

Total No. of Questions : 4]

SEAT No. :

P-5395

[Total No. of Pages : 1

[6186]-521

**S.E. (Computer Engg./Artificial Intelligence & Data  
Science/Computer Science & Design Engg.) (In Sem.)  
OBJECT ORIENTED PROGRAMMING  
(2019 Pattern) (Semester - III) (210243)**

*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) *Draw neat & labelled diagrams wherever necessary.*
- 4) *Assume suitable data, if necessary.*

- Q1)** a) What are advantages of object oriented programming over procedural oriented programming? [4]  
b) What is polymorphism? How does it relate to function overloading? [5]  
c) What a class "Student" with attributes like name, roll number & mark. Include member functions to set & display these attributes? [6]

OR

- Q2)** a) State differences between abstraction and encapsulation. [4]  
b) What are C++ access specifiers? Write down their significance. [5]  
c) Write a class "Calculator" with methods for addition, subtraction, multiplication and division functions. Create a object to perform arithmetic operation. [6]

- Q3)** a) Define Function overloading and Write a program for swapping two integer numbers, two float numbers and two characters using function overloading. [5]  
b) What is the use of 'this' pointer? Explain with example. [5]  
c) Explain public, private and protected inheritance. And give example of protected Inheritance with explanation. [5]

OR

- Q4)** a) Define Function overriding in C++ and Write a program to demonstrate the same. [5]  
b) What are types of inheritance. Explain them with syntax. [5]  
c) Define function pointers? Give its Syntax of declaration, Referencing and Dereferencing. Write a program for it in C++. [5]

