

R15**Code No: 825AH****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA V Semester Examinations, April/May - 2019****SOFTWARE TESTING METHODOLOGIES****Time: 3 Hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**5 × 5 Marks = 25**

- 1.a) State control flow graph and list independence and co-relation of variables and predicates. [5]
- b) Explain births and mergers in a transaction flow testing. [5]
- c) State functional homogeneity of bugs and define random testing. [5]
- d) Discuss an example of decision table testing for a financial application applied at the system level. [5]
- e) Define graph matrices and their applications. [5]

PART - B**5 × 10 Marks = 50**

- 2.a) What are control and sequence bugs? How they can be caught?
- b) To what extent can testing be used to validate that the program is fit for its purpose. Discuss. [5+5]

OR

- 3.a) Discuss that software testing will ensure the quality of a developed software.
- b) Demonstrate the trade - off between quality assurance costs and manufacturing costs. [5+5]

OR

- 5.a) Demonstrate the transaction flows? Discuss their complications.
- b) What are the strategies in dataflow. [5+5]

OR

- 6.a) Explain various properties related to Ugly-domains.
- b) State and explain various restrictions at domain testing processes. [5+5]

OR

- 7.a) Explain domain and explain different domain bugs.
- b) Explain domain closure and define domain dimensionality. [5+5]

- 8.a) Discuss Path Sums and Path Product.
b) Discuss in brief applications of paths. [5+5]
- OR**
- 9.a) Define decision table and explain about don't care and impossible terms.
b) Compare condition stub and action stub and discuss three successive stages of canonical processors. [5+5]
10. Demonstrate the steps involved in node reduction procedure. Illustrate all the steps with the help of neat labeled diagrams. [10]
- OR**
- 11.a) Explain the powers of a matrix and define node reduction optimization.
b) Discuss matrix power and products and illustrate linked list representation of graph matrices. [5+5]

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