



End Term (Odd) Semester Examination November 2025

Roll no.....

Name of the Course and semester: BCA

Semester : V

Name of the Paper: OBJECT-ORIENTED ANALYSIS AND DESIGN

Paper Code: TBC505

Time: 3 hours

Maximum Marks: 100

Note:

- (i) All the questions are compulsory.
- (ii) Answer any two sub questions from a, b and c in each main question.
- (iii) Total marks for each question is 20 (twenty).
- (iv) Each sub-question carries 10 marks.

Q1. (2X10=20 Marks)

- a. Describe the principles of Object-Oriented Programming. How does modelling function as an effective software design methodology? (CO2)
- b. Explain Class model, State Model and Interaction model. (CO1)
- c. Explain properties of object-oriented programming. (CO1)

Q2. (2X10=20 Marks)

- a. Compare Class diagram and Object diagram. Give one example of each. (CO4)
- b. Discuss benefits and Challenges of Object-Oriented Analysis and Design. (CO2)
- c. What do you mean by Event and State. Discuss types of Events. (CO2)

Q3. (2X10=20 Marks)

- a. Differentiate between link and association. Explain types of association with suitable diagram of each one. (CO3)
- b. What do you mean by use case? Explain use case for Vending machine. (CO1)
- c. Explain various stages of software development life cycle. (CO1)

Q4. (2X10=20 Mark)

- a. What do you mean by Domain State model. What are the steps used for domain state modelling? (CO1)
- b. Explain the process of Mapping a Design into Code. (CO4)
- c. Analyse the importance of refactoring a software code. Explain any four refactoring techniques. (CO5)

Q5. (2X10=20 Mark)

- a. Draw state diagram of a Phone line. (CO5)
- b. Draw a class diagram for an ATM system. (CO5)
- c. Discuss Unit testing, Integration testing, and System testing. (CO2)