

17432

11920

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. (A) Attempt any SIX of the following :

12

- (a) State any four applications of OPP.
- (b) Define pointer.
- (c) Give output for the following code :

```
class student
{
    int roll no ;
    float per ;
    char name[14] ;
} S[5] ;
void main ( )
{
    cout << sizeof (S) ;
}
```
- (d) State any four types of constructor.
- (e) Write any two rules for virtual function.
- (f) Define abstract class.
- (g) State two advantages of pointer.

[1 of 4]

P.T.O.

(h) Give output for the following code :

```
class ABC
{
    int x ;
    public :
    ABC()
    {
        cout << "Welcome" ;
    }
    ABC(int y)
    {
        x = y ;
        cout << x ;
    }
} ;
void main()
{
    ABC b, c (10) ;
}
```

(B) Attempt any TWO of the following :

8

- (a) Describe the concept of constructor with default argument with suitable example.
- (b) State and describe types of inheritance.
- (c) Differentiate between constructor and destructor. (any four points)

2. Attempt any FOUR of the following :

16

- (a) State and describe access specifiers used inside class to declare members.
- (b) With suitable example, describe use of virtual function in polymorphism.
- (c) State and describe visibility modes used in inheritance with their effects.
- (d) Define the following terms :
 - (i) Data abstraction
 - (ii) Class
 - (iii) Dynamic binding
 - (iv) Polymorphism
- (e) With example, describe use of static member function.
- (f) Write a program in C++ to search an element from an array using pointer.

3. Attempt any FOUR of the following :

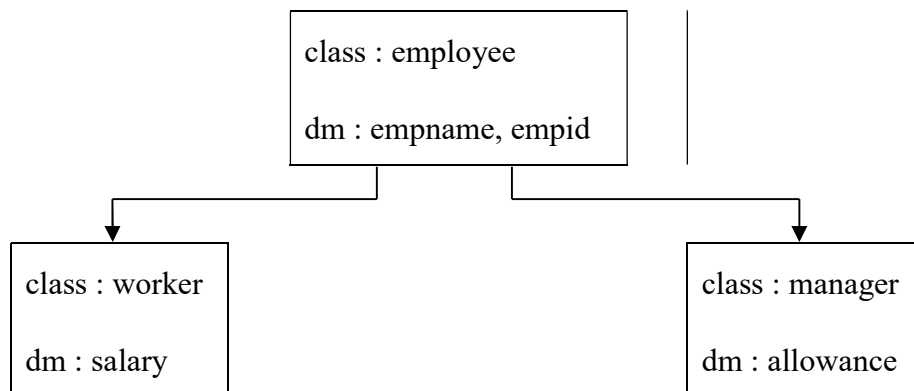
16

- (a) With example, describe use of scope resolution operator.
- (b) Write a program in C++ to declare a class measure having data members as add 1, add 2, add 3. Initialize the values of two data members using constructor and display their addition using function.
- (c) Describe with example importance of virtual base class.
- (d) Write a C++ program to overload == operator to check equality of two strings.
- (e) With suitable example, describe use of this pointer.
- (f) Describe syntax and use of defining member function outside class. Give one example.

4. Attempt any FOUR of the following :

16

- (a) Write a program in C++ to implement following inheritance. Assume suitable data.



- (b) Write any four characteristics of constructor.
- (c) Describe structure of C++ program.
- (d) State any four characteristics of friend function.
- (e) With example, describe multiple inheritance.
- (f) Describe pointer to object with an example.

P.T.O.

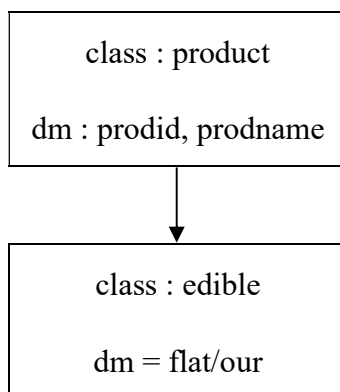
5. Attempt any FOUR of the following :**16**

- (a) State any four rules for operator overloading.
- (b) Differentiate between class and structure. (any four points)
- (c) Write a program in C++ to overload a 'volume' function to calculate volume of cube and rectangular box.
- (d) Describe with example the use of insertion and extraction operators.
- (e) State and describe use of pointer operator and address operator. Give one example of each.
- (f) Write any four differences between compile time and run time polymorphism.

6. Attempt any TWO of the following :**16**

- (a) Write a program in C++ to declare a class 'Journal' having data members as journal_nm, price, ISSN_No. Accept this data for two objects and display the name of the journal having greater price.
- (b) Write a program in C++ to implement single inheritance from following figure :

Accept and display 5 products.



- (c) Write a program in C++ to accept a string from a user and display its reverse using pointer.
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