

Code No: 126ER

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech III Year II Semester Examinations, May 2016

SOFTWARE TESTING METHODOLOGIES

(Common to CSE, IT)

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****(25 Marks)**

- 1.a) Define testing and debugging. [2]
- b) What are the elements of flow graph? [3]
- c) What is Data-flow testing? [2]
- d) Give an example of a transaction-flow. [3]
- e) What is domain testing? [2]
- f) Define linear vector space. [3]
- g) What are distributive laws? [2]
- h) Give examples of four variable KV-chart. [3]
- i) Define state-transition table. [2]
- j) What is partial ordering relation? [3]

**PART - B****(50 Marks)**

- 2.a) Distinguish the following:
    - i) Function vs structure
    - ii) The builder vs Buyer
  - b) How should you go about quantifying the nightmare? Explain. [5+5]
- OR**
- 3.a) Is complete testing possible? Explain.
  - b) What are the three kinds of loops? Explain with example. [5+5]
- 4.a) Describe the complications of transaction flows.
  - b) What are data-flow anomalies? Explain. [5+5]
- OR**
- 5.a) Define transaction flow testing. Explain transaction flow structure.
  - b) Explain about the data-flow model with example. [5+5]
- 6.a) What are the restrictions of domain testing? Explain.
  - b) How to test two-dimensional domains? Explain. [5+5]
- OR**
- 7.a) What is the strategy of domain testing? Explain in brief.
  - b) Discuss about domains and testability. [5+5]

8.a) Explain about the mean processing time of a routine with example.

b) Justify the following statement:

“Decision tables can also be used to examine a program’s structure”.

[5+5]

OR

9.a) Explain Push/Pop arithmetic with example.

b) What are the rules of Boolean algebra? Explain.

[5+5]

10. Explain the following:

- a) Impact of bugs in state testing
- b) Number of states in a state graph.
- c) Properties of relations.

[3+4+3]

OR

11. Explain the following:

- a) Software implementation of state graphs.
- b) Applications of graph matrices.

[5+5]

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