III B. TECH II SEMESTER REGULAR EXAMINATIONS MAY - 2023
UNIFIED MODELLING LANGUAGE
(ARTIFICIAL INTELLIGENCE AND DATA SCIENCE)

Time: 3 hours   Max. Marks: 70

Note: Answer **ONE** question from each unit **(5 × 14 = 70 Marks)**

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UNIT-I

1. a) What is UML? List out the UML Diagrams. [7M]
   b) What is the main advantage of Object Oriented Development? [7M]

(OR)

2. a) State and explain the common mechanisms in the UML. [7M]
   b) Discuss about modeling a systems architecture. [7M]

UNIT-II

3. a) Compare Aggregation and Composition. [7M]
   b) Describe the UML notation for class diagram with example. [7M]

(OR)

4. a) Describe in detail about the association classes and association role. [7M]
   b) Design the class diagram for Airline Reservation System? Find and draw conceptual classes for the same? [7M]

UNIT-III

5. a) Compare sequence diagram and communication diagram with suitable example. [7M]
   b) When to use activity diagrams. Describe the situations with example. [7M]

(OR)

6. a) What are the common notations in UML interaction diagram? [7M]
   b) Draw UML diagrams for an online quiz system. [7M]

UNIT-IV

7. a) Compare activity and state chart diagram? Mention the elements of an activity diagram. [7M]
   b) For Online Shopping System develop an Activity Diagram using swim-lanes. [7M]

(OR)

8. a) Discuss the advantages and disadvantages of using threads [7M] in software development.

    b) How do you represent a state machine in a UML diagram? [7M] Provide an example.

UNIT-V

9. a) Provide an example of a real-world system that could be [7M] modeled using a component diagram.

    b) Explain the concept of communication paths and how they [7M] are modeled in a deployment diagram.

(OR)

10. a) Explain Node. Draw the deployment diagram for ATM [7M] system.

    b) What is a component diagram in UML? How is it used in [7M] software development?

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