

DR

# Object Oriented Programming

E-165

2K5-DS-1

Roll No.: \_\_\_\_\_

Time : 3 Hrs.

M.M. 100

**Note :**

1. Part 'A' may be attempted in first 5 pages of Answer Sheet.  
भाग 'क' के सभी उत्तर, उत्तर-पुस्तिका के प्रथम पांच पृष्ठों में ही करने हैं।
2. Part 'B' in rest of the Sheets of Answer Sheet.  
भाग 'ख' के उत्तर, उत्तर-पुस्तिका के अगले शेष पृष्ठों में लिखिये।
3. Answers may be given in English or Hindi.  
प्रश्नों के उत्तर अंग्रेजी अथवा हिन्दी में दीजिये।

**Part 'A'**

**1. Attempt any 10 questions:**

10x2= 20

- (i) What are the limitations of static members?
- (ii) Explain new and delete operator.
- (iii) What are the various file accessing modes?
- (iv) What do you mean by friend function?
- (v) Write down the characteristics of the constructor with example.
- (vi) What is inline function? What are the uses of it?
- (vii) List the C++ operators which cannot be overloaded?
- (viii) List the standard stream operators of C++.
- (ix) What is a class? How does it accomplish data hiding?
- (x) (a) A ..... function can accept a value of any type.  
(b) ..... is an alias name given to a variable.
- (xi) What are the various types of situation that might arise in data conversion between incompatible types?
- (xii) Why is it necessary to overload an operator?
- (xiii) Is it mandatory to define constructor in class? Justify your answer.
- (xiv) Describe the use of Binary operator .

**2. Attempt any 5 questions:**

5 x 4= 20

- (i) Explain object oriented Programming and how it is different from procedure oriented programming.
- (ii) Write a C++ program to display the employee details using constructor such as organization name, employee name, office address, employee address, department name.



- (iii) Explain dynamic memory allocation? Explain with suitable example.
- (iv) What is the difference between a virtual function and a pure virtual function? Explain the application of OOPS.
- (v) Why are template functions required? Write a template function for swapping two arguments?
- (vi) Explain the techniques of Exception Handling, and its benefits.
- (vii) What are unary and binary operators? Explain binary operator overloading with example.
- (viii) Explain copy and default constructor with example.

**PART-B**

Attempt any 3 questions:

3 X 20 = 60

- 3. (a) Develop a Banking Program in C++ using class, constructor, member function (deposit, withdrawal), friend function (display balance)?  
(b) Write a C++ program to find the largest of three numbers using inline function?
- 4. (a) Explain dynamic or late binding? How is it implemented in C++? Distinguish between early and late binding?  
(b) Write a C++ program to swap the numbers by using call by reference and call by value?
- 5. (a) Explain different types of inheritance with suitable example?  
(b) What are the various types of access specifier of base class? Explain with example?
- 6. (a) Create a class Float that contains one float data member? Overload all the four arithmetic operators so that they operate on the object of float?  
(b) Differentiate between run-time polymorphism and compile time polymorphism?
- 7. (a) Explain the following file functions with example:  
(i) fopen ()      (ii) fclose()      (iii) fscanf()      (iv) fprintf()  
(b) Distinguish between the following terms:  
(i) Objects and Classes  
(ii) Data abstraction and data encapsulation  
(iii) Inheritance and polymorphism