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BACHELOR OF COMPUTER APPLICATIONS (B.C.A.)/ SPECIALIZATION IN CYBER SECURITY (CS)
EXAMINATION : DECEMBER- 2023
SEMESTER – V
Sub : Unified Modeling Language (UML) / Object Oriented Modeling & Design

(BCA-546-20/BCA– CS- 546-20)

Date : 29/12/2023	**Total Marks : 60**	**Time: 10.00 am to 12.30 pm**

Instructions:
1. *All questions are compulsory unless and otherwise stated.*
2. *Bold figures to the right of every question are the maximum marks for that question.*
3. *Candidates are advised to attempt questions in order.*
4. *Answers written illegibly are likely to be marked zero.*
5. *Use of scientific calculators, Log tables, Mollier Charts is allowed.*
6. *Draw neat and labelled diagrams wherever necessary.*

Q.1.   **Case Study**   **(20)**

Draw a use case diagram, class diagram, activity diagram for the courseware management in an organization. The organization offers a variety of courses in a variety of areas such as learning management techniques and understanding different software languages and technologies. Each course is made up of a set of topics. Tutors in the organization are assigned courses to teach according to the area that they specialize in and their availability. The organization publishes and maintains a calendar of the different courses and the assigned tutors every year. There is a group of course administrators in the organization who manage the courses including course content, assign courses to tutors, and define the course schedule.

Q.2.   **Solve (Any two)**   **(30)**

1. Draw Class diagram, activity diagram, and state chart diagram for online purchasing Shoes.

2. Draw Sequence diagram, Use case ,State chart diagram for restaurant management system

3. Explain Object oriented concept in UML

Q.3.   **Answer the following in 2-3 lines (Solve any 5)**   **(10)**

1. What is include and extend relationship in UML?

2. What are principles of UML?

3. What is forking and joining ?

4. What is Model?

5. Design an activity diagram for purchasing a book online.

6. Give difference between flowchart and statechart diagram

7. Define synchronous message and asynchronous message in sequence diagram

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