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# P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Fifth Semester, B.E. - Information Science and Engineering

Semester End Examination; Dec - 2017/Jan - 2018

## Software Testing

Time: 3 hrs

Max. Marks: 100

*Note: Answer FIVE full questions, selecting ONE full question from each unit.*

### UNIT - I

- |   |    |
|---|----|
| 1 a. Differentiate between testing and debugging. | 4  |
| b. Explain static testing.                        | 6  |
| c. Explain the software quality attributes.       | 10 |
| 2 a. Explain different types of test metrics.     | 10 |
| b. Explain test process models.                   | 10 |

### UNIT - II

- |   |    |
|---|----|
| 3 a. Explain the systematic procedure for equivalence partitioning. | 10 |
| b. Explain boundary value analysis by taking an example.            | 10 |
| 4 a. Explain the steps in the category-partition method.            | 10 |
| b. What are the predicate-testing criteria? Explain.                | 10 |

### UNIT - III

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|--|----|
| 5 a. Explain the following :                                     | 10 |
| i) Procedure call testing                      ii) Path testing. |    |
| b. Explain condition testing and branch testing with examples.   | 10 |
| 6 a. Explain data flow testing and data flow testing criteria.   | 10 |
| b. Explain data flow analysis with arrays and pointers.          | 10 |

### UNIT - IV

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|---|----|
| 7 a. What is scaffolding? Discuss generic and specific scaffolding.                                     | 10 |
| b. Define the following :   |    |
| i) Test case                      ii) Test case specification                      iii) Test obligation | 10 |
| iv) Test suite                      v) Test execution.  |    |
| 8 a. Explain the oracles with neat diagram.   | 10 |
| b. Explain adequacy criteria.   | 10 |

### UNIT - V

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|---|----|
| 9 a. Discuss regression testing and acceptance testing.   | 10 |
| b. Define the following :   | 10 |
| i) Component                      ii) Framework                      iii) Component based system                      iv) COTs.     |    |
| 10 a. Write a note on the following :   | 20 |
| i) Unit test                      ii) System test                      iii) Quality process                      iv) Risk planning. |    |