



SCHOOL OF COMPUTER SCIENCE ENGINEERING AND INFORMATION SYSTEMS
CONTINUOUS ASSESSMENT TEST - II
FALL SEMESTER 2025-2026

SLOT: A1 + TA1

Programme Name & Branch : BCA
Course Code and Course Name : UBCA103L – Software Engineering
Faculty Name(s) : Prof. Vani M P, Prof. Thilagavathi M
Class Number(s) : VL2025260105755, 5750
Date of Examination : 05/10/2025
Exam Duration : 90 minutes

Maximum Marks: 50

General instruction(s):

- Answer All Questions
- M - Max mark; CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)
- Course Outcomes
CO4 – Summarize and analyse the decisions about the system architectural design process.
CO5 – Inspect a computer-based system to meet the desired needs of the customer with proper understanding of the critical systems development.

Q. No	Question	M	CO	BL
1.	A web portal is to be developed to help users to pay water/property tax online. Users must be able to create an account using their email or mobile number. Users should be able to login to their accounts, search for their property, view current outstanding water/property tax balances, payment history, view any penalties applied to their outstanding balances and view due dates for upcoming payments. Admins should be able to set, update, and manage tax rates, exemptions, and penalties. The portal must calculate the tax based on the property type (residential/commercial) and automatically apply late fees based on overdue amounts after a certain period. Users should be able to pay via multiple payment options (debit/credit card, UPI, Net Banking). After a successful payment, they should be able to download/print a receipt for their payment. Admins should be able to generate and view reports on user payments and outstanding taxes. For the above scenario, identify the classes, attributes, methods, their relationships and draw the Class diagram.	10	4	3
2.	For the scenario given in Question 1, draw Activity diagram for the entire business process.	10	4	3
3.	Assume you are assigned with the task of developing a social networking app like LinkedIn. It should automatically display new stories and updates as users	10	4	3



VIT

Vellore Institute of Technology
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	use the platform. Suggest a suitable architectural pattern that can be used to develop the app and explain the same.			
4.	Write test cases for the scenario below considering all the possibilities. A leading supermarket offers discounts based on customer status. Customers aged 60 or above (senior citizens) get a 5% discount on their total bill. Customers with a valid membership card get 10% discount on their total bill. Customers without a valid membership card or whose age is less than 60 are not eligible for any discounts. Senior citizen and membership discounts can be combined.	10	5	6
5.	Assume a user interface is created with text fields to receive the student's name, register number, review I mark, review II mark and review III mark scored by him/her in a project review. Use equivalence partitioning and boundary value analysis to determine the test cases for each of the mark fields using the following criteria. Review I mark should be between 0 and 20, Review II mark should be between 0 and 30, and Review III mark should be between 0 and 50.	10	5	6
