

Code No: **R18A0522****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

(Autonomous Institution – UGC, Govt. of India)

IV B.Tech I Semester Supplementary Examinations, June 2022**Software Testing Methodologies****(CSE)**

Roll No									
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Time: 3 hours**Max. Marks: 70**Answer Any **Five** Questions

All Questions carries equal marks.

- 1 Define Testing and explain the purpose of the testing and also discuss the principles of test case design. [14M]
- 2
 - a. What are the phases in a tester's mental life? Why the testing is not everything? [7M]
 - b. Differentiate between testing and debugging [7M]
- 3 Write about implementation of path testing and what are the various applications of path testing? Define a transaction and give an example. [14M]
- 4 How does transaction flow occur? Illustrate with the help of examples. [14M]
- 5 With a neat diagram, explain the schematic representation of domain testing. What are the restrictions of domain testing? [14M]
- 6 Explain clearly how one-dimensional domains are tested and also discuss about random testing. [14M]
- 7 Write the steps involved in Node Reduction procedure. Illustrate all the steps with the help of neat labelled diagrams. [14M]
- 8 Write about equivalence relation and partial ordering relation. Also discuss about power of matrix. [14M]

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(Autonomous Institution – UGC, Govt. of India)

IV B.Tech I Semester Regular Examinations, Dec-21/Jan-22**Software Testing Methodologies****(CSE)**

Roll No									
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Time: 3 hours**Max. Marks: 70****Note:** This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

SECTION-I

- 1 Discuss the trade-off between quality assurance costs and manufacturing costs and also explain about pesticide paradox and complexity barrier. [14M]

OR

- 2 List out various dichotomies and explain. [14M]

SECTION-II

- 3 What are the different kinds of loops? How a flow chart is differed from a control flow graph? [14M]

OR

- 4 Explain the terms dicing, data flow and debugging and discuss the applications of data flow testing. [14M]

SECTION-III

- 5 Discuss in detail the nice domains and ugly domains with suitable examples and explain domain testing. [14M]

OR

- 6 Discuss in detail about the domains and interface testing. [14M]

SECTION-IV

- 7 Explain maximum path count arithmetic of a flow graph with an example. [14M]

OR

- 8 Explain the usage of regular expression in flow anomaly detection. [14M]

SECTION-V

- 9 What are the principles of state testing and also discuss about software implementation issues in state testing. [14M]

OR

- 10 Differentiate between good state graphs and bad state graphs?. Also discuss about finite state machine. [14M]

Code No: **R17A0520****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

(Autonomous Institution – UGC, Govt. of India)

III B.Tech II Semester Supplementary Examinations, July 2021**Software Testing Methodologies**

(CSE & IT)

Roll No									
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Time: 3 hours**Max. Marks: 70**Answer Any **Five** Questions

All Questions carries equal marks.

- 1 a) Define Bug. Briefly discuss about possible consequences of Bugs. [7M]
b) Briefly discuss about various Dichotomies of software testing. [7M]
- 2 Write short note on different kinds of testing methods and also mention the specific situations where each category of testing is helpful. [14M]
- 3 a) What is the primary purpose of Path testing? Write short note on the importance of path testing. [7M]
b) What is path instrumentation? Write short note on its usage in confirming that the intended outcome is achieved through the right path. [7M]
- 4 a) What do you mean by Transaction Flow testing? Write short note on applications of Transaction Flow testing. [7M]
b) Discuss the use of Inspections, reviews and walkthroughs in ensuring error free transactions. [7M]
- 5 a) Distinguish between nice domains and ugly domains with an example. [7M]
b) Write short note on the use of Data Flow testing in detecting data flow anomalies. [7M]
- 6 a) What is Data flow model? Explain various components of data flow model. [7M]
b) "Testing all DU-Paths is the strongest way to ensure maximum test coverage". Justify this. [7M]
- 7 a) What are the possible ways to calculate the cyclomatic complexity? Illustrate with an example. [7M]
b) Explain the four parts of Decision Table and their use in Decision Table based testing. [7M]
- 8 a) What is the core principle of state testing? List out the advantages and disadvantages of state testing. [7M]
b) Write and explain 'Node Reduction' algorithm. [7M]

Code No: **R15A0521****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

(Autonomous Institution – UGC, Govt. of India)

III B.Tech II Semester Supplementary Examinations, February 2022**Software Testing Methodologies**

(CSE& IT)

Roll No									
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Time: 3 hours**Max. Marks: 75****Note:** This question paper contains two parts A and B

Part A is compulsory which carries 25 marks and Answer all questions.

Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question From each SECTION and each Question carries 10 marks.

