

**VIT**

Vellore Institute of Technology

Slot: B1 + TB1**School of Computer Science Engineering and Information Systems****Winter Semester 2025-2026****Continuous Assessment Test – I****Programme Name & Branch: B. Tech. IT****Course Name & code: BITE307L, Software Engineering****Faculty Name (s): Dr. Jagadeesh G, Dr. Karthikeyan P, Dr. Prabhu J, Dr. Sujatha R****Class Number (s): VL2025260502947, VL2025260502956, VL2025260502945, VL2025260502959****Date of Examination: 28.01.2026, 9:30 AM – 11:00 AM****Exam Duration: 90 Min.****Maximum Marks: 50****General instruction(s): Answer ALL the Questions**

Q.No.	Question	Max Marks	CO	BL
1.	A mid-size retail company wants to launch an AI-assisted shopping kiosk in their stores that recommends products based on customer preferences. The management only has a broad idea of the interface and cannot clearly specify how the recommendation interaction should look or what features consumers may expect. Identify the suitable process model and explain why the identified process model is more suitable. Discuss that early mock-ups will guide the design and final implementation effectively	10	01	04
2.	A wildlife research organization installs a <u>wilderness weather station</u> in a <u>protected forest area</u>. The station collects <u>environmental data</u> but also <u>captures location</u> and <u>movement information about animals</u> and <u>field researchers</u> who pass near the <u>sensors</u>. Recently, the organization partnered with a <u>private tech company</u> to improve <u>data analytics</u>, and the company now has access to the <u>raw sensor data</u>. Some researchers are concerned that sharing this information could reveal <u>sensitive wildlife</u> locations or expose personal movement patterns of field staff. Based on this situation, identify the key computer ethics issues involved. Discuss concerns related to <u>data privacy</u>, <u>responsible data sharing</u>, <u>ownership of collected information</u>, and the ethical responsibilities of both the <u>research team</u> and the <u>partnering company</u>.	10	01	03
3.	A regional hospital is planning to replace its <u>decade-old patient admission and discharge system</u>. Although the management team has shared a list of <u>expected features</u>, the <u>daily workflow</u> followed by <u>nurses</u>,	10	02	04

	ward clerks, and duty doctors differs widely across departments. Some staff members rely heavily on <u>handwritten notes</u>, while others use unofficial <u>spreadsheets</u> to track patient information. The IT team realizes that many of the most critical requirements are not <u>documented</u> anywhere and can only be understood by <u>observing</u> how staff handle real-time situations such as emergency admissions or shift changes. Assume that you are the “Requirements analyst”, use the suitable requirement elicitation techniques and gather complete requirements for the hospital’s new admission–discharge system. Describe the types of questions to ask, the behaviors to observe, and how these insights influence the final system design.			
4.	Community Library: A community library introduces a <u>self-service book borrowing</u> kiosk that allows members to search for a book, check its availability, scan their membership card, and borrow the book without staff assistance. When a member selects a book, the kiosk contacts the library database to verify availability, reserves the book, updates the borrowing record, and prints a slip with the due date. If the book is <u>already issued</u> to someone else, the kiosk displays an alert message instead of proceeding. Based on this scenario, draw a <u>sequence diagram</u> showing the interactions between the Member, Kiosk Interface, Library Database, and Printing Unit from the moment the member searches for a book to the completion of the borrowing process.	10	02	04
5.	Identify the key classes required for the “Community Library - kiosk system” and specify suitable attributes and operations for each. Using standard UML notations draw a <u>class diagram</u> that captures these classes and the relationships among them.	10	03	06