

**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]

**OR**

- 3.a) What is meant by program's control flow? How is it useful for path testing? [5+5]
- b) Discuss various flow graph elements with their notations. [5+5]

- 4.a) What is meant by transaction flow testing. Discuss its significance. [5+5]
- b) Compare data flow and path flow testing strategies. [5+5]

**OR**

- 5.a) Explain data-flow testing with an example. Explain its generalizations and Limitations [5+5]
- b) Explain the terms Dicing, Data-flow and Debugging. [5+5]

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

**OR**

7. Discuss the domains and interface testing in detail. [10]

8. Write Short Notes on following:

- a) Distributive Laws
- b) Absorption Rule
- c) Loops
- d) Identity elements.

[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.

[5+5]

**OR**

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

[10]

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