PART-A (25 Marks)

- 1). a Define Debugging? [2M]
- b What are the Reasons for Testing. [3M]
- c How predicates are useful in flow graphs [2M]
- d Give an example of forgiving Data Flow anomaly state graph. [3M]
- e List the uses of Domain Testing [2M]
- f Explain about path selection in transaction-flow testing. [3M]
- g Recall Decision Table. [2M]
- h Write short notes on Logic Based Testing [3M]
- i What are the problems in Pictorial graphs [2M]
- j Analyze state-transition table with example [3M]

PART-B (50 MARKS)**SECTION-I**

- 2 Discuss about integration, interface and system bugs [10M]
OR
- 3 Write reasons for different levels of testing and characteristics of good testing in life cycle model. [10M]

SECTION-II

- 4 Write the Major Applications of path testing [10M]
OR
- 5 Illustrate various stages of a general Inspection Process with a neat diagram. [10M]

SECTION-III

- 6 Describe application, tools and effectiveness of data-flow testing. [10M]
OR
- 7 Explain about domains and interfaces testing along with its testability [10M]

SECTION-IV

- 8 “Logic Based Testing improves the Project Lifecycle” Justify your answer [10M]
OR
- 9 Illustrate the minimization of test suite with clear examples [10M]

SECTION-V

- 10 With neat Diagram and examples, Reproduce the node reduction algorithm [10M]
OR
- 11 Discuss about matrix representation software and its building tools. [10M]

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III B.Tech II Semester Supplementary Examinations, June 2022**Software Testing Methodologies****(CSE& IT)**

Roll No									
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Time: 3 hours**Max. Marks: 75**Answer Any **Five** Questions

All Questions carries equal marks.

- 1). a Discuss various flow graph elements with their notations. [7M]
b Explain heuristics procedures for sensitizing paths. [8M]
- 2 State and explain various dichotomies in software testing. [15M]
- 3). a Discuss about complication in transaction-flow testing. [7M]
b Discuss about the data flow model. [8M]
- 4). a What is program slicing? Explain Dynamic program slicing. [7M]
b Explain different data object states in data flow graphs. [8M]
- 5 State and explain various restrictions at domain testing processes. [15M]
- 6). a Write about Nice and ugly domains and give examples to each domain. [10M]
b Explain various bugs encountered at systematic and domain boundaries. [5M]
- 7 Reduce the following functions using K-Maps [15M]
 $F(A,B,C,D) = P(4,5,6,7,8,12,13)+d(1,15)$
- 8).a Explain state testing in detail. [8M]
b Write the guidelines to design state machines [7M]

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III B.Tech II Semester Supplementary Examinations, December 2022**Software Testing Methodologies**

(CSE)

Roll No										
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Time: 3 hours**Max. Marks: 75****Note:** This question paper contains two parts A and B

Part A is compulsory which carries 25 marks and Answer all questions.

Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

PART-A (25 Marks)

- 1). a Differentiate Beta testing from Alpha testing. [2M]
- b Define Slicing. [3M]
- c Explain various loops. Give example for each. [2M]
- d What is Data flow anomaly? [3M]
- e In what a nice domain differs from and ugly domains [2M]
- f Compare open and closed domains. [3M]
- g What is state transition? [2M]
- h Explain sum of product form and product of sum form [3M]
- i Define good state and bad state graphs. [2M]
- j Describe consequences of bugs and give examples. [3M]

PART-B (50 MARKS)**SECTION-I**

- 2). a What is path testing? Give a note on path selection and predicates. [5M]
- b List the elements of flow graph and explain each element with suitable diagram. [5M]

OR

- 3). a What are structural bugs? Explain. [5M]
- b Describe notational evolution of control flow graph with example. [5M]

SECTION-II

- 4). a Distinguish between Control Flow and Transaction flow. [5M]
- b Compare data flow and path flow testing strategies. [5M]

OR

- 5 Discuss in detail data - flow testing strategies. [10M]

SECTION-III

- 6 Discuss the domains and interface testing in detail. [10M]

OR

- 7). a With a neat diagram, explain the schematic representation of domain testing. [5M]
- b State and Explain various restrictions at domain testing processes. [5M]

SECTION-IV

- 8). a Discuss about decision Table With an example. [5M]
b What is KV-Chart? Draw KV-chart for 4 variables. [5M]

OR

- 9). a Briefly explain about regular expressions and flow-anomaly detection. [5M]
b Write rules of Boolean algebra. [5M]

SECTION-V

- 10).a Explain about node reduction algorithm. [5M]
b What are the principles of state testing. Discuss advantages and disadvantages. [5M]

OR

- 11 What are graph matrices and their applications? Explain in detail. [10M]

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III B.Tech II Semester Supplementary Examinations, July 2021**Software Testing Methodologies****(CSE& IT)**

Roll No										
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Time: 3 hours**Max. Marks: 75**

Answer Any **Five** Questions
All Questions carries equal marks.

