Seat No: _____ **Enrollment No: _____**

PARUL UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

B.Tech. Summer 2023 - 24 Examination

Semester: 4 **Date: 28/05/2024**
Subject Code: 303105253 **Time: 10:30 am to 01:00 pm**
Subject Name: Software Engineering **Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1	**Objective Type Questions** - (Fill in the blanks, one word answer, MCQ-not more than Five in case of MCQ) (All are compulsory) (Each of one mark)	(15)	CO	PO	Bloom's Taxonomy
	1. SDLC stands for _____.		1	1	Understand
	2. STLC stands for _____.		1	1	Understand
	3. Scrum is a _____, which helps software engineer or developer in completing _____ projects.		1	1	Understand
	4. Incremental development model allows the product to be completed in _____.		1	1	Apply
	5. Classic Waterfall Model is _____ model for other SDLC models.		1	2	Apply
	6. V-model provides _____ feature that classic waterfall model doesn't provide.		1	2	Remember
	7. Spiral Model is used when _____ is involved.		2	2	Remember
	8._____ is used to estimate effort needed to complete the product.		2	2	Understand
	8. In object oriented design _____, _____, _____, _____, _____ and _____ principles are used.		2	2	Apply
	9. Which method or technique is used to calculate the complexity of the program using independent path method?		2	2	Understand
	10. Name the node which is connected to two different nodes in Cyclomatic Metrics?		2	4	Remember
	11. What type of testing is done after the product is completed?		2	4	Analyze
	12. Which of the following statement(s) is/are true about quality assurance? A. QA is a set of activities for ensuring quality in the process by which products are developed. B. QA is a corrective tool and product oriented. a. A is correct. b. B is correct. c. Both A and B. d. None of the above.		1	4	Analyze
	13. What is a Functional Requirement? a. Specifies the tasks the program must complete b. Specifies the tasks the program should not complete c. Specifies the tasks the program must not work d. All of the mentioned.		1	4	Evaluate
	14. _____ suits the Manifesto for Agile Software Development. a. Customer collaboration. b. Individuals and interactions. c. Working software. d. All of the above.		1	4	Evaluate

	15. _____ SLCD model is not suitable for accommodating any change? a. RAD Model b. Waterfall Model c. Prototype Model d. Spiral Model		**1**	**4**	**Evaluate**
Q.2	**Answer the following questions**. (Attempt any three)	**(15)**			
	A) What are some of the biggest challenges faced in Requirement Engineering, and how can they be mitigated?		**3**	**2**	**Remember**
	B) List down all the characteristics/ properties of a good software.		**2**	**3**	**Remember**
	C) Describe importance of Software architecture in detail.		**2**	**1**	**Understand**
	D) List the differences between Verification and Validation.		**1**	**6**	**Remember**
Q.3	A) Explain the significance of W5HH principle in detail.	**(07)**	**2**	**6**	**Analyze**
	B) Elaborate the types of Risks and explain in detail.	**(08)**	**5**	**7**	**Analyze**
	OR				
	B) Explain all the diagrams in UML (Unified Modeling Language) with the help of examples.	**(08)**	**5**	**4**	**Create**
Q.4	A) Define Scrum. Explain the roles and responsibilities of Scrum Master, Scrum, Scrum team, and the Customer.	**(07)**	**4**	**7**	**Remember**
	OR				
	A) Explain about Black – box, and white – box testing criteria and test case generation and tool support.	**(07)**	**5**	**5**	**Evaluate**

	B) Explain Halstead Metrics measure in detail along with formula.
	Solve the problem using Halstead Metrics.
	int sort (int x[ ], int n)
	
	{
	int i, j, save, im1;
	If (n< 2) return 1;
	for (i=2; i< =n; i++)
	{
	im1=i-1;
	for (j=1; j< =im1; j++)
	if (x[i] < x[j])
	{
	Save = x[i];
	x[i] = x[j];
	x[j] = save;
	}
	}
	return 0;
	}
		(08)	**5**	**1**	**Evaluate**