

Total No. of Questions : 4]

SEAT No. :

PE-557

[Total No. of Pages : 2

[6578]-30

**S.E. (Information Technology) (Insem.)**

**OBJECT ORIENTED PROGRAMMING**

**(2019 Pattern) (Semester - III) (214444)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates:*

- 1) *Attempt Q1 or Q2, Q3 or Q4*
- 2) *Figures to the right indicate full marks.*
- 3) *Assume suitable data if necessary.*

- Q1)** a) Define the need for object-oriented programming. Explain Abstraction and Encapsulation features of OOP [5]
- b) Explain the concept of message passing with examples. [5]
- c) Model a real-world scenario for the 'Fruit' class using an object-oriented paradigm. [5]

OR

- Q2)** a) Write a short note on. [5]
- Static and Dynamic Binding
  - Information hiding
- b) Differentiate between class and object with respect to the following points memory allocation, purpose, content, syntax, and examples. [5]
- c) What is Polymorphism? Explain the use of Polymorphism. [5]

**P.T.O.**

- Q3) a) What are visibility/access modifiers in Java? State the different visibility/access modifiers along with their scope. [5]
- b) Write and explain the syntax for the method in Java. State the advantages of using methods. [5]
- c) Write a simple Java program demonstrating the usage of an array of objects. [5]

OR

- Q4) a) What is Abstract Data Type (ADT)? List the advantages of ADTs. [5]
- b) Implement a class box to calculate the volume of the box with the following properties
- Attributes:** width, height, depth
- Methods:** getDimensions, calculateVolume
- Make use of appropriate access specifiers while implementing the class. [5]
- c) Implement class shape to demonstrate the concept of method overloading. Class defines the methods to calculate the area of different shapes. [5]

