1478/II

B.C.A. (PART-I) 2nd Semester Examination-2022

B.C.A.

(Introduction to Object Oriented Programming & C++)

Paper : BCA-204

Time : Three Hours] [Maximum Marks : 70

Note: (i) Answer **five** questions in all.

(ii) Question **No. 1** is compulsory.

(iii) Answer two questions from section **A** and **B** each.

(iv) All question carry equal marks.

1. Answer all parts of the following:

(a) What do you mean by oops?

(b) Define class and object.

(c) Define and explain Function with default parameters.

(d) What do you mean by static member function?

Section-A

2. What do you mean by Inheritance in object oriented programming? Explain types of inheritance supported by C^{++}.

3. Explain Function overloading with proper example.

4. Write a program in C^{++} to check whether a given number is prime or not using the below mentioned class definition.

```
Class Prime
{
int num;
public:
void input (int x);
void check PRIME ();
};
```

5. What do you mean by inline function in C^{++}. Explain with example.

Section-B

6. (a) Explain constructors. Explain the order of constructor call in multilevel inheritance with example.

(b) What do you mean by Friend function?

7. (a) Write a C^{++} program to print all the factors of a given input number.

(b) What do you mean by type conversion? Explain all the types of conversion supported by C^{++}.

8. (a) Explain the various access specifier. Give clear differentiation between private and protected access specifier.

(b) Explain operator overloading with proper example.

9. Write notes on any two of the following:

(a) Destructors in C^{++}

(b) Boolean data type

(c) Scope Resolution Operator

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B.C.A. (PART-I) EXAMINATION, 2022-23

(Second Semester)

0109

Paper : IV

BCA-204 : Introduction to Object Oriented Programming & C++

Time : Three Hours] [Maximum Marks : 70

Note: (i) Answer **Five** Questions in all.

(ii) Question No.**1** is **Compulsory**.

(iii) Answer remaining **four** questions, selecting **two** questions from each Section **A** and **B**.

(iv) All questions carry equal marks.

1. Answer all parts of the following :

(a) What do you understand by Data Abstraction ?

(b) Define Encapsulation.

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(c) What are the different data hiding mechanisms in C++ ?

(d) Differentiate between the object oriented and procedure oriented programming.

SECTION – A

2. What is the purpose of constructors in C++ ? What are the various types of constructor ?

3. What do you understand by inheritance ? Explain the different types of inheritance by taking a suitable example.

4. Write a program in C++ to differentiate between function overloading and function overriding.

5. What is the use of friend function in C++ ? Explain with an example.

SECTION – B

6. (a) Discuss the memory management using keywords 'new' and 'delete'.

(b) Define virtual functions. Explain the method of calling a virtual function through a base class reference.

7. (a) Explain the method of passing simple data types to functions by reference.

(b) Explain data members and member functions.

8. (a) What do you mean by Exception Handling ? Write a program to show how it is achieved in C++.

(b) What do you mean by polymorphism ? Explain with the help of example how polymorphism is achieved at (i) compile time (ii) run time.

9. Write notes on any two of the following :

(a) Constructors

(b) Generic Classes

(c) Scope Resolution Operator

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