SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

MODEL QUESTION BANK (DESCRIPTIVE)

Subject with Code : Software Testing(18MC9123) **Course & Branch**: MCA

Year & Sem: II & II **Regulation:** R18

UNIT –I

Introduction

1.	What is meant by integration testing? Goals of Integration Testing?	12M
2.	Explain white-box testing and behavioral testing?	12M
3.	Explain the following concepts	
	(a) Model for Testing	06M
	(b) Path Predicates	06M
	(c) Path Sensitizing	06M
4.	State and explain various dichotomies in software testing?	06M
5.	Discuss about requirements, features and functionality bugs?	12M
6.	(a) What are control and sequence bugs? How they can be caught?	06M
	(b) Explain achievable paths with suitable examples.	12M
7.	(a) Describe taxonomy of bugs.	06M
	(b) Explain goals for testing and model for testing in software testing?	06M
8.	Explain	
	(a) The Consequences of Bugs	06M
	(b) Testing and Design Style	06M
	(c) The Role of Models	06M
	(d) Pesticide Paradox	06M
9.	(a) Explain Interface, Integration and System Bugs.	06M
	(b) Explain Describe phases in tester's mental life and state Complexity Barrier.	12M
10.	(a) Describe Requirements, Features and Functionality bugs.	12M
	(b) Explain Path Testing Basics and Link Markers.	12M
	(c) Describe Implement and Application of Path Testing.	12M

UNIT –II

Transaction Flow Testing and Data Flow Testing

1. (a) Define transaction flow graph and define transaction with an example? 06M
   (b) Illustrate all c-uses/some p-uses strategies and discuss all p-uses/some causes strategies? 12M
2. (a) Explain births and mergers in a transaction flow testing. 06M
   (b) Explain various loops with an example? 06M
3. Discuss in detail data - flow testing strategies 12M
4. (a) Explain concatenated loops with an example? 06M
   (b) Distinguish Control Flow and Transaction flow. 06M
5. (a) What are data-flow anomalies? How data flow testing can explore them? 12M
   (b) What is meant by a program slice? Discuss about static and dynamic program slicing. 06M
6. (a) Explain the terms Dicing, Data-flow and Debugging. 06M
   (b)What is meant by data flow model? Discuss various components of it? 06M
7. (a) Compare data flow and path flow testing strategies? 06M
   (b) Explain data-flow testing with an example. Explain its generalizations and limitations. 06M
8. (a) Explain Transaction-flow Testing Techniques. 12M
   (b) Describe Data-Flow Testing Strategies. 06M
9. Explain Motivation and Assumptions of Data Flow Testing. 06M
10. Explain
    (a) Perspective 06M
    (b) Test Databases 06M
    (c) Data Flow Testing Terminology 06M
    (d) Applications, Tools and Effectiveness of Data flow Testing 06M

UNIT-III

Domain Testing

1. Discuss with example the equal - span range/Doman compatibility bugs. 12M
2. Discuss in detail about testability of Domains. 12M
3. What is meant by Domain Dimensionality? 12M
4. What is meant by nice - domain? Give an example for nice two - dimensional domain. 12M
5. Discuss
    1. Linear domain boundaries 06M
    2. Non-linear domain boundaries 06M
    3. Complete domain boundaries 06M
    4. Incomplete domain boundaries 06M
6. Explain various properties related to Ugly-domains. 12M
7. State and explain various restrictions at domain testing processes. 12M
8. What is meant by domain testing? Discuss the various applications of domain testing? 12M
9. With a neat diagram, explain the schematic representation of domain testing. 06M
10. Explain how one-dimensional domains are tested? 12M

UNIT-IV

Paths, Path Products and Regular Expressions

1. Explain Regular Expressions and Flow Anomaly detection. 12M
2. Example Huang's theorem with examples 12M
3. Reduction procedure algorithm for the following flow graph. 12M
4. Write Short Notes on:
    a. Distributive Laws 06M
    b. Absorption Rule 06M
    c. Loops 06M
    d. Identity elements 06M
5. Discuss Path Sums and Path Product. 06M
6. Discuss in brief applications of paths 06M
7. Whether the predicates are restricted to binary truth-values or not. Explain. 12M
8. What are decision tables? Illustrate the applications of decision tables. How is a decision table useful in testing? Explain with an example. 12M
9. How can we determine paths in domains in Logic based testing? 12M
10. How the Boolean expression can be used in test case design. 06M

UNIT-V

State, State Graphs and Transition Testing

1. The behaviour of a finite state machine is invariant under all encodings. Justify? 12M
2. Write testers comments about state graphs 06M
3. What are the types of bugs that can cause state graphs? 06M
4. What are the principles of state testing? Discuss advantages and disadvantages. 06M
5. Write the design guidelines for building finite state machine into code. 06M
6. What are the software implementation issues in state testing? 06M
7. Explain about good state and bad state graphs. 06M
8. Explain with an example how to convert specification into state-graph. Also discuss how contradictions can come out. 12M
9. Write short notes on:
   i. Transition Bugs 06M
   ii. Dead States 06M
   iii. State Bugs 06M
   iv. Encoding Bugs 06M
10. What are graph matrices and their applications? 12M