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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; Feb. - 2021

Software Testing

Time: 3 hrs *Max. Marks: 100*

Course Outcomes

The Students will be able to:

CO1: Identify Test cases, Error and fault taxonomies, Levels of testing.

CO2: Classify different types of testing (Boundary Value Testing, Equivalence Class Testing and Decision Table-Based Testing).

CO3: Recognize Alternative life - cycle models, recognize Basic concepts for requirements specification, assess context of interaction.

CO4: Recognize approaches for Test Execution: from test case specifications to test cases, Scaffolding, Generic versus specific scaffolding.

CO5: Identify and plan strategies to test design specifications document.

***Note**: I) **PART - A** is compulsory. **Two** marks for each question.*

*II) **PART - B**: Answer any **Two** sub questions (from a, b, c) for Maximum of **18 marks** from each unit.*

Q. No.		Questions	Marks	BLs	COs	POs
		I : PART - A	**10**			
I	a.	Define error and faults	2	L2	CO1	PO1
	b.	What is boundary value analysis?	2	L2	CO2	PO1
	c.	Define structural testing.	2	L2	CO3	PO1
	d.	What is scaffolding?	2	L2	CO4	PO1
	e.	List some of the dependability properties.	2	L2	CO5	PO1
		II : PART - B	**90**			
		UNIT - I	**18**			
1	a.	Explain types of metrics used in software testing and their relationships with a neat diagram.	9	L2	CO1	PO1
	b.	Explain testing in V-model and spiral testing process models with neat diagram.	9	L2	CO1	PO1
	c.	Describe the following classifiers: i) Artifact under test ii) Goal-directed testing iii) Life-cycle phase	9	L2	CO1	PO1
		UNIT - II	**18**			
2	a.	What is Boundary Value Analysis? Explain the procedure for BVA by considering an example.	9	L2	CO2	PO1
	b.	Explain the steps involved in category-partition method with neat diagram.	9	L2	CO2	PO2
	c.	Define equivalence partitioning. Explain with an example.	9	L2	CO2	PO3

Contd… 2

	UNIT - III	**18**			
3 a.	Explain different structural test coverage metrics.	9	L2	CO3	PO1
b.	Explain data flow analysis with arrays and pointers.	9	L2	CO3	PO1
c.	Explain definition-use pairs with example.	9	L2	CO3	PO1
	UNIT - IV	**18**			
4 a.	Write a short note on; i) Test case ii) Test case specification iii) Test obligation iv) Test suit v) Test execution vi) Adequacy criterion	9	L2	CO4	PO1
b.	Describe the test oracles with a neat diagram.	9	L2	CO4	PO1
c.	Define Scaffolding. Explain generic verses specific scaffolding.	9	L2	CO4	PO1
	UNIT - V	**18**			
5 a.	Write a short note on; i) Quality and process ii) Test planning iii) Risk Planning iv) Monitoring the process	9	L2	CO5	PO1
b.	Explain integration faults with example.	9	L2	CO5	PO1
c.	Describe the following types of testing: i) Alpha and beta testing ii) Integration testing iii) Risk management	9	L2	CO5	PO1

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