

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE- SEMESTER-VI (NEW) EXAMINATION – WINTER 2024**

**Subject Code:3161605**

**Date:20-11-2024**

**Subject Name:Software Engineering**

**Time:02:30 PM TO 05:00 PM**

**Total Marks:70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
<b>Q.1</b>	(a) Why Spiral Process Model is also known as Meta Model?	<b>03</b>
	(b) Compare Prototype Process Model with RAD Process Model.	<b>04</b>
	(c) Explain the working of Incremental Process Model with suitable diagram.	<b>07</b>
<b>Q.2</b>	(a) Why Software Engineering is also known as a Layered Technology?	<b>03</b>
	(b) Explain Formal Technical Review (FTR).	<b>04</b>
	(c) Define Coupling and Cohesion. Explain different types of Cohesion and its effects on software module.	<b>07</b>
	<b>OR</b>	
	(c) Illustrate Requirement Engineering with suitable diagram.	<b>07</b>
<b>Q.3</b>	(a) Explain Function and Non-functional requirements using example.	<b>03</b>
	(b) Explain RMMM.	<b>04</b>
	(c) Illustrate Scrum with its advantages and disadvantages.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Explain Gantt Chart w.r.t. project scheduling process.	<b>03</b>
	(b) Write a short note on Extreme Programming (XP).	<b>04</b>
	(c) Explain three golden rules for User Interface Design.	<b>07</b>
<b>Q.4</b>	(a) Differentiate Object Oriented Design and Procedural Design.	<b>03</b>
	(b) Explain at least four Software Reliability Metrics.	<b>04</b>
	(c) Write a short note on CMM levels with suitable diagram.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Define Stub and Driver w.r.t. Unit Testing.	<b>03</b>
	(b) Explain Version Control and Change Control.	<b>04</b>
	(c) What is McCabe's Cyclomatic Complexity? Explain various steps to find Cyclomatic Complexity using flow graph.	<b>07</b>
<b>Q.5</b>	(a) Compare Verification and Validation.	<b>03</b>
	(b) Explain the core benefits of DevOps.	<b>04</b>
	(c) Explain any Two Black Box Testing Methods with suitable example.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Explain Client/Server Software Engineering.	<b>03</b>
	(b) Differentiate between Reverse Engineering and Forward Engineering.	<b>04</b>
	(c) Explain COCOMO Model for project estimation.	<b>07</b>

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