U.S.N ☐☐☐☐☐☐☐☐☐☐

P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belagavi)
Eighth Semester, B.E. - Information Science and Engineering
Semester End Examination; May/June - 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.	Define the following terms with example for each :	4
	i) Reliability ii) Input domain iii) Correctness iv) Consistency	
b.	Explain the testing and debugging cycle with a neat diagram.	10
c.	List and explain any six samples of product metrics.	6
2 a.	Explain how the control flow graph assists the testers in the analysis of a program to understand its behavior in terms of the flow of control with relevant examples?	10
b.	Identify the benefits of static testing over dynamic testing with a neat diagram. Discuss the elements of static testing.	10

UNIT - II

3 a.	Define equivalence partitioning. List and explain a systematic procedure for equivalence partitioning.	10
b.	What is boundary value analysis? Explain the procedure for BVA by considering your own example.	10
4 a.	Memorize the steps involved in the category-partition method and translate it with a neat diagram.	10
b.	What is cause-effect graphing? List the generic procedure used for the generation of tests using this techniques.	6
c.	Define the following terms :	4
	i) Predicate testing ii) Uni-dimensional partitioning	
	iii) Equivalence iv) Decision table	

UNIT - III

5 a.	What is structural testing? Explain statement testing and branch testing with an example.	10
b.	Compare structural testing with respect to practical criteria and theoretical criteria with a neat diagram.	6
c.	Explain definition-use pairs by considering your own example.	4
6 a.	Explain the data flow analysis with arrays and pointers.	10
b.	Illustrate the dataflow testing criteria with suitable example and locate its infeasibility problem.	10

UNIT - IV

7 a. What is scaffolding? Distinguish between generic and specific scaffolding.   10

   b. Describe the test oracles with a neat diagram.   10

8 a. Define the following terms :

    i) Test suite   ii) Test obligation   iii) Test case specification   10

    iv) Test (or) Test execution   v) Adequacy criterion

   b. Write a short note on :

    i) Self checks as oracles   10

    ii) Capture and replay

UNIT - V

9 a. Compare system testing, acceptance testing and regression testing.   6

   b. Explain the four steps involved in the process of verifying and validating usability.   4

   c. Discuss in detail the integration feature with example for each type.   10

10 a. Describe the following terms :

    i) Regression test selection techniques   10

    ii) Test case prioritization and selective execution

   b. Write short notes on:

    i) Personal risks and development risks   10

    ii) Improving the process

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