- 1 Is complete testing possible for software? Explain [15M]
- 2 Analyze the consequences of bugs with clear examples. [15M]
- 3 Demonstrate an anomaly can be detected. Explain different types of data flow Anomalies and data flow anomaly state graphs. [15M]
- 4 Define basis path testing. Explain various steps to calculate the independent paths [15M]
- 5 Define transaction flow testing. Explain transaction flow structure. [15M]
- 6 Analyze data-flow model with clear examples. [15M]
- 7 Justify the following statement: “Decision tables can also be used to examine a program’s structure”. with supporting examples. [15M]
- 8 What are some situations in which state testing may prove useful? Explain. [15M]

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III B. Tech II Semester Regular Examinations, April/May 2018**Software Testing Methodologies****(CSE)**

Roll No										
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Time: 3 hours**Max. Marks: 75****Note:** This question paper contains two parts A and B

Part A is compulsory which carries 25 marks and Answer all questions.

Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

PART – A**(25 Marks)**

1. (a) Discuss how software testing will ensure the quality of a developed software [2M]
- (b) Give difference between functional testing and structural testing. [3M]
- (c) Categorize different kinds of loops and explain? [2M]
- (d) Explain the construction of control flow graph? [3M]
- (e) What is meant by data flow testing? [2M]
- (f) Explain the procedure to construct a data flow graph. [3M]
- (g) Discuss path sum with example. [2M]
- (h) Explain different ugly domains. [3M]
- (i) What are principles of state testing? [2M]
- (j) Explain about matrix of graph in detail. [3M]

PART – B**(50 Marks)****SECTION – I**

2. a). Explain different phases of testers mental life? [5M]
- b) Give difference between functional testing and structural testing .[5M]

(OR)

3. a) Briefly explain various consequences of bugs. 5M
- b) What are the different kinds of bugs? 5M

SECTION – II

4. Explain the different types of methods we use for path instrumentation. [10M]

(OR)

5. a) What are the advantages and disadvantages of control flow graphs? [5M]
- b) What is meant by path sensitization and explain in detail. [5M]

SECTION – III

6. a) Explain how the transaction flow graph is used in functional testing. [5M]
- b) Compare the path flow and data-flow testing strategies. [5M]

(OR)

7. What is domain testing? Discuss nice and ugly domains with neat diagrams. [10M]

SECTION – IV

8. a) Discuss about node reduction procedure? [5M]
- b) Discuss the role of decision table in a test case design. [5M]

(OR)

9. a) Explain Karnaugh map method to minimize the given function. [5M]
- b) Explain about the ambiguities and contradictions in the specifications. [5M]

SECTION – V

10. a) Differentiate between good state graphs and bad state graphs. [5M]
- b) Write about building tools of graph matrices. [5M]

(OR)

11. a) Write a partition algorithm in software testing. [5M]
- b) What are relations and give their properties? [5M]

Code No: R15A0521

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

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III B.Tech II Semester supplementary Examinations, Nov/Dec 2018**Software Testing Methodologies****(CSE)**

Roll No										
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Time: 3 hours**Max. Marks: 75****Note:** This question paper contains two parts A and B

Part A is compulsory which carries 25 marks and Answer all questions.

Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

PART – A**(25 Marks)**

- (a) What are the principles of test case design? [2M]
(b) Define testing and explain the purpose of testing? [3M]
(c) How does a nested loop can be tested? [2M]
(d) Describe the concept predicate expression [3M]
(e) Define transaction. Give an example.[2M]
(f) Discuss the linear domain boundaries in software testing. [3M]
(g) Discuss path product with example? [2M]
(h)Discuss about decision tables in software testing. [3M]
(i) Explain testability tips in software testing.[2M]
(j) Explain loop term step in the context of node reduction procedure. [3M]

PART –B**(50 Marks)****SECTION – I**

- a). Discuss in detail how the consequences of bugs are measured.[5M]
b) Give brief explanation of white box testing and black box testing. And give the difference between them. [5M]

(OR)

- a) Classify the different kinds of bugs and explain.[5M]
b) Discuss to what extent can testing be used to validate that the program is fit for its purpose? [5M]

SECTION – II

- a) Explain the difference between control flow graph and flowchart [5M]
b) Explain path sensitization and path instrumentation.[5M]

(OR)

- a) Explain about multi-entry and multi-exit routines and fundamental path selection criteria. [5M]
b) Write different applications of path testing and illustrate with examples. [5M]

SECTION – III

6. a) Discuss in detail the domains and interface testing [5M]
b) How domain testing can be used in both functional and structural testing? [5M]
(OR)
7. a). Explain strategies in data flow testing. [5M]
b) How does transaction flow occur? Illustrate with the help of examples. [5M]

SECTION – IV

8. a) Define path product, path expression and path sum. Explain with examples. [5M]
b) Define structured code. Explain lower path count arithmetic. [5M]
(OR)
9. a) What is decision table and how is a decision table useful in testing? [5M]
b) What are the rules of Boolean algebra? [5M]

SECTION – V

10. a) Explain power of matrix ? [5M]
b) Explain Parallel term step and cross term step. [5M]
(OR)
11. a) Explain state testing in detailed manner. [5M]
b) What are the software implementation issues in state testing? [5M]
