



School of Information Technology and Engineering

Fall Semester 2022-2023 – Fresher

Continuous Assessment Test – II

Programme Name & Branch: MCA

Course Name & code: ITA5005 Object Oriented Software Engineering

Class Number (s): VL2022230106228, VL2022230106234, VL2022230105116

Slot: F2+TF2

Faculty Name (s): Prof. Sweta Bhattacharya, Prof. Rajiv S and Prof. Asha M

Exam Duration: 90 Min.

Maximum Marks: 50

General instruction(s):

Q.No.	Question	Max Marks
1	<p>The online shopping portal provides a soothing shopping buying experience for customers. The system allows more than one categories and different brands under the segment to be purchased. A typical purchase scenario would be:</p> <p>A customer visits the online shopping portal. A customer may buy item or just visit the page and log out. The customer can select a segment, then a category, and brand to get the different products in the desired brand. The customer can select the product for purchasing. The process can be repeated for more than one item. Once the customer finishes selecting the product/s the cart can be viewed, if the customer wants to edit the final cart it can be done.</p> <p>For final payment the customer has to login the portal, if the customer is visiting for the 1st time he must register with the site, else the customer must use the login page to proceed.</p> <p>Final cart is submitted for payment and card details and address (where shipment has to be made) are be confirmed by the customer. Customer is confirmed with a shipment Id and delivery of goods within 15 days</p> <p>Assumptions:</p> <ul style="list-style-type: none">• The currency followed is INR as the site provides for only Indian customer base• There are different segments, categories, brands where a brand can fall under more than one category.✓ The shipment of the goods is not covered under the scope of the case• Complaints by the customers are not handled by the case study.✓ Customers have to be validated before the payment can be confirmed.• The actors are Customer and Administrator <p>Considering the above requirement, draw an Activity diagram in detail. (10)</p>	10

2.	Considering the Scenario mentioned in Question 1, Draw a Sequence Diagram. (10)	10
3.	<p>You have been asked to develop a new Course Registration System for your college. The college wants a web-based system to replace its manual system. The college provides education in various streams. In any stream, the entire registration is divided into semesters. The new system should allow the aspirants to submit their application online. Once their applications have been approved and they have been admitted into the college, the system should send an automatic welcome e-mail along with login id and password to the e-mail address of your students. The e-mail address is specified as part of an application. For students without any e-mail address, the system shall print the welcome letters to be posted. The students would also have selected their stream of interest. Each stream will have a set of courses which are mandatory, and a certain number of elective courses. These electives will be applicable from the fifth semester onwards. The student has to select two electives. The complete list of courses is maintained in the database. This database belongs to another system and hence cannot be updated or changed by the new system in any manner. The database can only be read by the new system. The beginning of the semester, the head of the department will create necessary class and allocation of lectures to the classes for his department. The HOD may make changes in the allocation during the progress of the course. The system maintains the history of all the professor who has conducted a class throughout the semester. The lecturer will use the system to update the marks of the student (Project, Assignment, Internal Test Marks and the semester and the examination marks). The lecturer will also mark the attendance of the student in the system. The student can view his/her marks and attendance through the system. In addition to the above, the system also keeps track of residential status of the student. The student may be a hosteller or a day scholar. If he is a hosteller, the system will maintain his/her hostel name, room number and the fees pertaining to the same.</p> <p>Considering the above requirement, draw a Data Flow Diagram – Level 0 and Level 1.</p>	10
4.	Considering the Scenario mentioned in Question 3, Draw a State Transition Diagram. (10)	10
5.	Assuming that you are developing Movie Ticket Booking system similar to "BookmyShow". While designing the user interface, as a UI designer, identify the plausible difficulties you might encounter. Also mention the mitigation steps that you would take to ensure the design meets the required quality criteria. (5+5)	10