

**R13**

Code No: 126ER

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year II Semester Examinations, December - 2018****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) | What are feature bugs?                                    | [2] |
| b)   | Distinguish between builder and buyer.                    | [3] |
| c)   | What is Petri net?                                        | [2] |
| d)   | Explain about data flow anomaly graph with example.       | [3] |
| e)   | What is domain span?                                      | [2] |
| f)   | Discuss about domain dimensionality.                      | [3] |
| g)   | Define silicon compilers.                                 | [2] |
| h)   | Write eight steps in a reduction procedure.               | [3] |
| i)   | What is impossible state?                                 | [2] |
| j)   | Distinguish between manual testing and automated testing. | [3] |

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

- |           |                                                                                            |       |
|-----------|--------------------------------------------------------------------------------------------|-------|
| 2.a)      | What are structural bugs? Explain.                                                         |       |
| b)        | Describe notational evolution of control flow graph with example.                          | [5+5] |
| <b>OR</b> |                                                                                            |       |
| 3.a)      | Explain heuristics procedures for sensitizing paths.                                       |       |
| b)        | Is testing is everything? Explain.                                                         | [5+5] |
| 4.a)      | Discuss about the data flow model.                                                         |       |
| b)        | Explain transaction-flow graph implementation with example.                                | [5+5] |
| <b>OR</b> |                                                                                            |       |
| 5.a)      | What are the structural test strategies based on the program's control flowgraph? Explain. |       |
| b)        | Discuss about complication in transaction-flow testing.                                    | [5+5] |
| 6.a)      | Explain about testing one-dimensional domains.                                             |       |
| b)        | Write about restrictions of domain testing.                                                | [5+5] |
| <b>OR</b> |                                                                                            |       |
| 7.        | Define domain testing. Explain about nice domains in detail.                               | [10]  |

- 8.a) Describe the mean processing time of a routine with example.  
b) Write rules of Boolean algebra. [5+5]

**OR**

- 9.a) Briefly explain about regular expressions and flow-anomaly detection.  
b) Write the procedure for specification validation. [5+5]

- 10.a) What are some situations in which state testing may prove useful? Explain.  
b) What are properties of relations? Explain. [5+5]

**OR**

- 11.a) Explain software implementation of state graphs.  
b) Discuss about matrix representation software. [5+5]

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