

Bihar Engineering University, Patna
Special Examination - 2023

Course: B.Tech.
Code: 100313

Subject: Object Oriented Programme using C++

Time: 03 Hours
Full Marks: 70

Instructions:-

- (i) The marks are indicated in the right-hand margin.
- (ii) There are **NINE** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question No. 1 is compulsory.

Q.1 Choose the correct answer of the following (Any seven question only): **[2 x 7 = 14]**

- (a) Which is known as generic class?
 - (i) Abstract class (ii) Final class (iii) Template class (iv) Efficient code
- (b) When the compiler cannot differentiate between two overloaded constructors, they are called:
 - (i) overloaded (ii) destructed (iii) ambiguous (iv) overriding
- (c) In C++, dynamic memory allocation is accomplished with the operator:
 - (i) new (ii) this (iii) malloc (iv) delete
- (d) What is default access specifier for data members or functions declared within a class without any specifier in C++
 - (i) Private (ii) Protected
 - (iii) Public (iv) Depends on compiler
- (e) Multiple inheritance means
 - (i) one class inheriting from more superclasses
 - (ii) more classes inheriting from one superclass
 - (iii) more classes inheriting from more superclasses
 - (iv) None of the above
- (f) To prevent any method from overriding, we declare the method as
 - (i) Static (ii) const (iii) final (iv) None of the above
- (g) When a class serves as base class for many derived classes, the situation is called
 - (i) polymorphism (ii) hierarchical inheritance
 - (iii) hybrid inheritance (iv) multipath inheritance
- (h) Which of the following is not a type of class?
 - (i) Abstract class (ii) Final class (iii) Start class (iv) String class
- (i) Which among the following best describes the inheritance?
 - (i) copying code already written
 - (ii) using the code already written once.
 - (iii) using already defined function in programming language
 - (iv) using the data and functions into derived segment.
- (j) Which of the following statement is correct?
 - (i) Base class pointer cannot point to derived class
 - (ii) Derived class pointer cannot point to base class
 - (iii) Pointer to derived class cannot be created
 - (iv) Pointer to base class cannot be created

- Q.2** (a) Write a C++ program for constructors and destructors. [7]
(b) Write the syntax of a destructor? Explain How it is different from constructor? [7]
- Q.3** (a) Explain in brief about the benefits of object oriented programming over procedure oriented programming. [7]
(b) Explain how to do formatting of I/O. [7]
- Q.4** (a) What is static function? What is its use? How a member of class be declared as static? [7]
(b) Discuss how dynamic allocation done in C++programming. [7]
- Q.5** (a) Write a C++ program to demonstrate example of hierarchical inheritance to get square and cube of a number. [7]
(b) What is operator overloading? Write a program in C++ to overload unary minus operator. [7]
- Q.6** (a) What is a friend function and what are its advantages? What are the guidelines that should be followed while using friend function? [7]
(b) Explain dangling pointer with the help of an example. [7]
- Q.7** (a) Write a C++ program that erases all elements in a list using iterators. [7]
(b) What are containers? Explain about sequence containers and associative containers. [7]
- Q.8** (a) Explain Linked Lists with Templates. Write a C++ program to insert and element in a Linked List. [7]
(b) Explain the key words try catch throw. Write a program in C++ using dive by zero exception. [7]
- Q.9** Write the short notes on **any two** of the following: [7×2=14]
(a) Wrapper class
(b) Method overriding
(c) Data abstraction
(d) Dangling pointer



Code : 100313

B.Tech 3rd Semester Exam., 2021

(New Course)

**OBJECT ORIENTED PROGRAMMING
USING C++**

Time : 3 hours

Full Marks : 70

Instructions :

- (i) The marks are indicated in the right-hand margin.*
- (ii) There are **NINE** questions in this paper.*
- (iii) Attempt **FIVE** questions in all.*
- (iv) Question No. 1 is compulsory.*

1. Answer any seven questions : 2×7=14

- (a) How will you take input in C++?*
- (b) How will you define a constructor in a C++ class?*
- (c) What are accessor and mutator functions?*

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(Turn Over)

(2)

- (d) What is void pointer in C++? Elaborate with an example.
 - (e) What is derived data type in C++?
 - (f) How will you implement runtime polymorphism in C++?
 - (g) When are virtual base classes necessary in C++?
 - (h) What are the differences between function overloading and function overriding?
 - (i) How will you throw an exception in C++? Elaborate with an example.
 - (j) Name two standard exceptions built in C++. When are they thrown?
2. (a) What are the advantages of object-oriented programming paradigm over procedural programming? Demonstrate the features of an object-oriented programming paradigm with their suitable implementations in C++.

