Reg. No.												

Question Paper Code	12689

M.E. / M.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Third Semester

M.E - Computer Science and Engineering

20PCSEL305 - SOFTWARE QUALITY ASSURANCE AND TESTING

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Differentiate quality control and quality assurance.	2	K2	CO1
2.	What are the Risk levels in Bug Fixing?	2	K1	CO1
3.	Explain data integrity and data conversion.	2	K2	CO2
4.	Give the outline of useful framework for preparing an SIT plan.	2	K1	CO2
5.	Write the differences between configuration and compatibility testing.	2	K2	CO3
6.	Examine the difference between causal analysis and statistical analysis.	2	K2	CO3
7.	Explain briefly about McCall's quality criteria.	2	K2	CO4
8.	Explain Error, fault and defect.	2	K2	CO4
9.	What is the purpose of root cause analysis?	2	K1	CO5
10.	What is fault containment?	2	K1	CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	Explain the various Quality Assurance methods in detail.	13	K2	CO1
		OR			
	b)	Discuss about the various IEEE standards for Software Quality in detail.	13	K2	CO1
12.	a)	Discuss the circumstances under which you would apply white-box testing, back-box testing, or both techniques.	13	K2	CO2
		OR			
	b)	Explain the Guidelines for BVA also list the Steps in developing test cases using the decision table technique.	13	K2	CO2
13.	a)	Explain in detail about modelling a Test Design Process, Test Design Preparedness metric and test case design effectiveness.	13	K2	CO3
		OR			

	b)	Explain the following techniques used in testing :			
		i) Acceptance testing with an example.	*6*	*K2*	*CO3*
		ii) Regression and Regulatory testing.	*7*	*K2*	*CO3*
14.	a)	Explain the ISO 9126 quality model and characteristics.	*13*	*K2*	*CO4*
		OR			
	b)	Discuss McCall's quality factors model with a neat diagram.	*13*	*K2*	*CO4*
15.	a)	Explain the Algorithm for tree-based model construction.	*13*	*K2*	*CO5*
		OR			
	b)	Discuss in detail about fault tolerance with Recovery blocks and N-version programming.	*13*	*K2*	*CO5*

PART - C (1 × 15 = 15 Marks)

16.	a)	Demonstrate in detail about FSM-Based Testing of Web-Based Applications.	*15*	*K3*	*CO6*
		OR			
	b)	Illustrate in detail about Defect taxonomy and Defect management.	*15*	*K3*	*CO6*