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

(An Autonomous Institution affiliated to VTU, Belagavi)

Fifth Semester, Master of Computer Applications (MCA)

Semester End Examination; Dec - 2017/Jan - 2018

Software Testing and Practices

Time: 3 hrs *Max. Marks: 100*

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

UNIT - I

1	a.	Explain with a supporting flow graph, the concept of errors faults and failures in the process of programming and testing.	10
	b.	Write a sample test plan and test cases for the sort program.	5
	c.	Consider the following : Requirement 1: It is required to write a program that inputs two integers and outputs the maximum of these. Comment on its completeness.	5
2	a.	Define software quality. Explain the different measures of software quality.	10
	b.	What is defect management? List different activities and explain all of them.	10

UNIT - II

3	a.	Discuss typical test case information with their format.	6
	b.	Briefly describe functional and structural testing with their representations.	6
	c.	Explain boundary value analysis with the help of a real time problem.	8
4	a.	List out refined decision table and test cases for triangle problem.	6
	b.	Differentiate between robustness testing and worst case testing.	6
	c.	Explain weak and strong robust equivalence testing with the help of neat diagram.	8

UNIT - III

5	a.	Describe Mc Cabe's basis path method with an example.	10
	b.	List out structural test coverage metrics.	5
	c.	Define slice based testing.	5
6	a.	Explain alternative life cycle model with a neat diagram.	10
	b.	What are DD paths? Draw program graph for triangle problem and list out DD - paths.	10

UNIT - IV

7	a.	With reference to test execution, explain the concept of scaffolding and test oracles.	10
	b.	Describe basic assumptions about fault based testing.	5
	c.	Explain different terminology used for fault based testing.	5
8	a.	Explain any four principles underlying analysis and testing techniques.	10
	b.	Differentiate between mutant and mutation. Explain with example.	10

Contd…2

UNIT - V

9 a. Explain the following terms :

i) Test suite ii) Adquacy criterion iii) Test execution 10

iv) Test case specification v) Test obligation.

b. Explain clean room model. 10

10 a. Describe test design specification documents. 10

b. List the categories of documents and discuss standard organization of a plan. 10

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