

**R15**

Code No: 126VR

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech III Year II Semester Examinations, April - 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 is meant by testing? Why we need it             | [2] |
| b)   | Define a model for software testing.                 | [3] |
| c)   | Explain various loops. Give example for each.        | [2] |
| d)   | Write the applications of data flow testing.         | [3] |
| e)   | In what a nice domain differs from and ugly domains. | [2] |
| f)   | Define domain testing with example.                  | [3] |
| g)   | Explain Regular Expressions.                         | [2] |
| h)   | Explain sum of product form and product of sum form. | [3] |
| i)   | Define good state and bad state graphs.              | [2] |
| j)   | How can the graph be represented in Matrix form?     | [3] |

**PART - B**

**(50 Marks)**

- |           |  |       |
|-----------|--|-------|
| 2.        | State and explain various dichotomies in software testing.                             | [10]  |
| <b>OR</b> |  |       |
| 3.a)      | What is meant by program's control flow? How is it useful for path testing?            |       |
| b)        | Discuss various flow graph elements with their notations.                              | [5+5] |
| 4.a)      | What is meant by transaction flow testing. Discuss its significance.                   |       |
| b)        | Compare data flow and path flow testing strategies.                                    | [5+5] |
| <b>OR</b> |  |       |
| 5.a)      | Explain data-flow testing with an example. Explain its generalizations and Limitations |       |
| b)        | Explain the terms Dicing, Data-flow and Debugging.                                     | [5+5] |
| 6.a)      | State and Explain various restrictions at domain testing processes.                    |       |
| b)        | With a neat diagram, explain the schematic representation of domain testing.           | [5+5] |
| <b>OR</b> |  |       |
| 7.        | Discuss the domains and interface testing in detail.                                   | [10]  |

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8. Write Short Notes on following:

a) Distributive Laws

b) Absorption Rule

c) Loops

d) Identity elements.

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[10]

OR

9. Reduce the following functions using K-Maps  
 $F(A,B,C,D) = P(4,5,6,7,8,12,13) + d(1,15)$

[10]

10.a) Write testers comments about state graphs.  
b) Explain about good state and bad state graphs.

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[5+5]

OR

11. What are graph matrices and their applications? Explain in detail.

[10]

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