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**PRESIDENCY UNIVERSITY
BENGALURU**

**SCHOOL OF ENGINEERING
MID TERM EXAMINATION - MAY 2023**

Semester : Semester VI - B.Tech CSE - 2020

Course Code : CSE3082

Course Name : Sem VI - CSE3082 - Object Oriented Analysis and Design

Program : B.Tech. Computer Science and Engineering

Date : 23-MAY-2023

Time : 2.00 PM - 3.30 PM

Max Marks : 60

Weightage : 30%

Instructions:

- (i) Read all questions carefully and answer accordingly.
 - (ii) Question paper consists of 3 parts.
 - (iii) Scientific and non-programmable calculator are permitted.
 - (iv) Do not write any information on the question paper other than Roll Number.
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PART A

ANSWER ALL THE QUESTIONS

(5 X 2 = 10M)

1. Compare extends and includes in use case relationship.
(CO1) [Knowledge]
2. Identify all possible classes of Cheque Book Transaction System Class Diagram. Write a short description of services that each class will provide.
(CO2) [Knowledge]
3. If Customer, Product, Item be the objects, List the possible attributes and methods exists.
(CO2) [Knowledge]
4. List the different categories of Prototyping.
(CO1) [Knowledge]
5. List the Difference between Validation and Verification in Software Testing
(CO1) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS

(4 X 5 = 20M)

6. "Imagine you are designing an ATM machine and you want to create a state transition diagram to represent the different states and transitions in the system. Draw a state transition diagram for the ATM, including the various states and transitions that occur during a typical transaction."
(CO1) [Comprehension]

7. Students enroll in seminars. To do this, a student needs to know if a spot is available in the seminar and, if so, he then needs to be added to the seminar. However, students only have information about themselves (their names and so forth), and not about seminars. What the student needs to do is collaborate/interact with the card labeled *Seminar* to sign up for a seminar. The card Student requests an indication from the card Seminar whether a space is available, a request for information. Student then requests to be added to the Seminar, a request to do something. Another way to perform this logic, however, would have been to have Student simply request Seminar to enroll himself into itself. Then have Seminar do the work of determining if a seat is available and, if so, then enrolling the student and, if not, then informing the student that he was not enrolled.

So how do you create CRC models?

(CO2) [Comprehension]

8. Presidency University needs a map to display the organization (organization chart) of the entire academic process at the reception to attract the stake holders. Use the common class pattern approach and design the various departments and its connectivity to depict the above scenario.

(CO2) [Comprehension]

9. Manoj joined the organization as a new employee. The organization has a manager assigned him to the analyst position. Before beginning the analysis phase, the trainer uses a clear diagram to describe the stages involved in the OO analysis.

(CO1) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS

(2 X 15 = 30M)

10. For online Flipkart shopping system, Flipkart customers could be registered and new customers. Registered customers can view the items in the shop. To view recommended items and to add to the wish list both require a customer to be authenticated. Authentication service is used in all the use cases that require authentication as an external actor, while sign-on also requires the participation of an external identity provider and develop use case diagram, Sequence diagram for the above scenario.

(CO1) [Application]

11. A store wants to automate its inventory. It has point-of-sale terminals that can record all of the items and quantities that a customer purchases. Another terminal is also available for the customer service desk to handle returns. It has a similar terminal in the loading dock to handle arriving shipments from suppliers. The meat department and produce department have terminals to enter losses/discounts due to spoilage. Use the noun phrase approach to identify the objects from the grocery store problem.

(CO1) [Application]