Department : **Computer Science and Engineering**

Year & Semester : **IV-Year & VII Semester**

Sub Code & Sub Name : **20CSE 473A-Software Testing Methodologies**

Unit-I

S.No	Part-A Questions
1.	Define Testing
2.	State the differences between Flow Graph and Flow Chart
3.	Define the Purpose and Goal of Testing
4.	Define Path Sensitization
5.	Define Path Instrumentation
6.	Distinguish between Error and Bug
7.	What type of testing is important for Web applications
8.	Define Path predicate
9.	Define Acceptance Testing
10.	Write about bug prevention
11.	List out the differences between White box testing and Black box testing
12.	List out the differences between Verification and Validation
13.	Define Static Testing
14.	Define beta testing
15.	Describe model for testing

S.No	Part-B Questions
1.	Define testing and explain the purpose of testing
2.	Explain in detail about Taxonomy of Bugs
3.	Discuss about requirements, features and functionality bugs
4.	Define control flow graphs? What are essential elements existing in flow graph representation? Explain with example
5.	List out the Phases of thinking of a Tester in detail
6.	Define Testing Blindness. Explain the types of Testing Blindness
7.	Define Path Sensitization. Explain heuristic procedure for path sensitization using an example
8.	List out the various Testing Dichotomies in detail
9.	Discuss about Verification and Validation with an example
10.	Draw and explain about the Types of Path Instrumentation

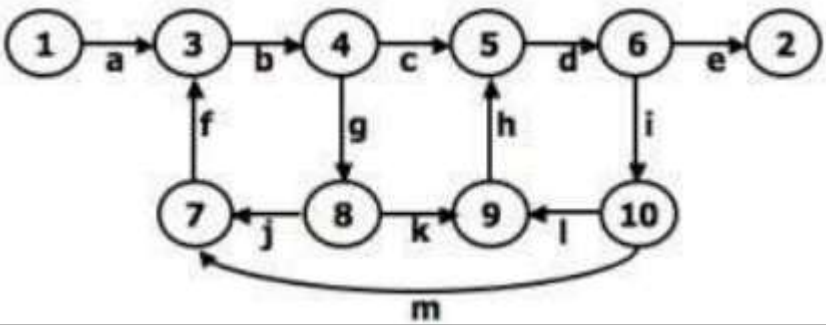
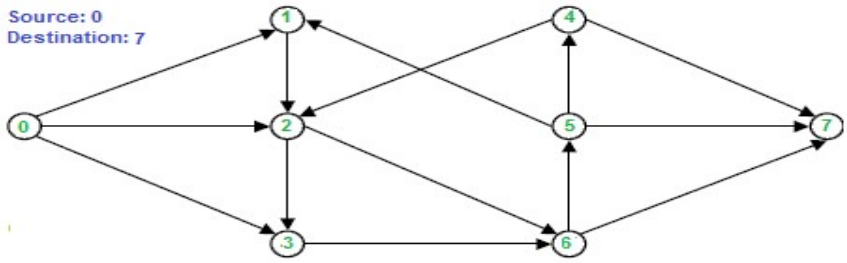
Unit-II

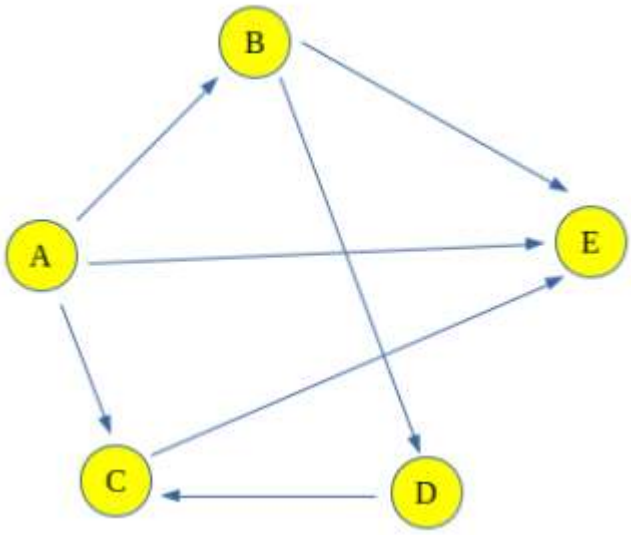
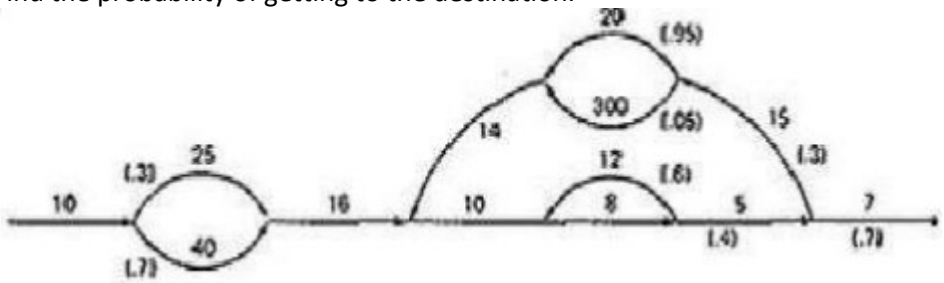
S.No	Part-A Questions
1.	Define Transaction
2.	Define Decision
3.	Define Biosis
4.	Define Mitosis
5.	Define Data flow testing
6.	Define Data flow graph
7.	Define Data object and its states
8.	Define All du paths
9.	Define AU strategy
10.	Define All p-uses/some c-uses strategy
11.	Define Slicing
12.	Define Dicing
13.	Define Domain testing
14.	List out the properties of nice domain
15.	Define Multi-instruction, Multi-data machines (MIMD) Architecture

