# QUESTION BANK OF STM

## UNIT-I

**Short Answers Questions:**

1. Define Integration Testing?
2. Define Component Testing?
3. Compare small vs large?
4. Define the following : a) Environment b) Program
5. Differentiate function versus structure testing?
6. State Builder vs Buyer?
7. Define the following : a) consequence cost b) installation cost
8. Define path selection?
9. Define structural bugs?
10. Define nightmare?

**Long Answer Questions:**

1. Describe briefly about a model for testing?
2. Explain about statement coverage (C1) and branch coverage (C2)? Explain with an example methods to select enough paths to achieve C1+C2?
3. Demonstrate the phases in a tester's mental life and Define testing and explain the purpose of testing?
4. Describe about consequences of bugs?
5. Explain about path testing with an example and effectiveness of path Testing?
6. Define path sensitization and write heuristic the procedure used in path sensitization?
7. Briefly discuss about dichotomies?
8. Explain how concatenated loops can be tested? Discuss the three cases for single loop testing?
9. Briefly explain about taxonomy of bugs and how the bugs are going to occur?
10. Discuss in detail about path instrumentation with examples?

## UNIT-II

**Short Answers Questions:**

1. Define mergers in transaction flow testing?
2. Compare static versus dynamic anomaly detection?
3. Define path sensitization?
4. State three types of data flow anomalies?
5. Define all du-paths?
6. Define the complications in Transaction Flows?
7. Define mitosis?
8. Define Absorption and mitosis of transaction flow testing?
9. Define conjugation?

10. Define the following : a) Defined b)Killed

**Long Answer Questions:**

1. Demonstrate an anomaly can be detected. Explain different types of data flow anomalies and data flow anomaly state graphs?
2. Explain with an example of data flow graphs and data flow anomalies?
3. Discuss the following strategies of data flow testing with suitable examples:
   i. All-predicate-uses (APU) strategy
   ii. All-computational (ACU) strategy
4. Describe about the data flow testing techniques?
5. Discuss briefly about data flow anomaly state graphs?
6. List nine possible two-letter combinations of the object states of data Anomalies. Classify them as buggy, suspicious and ok?
7. Differentiate between static vs dynamic anomaly detection?
8. Discuss in detail about slicing and dicing?
9. Explain in detail about transaction flow testing techniques?
10. Demonstrate with an example of Data flow model by using a control flow graph

## UNIT-III

**Short Answers Questions:**

1. Define Boundary Point?
2. Define shifted boundary?
3. Define ambiguous bug?
4. Write three bug assumptions for Domain Testing?
5. What is nonlinear boundary?
6. Define nice domains?
7. Define domain closure?
8. What are on points and off points?
9. Define titled boundaries and missing boundaries?
10. What is closure compatibility?

**Long Answer Questions:**

1. Describe short notes on
   i. Ambiguities and contradictions ii. Simplifying the topology

2. Describe about testing one dimensional and two dimensional domains?

3. Explain briefly about bug assumption in domain testing?

4. Explain about the span compatibility of domain testing?

5. Describe briefly about ugly domains?

6. Discuss in detail about testing n-dimensional domains?

7. Describe about domain bugs and how to test them?
8. Explain in detail about nice domains?
9. Explain the testing strategy for two-dimensional domains?
10. Explain briefly about bug assumption in domain testing?

## UNIT-IV

**Short Answers Questions:**

1. Give an example of Cross-Term step and Parallel Term?
2. Define path product?
3. What is path expression?
4. Compare and Contrast between condition stub and action stub?
5. Define Distributive law?
6. List the steps in reduction procedure?
7. Define absorption law?
8. State loop removal operation?
9. Write down the formula for maximum path count arithmetic?
10. Define maximum path count arithmetic?

**Long Answer Questions:**

1. Explain the push/pop arithmetic with an example? And explain the get/return arithmetic with an example?
2. Explain about decision table as a basis for test case design and also give an example of immaterial cases?
3. Explain about the mean processing time of a routine with an example?
4. Explain with an example of mean processing?
5. Demonstrate decision table and how is a decision table useful in Testing? Explain with the help of an example?
6. Describe briefly about probability application with example?
7. Explain about the Reduction procedure with an example?
8. Explain with an example of maximum path count arithmetic and lower path count arithmetic?
9. Discuss in detail about lower path count arithmetic and structured flow graph?
10. Explain briefly about regular expression and flow anomaly detection?

## UNIT-V

**Short Answers Questions:**

1. Define transition?
2. Define Inputs and transitions?
3. Define graph matrix?
4. What is a power of a matrix?
5. Define good and bad state graphs?
6. Define unreachable state?
7. Define dead state?
8. Define Asymmetric Relation?
9. State matrix properties?
10. Give two examples of improper state graphs?

**Long Answer Questions:**

1. Demonstrate an algorithm for node reduction (general)? And Illustrate the applications of node reduction algorithm?
2. Explain the following?

    a) Impossible states
    b) Equivalent states
3. Explain with an example how an unspecified and contradictory transitions seen in transition bugs?
4. Define graph matrices and evaluate graph matrix with pictorial graph explains the basic algorithms?
5. Describe briefly about the application of GET/RETURN problem?
6. Demonstrate maximum element and minimum element of a graph?
7. Explain briefly about Partitioning algorithm in graph matrix with example?
8. Discuss in brief about the state graphs with an example? And control recovery routine state graph?
9. Demonstrate power of a matrix with an example?
10. Describe briefly about matrix of a graph with suitable example?