

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2024

Subject Code:3150711

Date:28-11-2024

Subject Name:Software Engineering

Time:10:30 AM TO 01:00 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
Q.1	(a) What are the different phases in software development life cycle? Explain.	03
	(b) What is software process model? Discuss waterfall model with its merits and demerits.	04
	(c) With suitable illustration explain SPIRAL model evolutionary software development. When to use SPIRAL process model.	07
Q.2	(a) What is extreme programming?	03
	(b) What are the characteristics of agility?	04
	(c) Discuss different types of risks which are likely to arise in software projects. Briefly explain risk analysis stage during risk management process.	07
	OR	
	(c) Define the COCOMO model with example.	07
Q.3	(a) Why modular decomposition is used in architectural design? Explain.	03
	(b) What are the major tasks of requirements engineering activity? Explain.	04
	(c) Prepare functional and non-function requirement specification for Hotel Management System.	07
	OR	
Q.3	(a) Differentiate between structural models and behavioral models.	03
	(b) What is requirements elicitation and analysis? Discuss.	04
	(c) Prepare functional and non-function requirement specification for Library Management System.	07
Q.4	(a) Differentiate between black box testing and white box testing.	03
	(b) What is integration testing? Differentiate between top-down and bottom-up integration testing.	04
	(c) Write a short note on: formal technical review.	07
	OR	
Q.4	(a) Explain validation and verification planning.	03
	(b) Explain the software quality standard with example.	04
	(c) Write a short note on: six sigma for software engineering.	07
Q.5	(a) Explain the SCM process.	03
	(b) Describe the DevOps principles and practices.	04
	(c) Draw the state transition diagram for ATM system.	07

OR

- Q.5** (a) Explain the version control and change control. **03**
- (b) What is DevOps? Describe the DevOps importance and benefits. **04**
- (c) Write a scenario and draw use case diagram for a vending machine. **07**
- [A vending machine is an automated machine that delivers a beverage (item) after a customer selects and pays for it.]