S.No	Part-B Questions
1.	Define Transaction? Explain with some transaction flow structure
2.	List out different transaction flow testing techniques and explain in detail
3.	Explain in detail about data flow testing
4.	Define data flow testing? Explain data flow testing strategies
5.	Define Domain? Explain Domain closure, domain dimensionality in detail
6.	Describe Nice and Ugly domains in detail
7.	Define Domain testing in detail
8.	Define Domain and Interface testing in detail
9.	Define Domain testability and explain in detail
10.	How Programmers and testers treat ugly domain – explain with example

Unit-III

S.No	Part-A Questions
1.	Define Path and Path Product
2.	Define Path and Path Sum
3.	Define Path Product with an example
4.	Define Path Sum with an example
5.	Draw a table of weight expressions for Maximum Path Count Arithmetic
6.	Draw a table of weight expressions for Minimum Path Count Arithmetic
7.	Draw a table of weight expressions for Probabilities of Getting There
8.	Write Path Product for the following control flow graph
9.	Write Path Sum for the following control flow graph
10.	Draw a table for PUSH/POP arithmetic
11.	Draw a table for GET/RETURN arithmetic
12.	Explain basic rules of Huang's theorem
13.	Define Path reduction Procedure
14.	Define Maximum Path count arithmetic
15.	Define Lower Path count arithmetic

S.No	Part-B Questions
1.	Discuss about flow anomaly detection with an example
2.	Define reduction procedure with an example
3.	Apply node reduction for the given graph 
4.	Find maximum number of paths for the given graph. 

5.	Find minimum number of paths for the given graph 
6.	Find the probability of getting to the destination. 
7.	Discuss PUSH/POP arithmetic using a graph in detail
8.	Discuss GET/RETURN arithmetic using a graph in detail
9.	Apply Huang's theorem for the given expression. a(b + c)d(ef)*egh*i
10.	Write short notes on a. Path Products b. Path Expressions c. Path Sums

Unit-IV

S.No	Part-A Questions
1.	Define Knowledge Based System
2.	Define Decision Table
3.	What is the expansion of I in Decision table
4.	Define Literals
5.	Define Product term
6.	Define KV Charts
7.	Explain KV Charts with Single variables
8.	Define State graph
9.	Give example for state graph
10.	Define State table
11.	Differentiate Time Vs Sequence
12.	Define Impossible states
13.	Define Equivalent states
14.	Define Dead state
15.	Define State symbol product

S.No	Part-B Questions
1.	Define Decision table? Explain in detail about decision tables and structure
2.	Explain KV charts in detail
3.	Explain State graphs in detail
4.	Discuss about Good and Bad state graphs in detail
5.	With an example explain about State Transition Testing
6.	Reduce the following functions using K-Maps:
7.	F(A,B,C,D) = P(4,5,6,7,8,12,13) + d(1,15)
8.	Explain with an example how to convert specification into state-graph. Also discuss how contradictions can come out
9.	Explain three variables and four variables in KV charts
10.	Describe Knowledge based systems

Unit-V

S.No	Part-A Questions
1.	Define WinRunner
2.	Define the functionality of WinRunner
3.	How to record a test case in WinRunner?
4.	Define Test Script Language
5.	Define Load Runner
6.	Define functionality of Load Runner
7.	List out the LoadRunner components
8.	Define JMeter
9.	How JMeter Works?
10.	Define JMeter Test Plan Elements
11.	Define Samplers
12.	Define Selenium and its purpose in software testing.
13.	What are the different components of Selenium Suite?
14.	Define Selenium WebDriver.
15.	List any two advantages of Selenium over other automation tools.

S.No	Part-B Questions
1.	List and explain about Automated Testing Tools in detail
2.	Describe in detail about JMeter Software Testing Tool
3.	Describe in detail about WinRunner Software Testing Tool
4.	Describe in detail about LoadRunner Software Testing Tool
5.	Explain in detail about JMeter features
6.	List out the steps for Creating Virtual Users using LoadRunner Controller
7.	Discuss in detail about types of controllers in JMeter tool
8.	Explain Selenium architecture in detail with its components.
9.	Discuss the differences between Selenium RC, WebDriver, and Grid with examples.
10.	Explain in detail about Selenium locators with examples for each type.