

G-1/125/21

Roll No.....

## I Semester Examination, April-2021

**M.Sc.**

INFORMATION TECHNOLOGY

**Paper I**

(Object Oriented Programming with C++)

Time : 3 Hours ]

[Maximum Marks : 100

**Note:** All questions are compulsory. Question Paper comprises of 3 sections. **Section A** is objective type/Multiple Choice questions with no internal choice. **Section B** is short answer type with internal choice. **Section C** is long answer type with internal choice.

### SECTION 'A'

(Multiple Choice Questions)

Choose the correct answer :

1 × 10 = 10

1. Which concept allows you to reuse the written code ?  
(a) Encapsulation      (b) Abstraction  
(c) Inheritance      (d) Polymorphism
2. The default standard input device for C++ program is :  
(a) Mouse      (b) Scanner  
(c) Keyboard      (d) None of the above
3. Which of the following feature of OOPs is not used in the following C++ code ?

```
class A  
{  
    int i;  
    public:
```

P.T.O.

[ 2 ]

```
void print() {cout<<"hello" <<i;}  
};  
class B: public A  
{  
    int j;  
    public;  
    void assign (int a); j=a;}  
};
```

- (a) Abstraction              (b) Encapsulation  
(c) Inheritance              (d) Polymorphism
4. Out of the following, which is not a member of the class ?  
(a) static function              (b) friend function  
(c) constant function              (d) virtual function
5. What is the meaning of the following declaration ?  
int.(\*p[2])():  
(a) p is array of pointer to function  
(b) p is pointer to function  
(c) p is pointer to such function which return type is the array  
(d) p is pointer to array of function
6. What are mandatory parts in the function declaration ?  
(a) return type, function name  
(b) return type, function name, parameters  
(c) parameters, function name  
(d) parameters, variables

[ 5 ]

2. Define structure. How structure members are different from class members ? Explain with example.

Or

What is inline function ? In which situation inline function may not work ? How does an inline function differ from a pre-processor macro ? Explain with example.

3. What is copy constructor ? Give its use. When it is used implicitly for what purpose ? Explain with suitable example.

Or

Explain public, private and protected access specifier and show their visibility when they are inherited as public, private and protected.

4. Define operator overloading. Explain how to overload unary operator and binary operator.

Or

Write a C++ program to create class mother having data member to store salary of mother, create another class father to store salary of father. Use friend function which accept object of father and mother and print salary of mother and father.

5. Write short notes on the following :

- (a) Random access file processing,  
(b) Manipulator.

Or

Write C++ program to create a text file, check file created or not. If created it will write some text into the file and then read the text from the file.

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[ 3 ]

7. Where can the default parameter be placed by the user ?
- (a) leftmost                      (b) rightmost
- (c) both leftmost and rightmost
- (d) topmost
8. What happens if a user forgets to define a constructor inside a class ?
- (a) Error occurs                      (b) Segmentation fault
- (c) Objects are not created properly
- (d) Compiler provides a default constructor to avoid faults/errors
9. Which header file is used for reading and writing to a file?
- (a) `#include<iostream>` (b) `#include<fstream>`
- (c) `#include<file>`                      (d) `#include<fe>`
10. Which function allow changing the location of the get and putting positions :
- (a) `sg()` and `sp()`                      (b) `sekg()` and `sekp()`
- (c) `gog()` and `gop()`                      (d) `seekg()` and `seekp()`

**SECTION 'B'**  
**(Short Answer Type Questions)**

6 × 5 = 30

**Note :** Answer the following questions in 250 words.

1. Explain basic concepts of Object Oriented Programming.

Or

Discuss dynamic initialization of variable with suitable example.

G-1/125/21

P.T.O.

[ 4 ]

2. Write a C++ program to print weekday using if else statement.

Or

How pass structure as arguments into function ? Explain with example.

3. Discuss the need of function overriding.

Or

What do you mean by ambiguity? In which inheritance ambiguity arise ? Explain with example.

4. How pure virtual function is different from virtual function ? Explain with example.

Or

Write a C++ program to find the biggest of 3 number using point and function.

5. How `endl` and `setw()` manipulator works ? Explain with example.

Or

List any five library classes that handle streams in C++ and explain with example.

**SECTION 'C'**  
**(Long Answer Type Questions)**

12 × 5 = 60

**Note :** Answer the following questions in 500 words.

1. What is control structure ? Discuss use of break and continue statement in for and while loop with example.

Or

Explain the type conversion from basic type to class type and from class type to basic type with proper example.

G-1/125/21