



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

(An Autonomous Institution affiliated to VTU, Belagavi)

**Third Semester, M.Tech. – Computer Science and Engineering (MCSE)**

**Semester End Examination; Dec - 2017/Jan - 2018**

**Software Testing Methodologies**

*Time: 3 hrs*

*Max. Marks: 100*

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

### UNIT - I

- |      |   |    |
|------|---|----|
| 1 a. | Explain the different phases in Testers Mental life.            | 10 |
|      | b. Explain the system bugs. Discuss the remedies for Test Bugs. | 10 |
| 2 a. | Explain the fundamental path selection criteria.                | 10 |
|      | b. Explain the predicate interpretation with an example.        | 10 |

### UNIT - II

- |      |   |    |
|------|---|----|
| 3 a. | Explain the design and implementation of Transaction Band system.   | 10 |
|      | b. Differentiate between the static versus dynamic anomaly detection in Data – flow testing discuss the limitations of Static Analysis. | 10 |
| 4 a. | Explain the domain Boundary bugs for two dimensional domains.   | 10 |
|      | b. Explain the different bugs which can result in Domain errors.  | 10 |

### UNIT - III

- |      |   |    |
|------|---|----|
| 5 a. | Explain the Regular Expressions and flow anomaly detections.              | 10 |
|      | b. Explain the procedure for specification validation.                    | 10 |
| 6 a. | Illustrate Karnaugh – Veitch. (KV) Chart for 2 variables and 3 variables. | 10 |
|      | b. Explain the contents of a decision table with an example.              | 10 |

### UNIT - IV

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|------|--|----|
| 7 a. | Explain the situation in which static testing in useful.                 | 10 |
|      | b. Draw the state graph and state table for tape control routine.        | 10 |
| 8 a. | Explain an equivalent state and merged equivalent state with an example. | 10 |
|      | b. Design guidelines for building th finite state machine into code.     | 10 |

### UNIT - V

- |       |  |    |
|-------|--|----|
| 9 a.  | Explain the node reduction algorithm.                                | 10 |
|       | b. Explain the partitioning Algorithm.                               | 10 |
| 10 a. | Explain the properties of Relations.                                 | 10 |
|       | b. Illustrate the calculation of Set of all paths of a graph matrix. | 10 |