life cycle of Bug. [8+7]

2.a) What are control and sequence bugs? How can they be caught?
b) Explain heuristics procedures for sensitizing paths. [7+8]

3.a) Compare data flow and path flow testing strategies.
b) Explain transaction-flow graph implementation with example. [7+8]

4.a) What is program slicing? Explain Dynamic program slicing.
b) Explain predicates of domain testing with examples. [8+7]

5.a) Write the role of path expression and path predicates in testing.
b) Write the procedure to count the minimum number of paths in a graph. [7+8]

6. Demonstrate through truth tables the validity of the following theorems of Boolean algebra:
a) Associative Laws
b) De morgan's theorems for three variables
c) Distributive Law. [5+5+5]

7.a) Explain about good state and bad state graphs. How to handle bad state graphs.
b) Write short notes on:
i) Transition Bugs
ii) Dead States. [7+8]

8.a) Explain the features of the Jmeter Testing environment.
b) How to record tests and set checkpoints in win runners? Explain. [7+8]

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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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Code No: 156CW

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, February/March - 2022
SOFTWARE TESTING METHODOLOGIES
(Common to CSE, IT)

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

Answer any five questions
All questions carry equal marks
- - -

1.a)	Discuss about implementation and application of path testing.	
b)	Describe instrumentation and sensitization in transaction flow testing.	[8+7]
2.a)	Explain about approximate number of paths with suitable example.	
b)	Discuss in detail about state bugs.	[8+7]
3.a)	Describe software implementation of state graphs.	
b)	Explain about partition algorithm with example.	[8+7]
4.a)	Briefly explain about consequences of bugs.	
b)	Discuss about three and four variable KV charts with examples.	[8+7]
5.a)	What are dataflow anomalies? Explain about dataflow anomaly state graph.	
b)	Write and explain testability tips of state testing.	[8+7]
6.a)	Distinguish the following: i) Modularity vs efficiency ii) Function vs structure	
b)	Describe motivational overview of graph matrices.	[8+7]
7.a)	Explain basic concepts of path products and path expressions.	
b)	Discuss about node-reduction algorithm.	[7+8]
8.	Explain the following: a) Testing one-dimensional domains b) Coding bugs c) Identity elements.	[5+5+5]

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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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