

**VIT**

Vellore Institute of Technology

Slot: B2 + TB2

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): VL2025260502953, VL2025260502958, VL2025260502946, VL2025260502960

Date of Examination: 28.01.2026, 2:00 PM – 3:30 PM

Exam Duration: 90 Min.

Maximum Marks: 50

General instruction(s): Answer ALL the Questions

Q.No.	Question	Max Marks	CO	BL
1.	Scenario 01: A retail startup plans to launch a mobile ordering system before the festive season with a very tight deadline. The core features are defined, but interface and workflow changes are expected based on user feedback. A small, highly experienced team is assigned, with access to reusable components such as payment and login modules. The company requires frequent user involvement through demonstrations and reviews. Working prototypes are developed early to validate usability and functionality. The team must choose the most suitable software process model for this project. Identify the most suitable software process model for the above scenario and justify your choice with appropriate reasons.	10	01	04
2.	Explain the role of verification and validation in software development. With suitable examples, discuss the stages involved in the software testing process, highlighting the purpose of component testing, system testing, and customer testing.	10	01	03
3.	As a “Requirement Engineer” justify your requirement collection skills for the scenario “Retail Startup Application” mentioned above by deriving and listing the functional and non-functional requirements of the system.	10	02	04
4.	Scenario 02: A university intends to introduce a cloud-based digital library to give students and faculty convenient access to academic materials from any location. The system maintains e-books, journals, and research papers on a secure cloud platform. Users log in using	10	02	04

	institutional credentials and their access rights depend on whether they are students, faculty members, or library staff. Librarians are responsible for adding new content, updating records, and setting usage rules. Digital resources are made available for a fixed period, after which access is withdrawn and penalties are applied if rules are violated. The system also keeps usage records and ensures data security, scalability, and compliance with copyright regulations. Plot a UML Class Diagram for the above system by clearly identifying the relevant classes, their attributes and operations, and appropriate relationships among them.			
5.	Consider the scenario 02 mentioned above, and assign the suitable relationship as a connector between the actors, objects for the notations <i>Generalization</i>, <i>Dependency</i>, <i>Stereo types</i> – <i>Include</i>, <i>Extend</i>, <i>Composition</i> and <i>Aggregation</i>. Justify your choice of relationship.	10	03	06