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- (b) How will you define constants in C++? How will you access them? Elaborate with suitable examples. 2
- (c) What is type modifier? Elaborate different types of modifiers in C++ with proper examples. 4
- (d) Is it possible to have virtual constructor in C++? If yes, how will you implement it, and if no, why? 2
3. (a) What do you mean by call by reference? What are the differences between call by value and call by reference? Show call by reference by implementing a function to swap the values of two numbers. 5
- (b) What do you mean by default arguments? Can you use functions with default arguments as an alternative to function overloading? Elaborate with suitable examples. 5
- (c) What is a copy constructor? When will you need a copy constructor? How will you implement a copy constructor? Elaborate with suitable examples. 4

4. (a) What is 'this' pointer? How will you use 'this' pointer in C++? Elaborate with example. 4
- (b) What are various access specifiers used in C++? Demonstrate each of them with suitable examples. 5
- (c) How will you allocate dynamic memory in C++ other than malloc or calloc? How will you free the memory created using the method demonstrated? Demonstrate with suitable examples. What are the differences between malloc and the method you demonstrated? 5
5. (a) How do you overload operators in C++? Demonstrate with a suitable example, in which one unary operator and one binary operator will be overloaded. 4
- (b) How will you overload the input operator >> and the output operator <<? Demonstrate with suitable examples. 4
- (c) Demonstrate friend function and friend class with suitable examples. 4
- (d) What is namespace? How will you define a namespace in C++? 2

6. (a) What is virtual function? Why are they necessary? Demonstrate compile-time binding and late-time binding using suitable examples. 5
- (b) What is inline function? How do you declare and invoke an inline function in C++? 3
- (c) What is pure virtual function? Elaborate pure virtual function and abstract class with suitable examples. 6
7. (a) How will you declare a dynamic array in C++? Demonstrate. What is 'nothrow' keyword used for? 3
- (b) Can you overload new and delete operators? If yes, demonstrate with a suitable example. If not, why? 4
- (c) What is a reference? What are the differences between a pointer and a reference? Demonstrate with a suitable example of object pointer and object reference. 4

- (d) What is diamond problem faced in multiple inheritance? How to deal with this problem in C++? Demonstrate with an example. 3
8. (a) What is template? In which scenario, using templates are advantageous? Demonstrate with suitable examples. 3
- (b) How will you declare a function template? Demonstrate with suitable examples. 4
- (c) How will you declare a class template? Demonstrate with suitable examples. 4
- (d) How can you handle any type of exception in catch block in C++? Demonstrate with an example. 3
9. (a) How will you create your own exception class in C++? Demonstrate. What is the functionality of what() function in creating own exception class? 5
- (b) How does stack unwinding work in C++? Demonstrate with a suitable example. 5

(7)

- (c) Demonstrate nested try blocks in C++ with suitable example. Can an exception thrown by internal try block be caught by external catch clause? Can an exception thrown by external try block be caught by internal catch clause? In both cases, demonstrate with suitable examples.

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Bihar Engineering University, Patna

B.Tech. 3rd Semester Examination, 2023

Course: B.Tech.

Code: 100313

Subject: Object Oriented Programming using C++

Time: 03 Hours

Full Marks: 70

Instructions:-

- (i) The marks are indicated in the right-hand margin.
- (ii) There are **NINE** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question No. 1 is compulsory.

Q.1 Choose the correct answer of the following (Any seven question only): [2 x 7 = 14]

- (a) To prevent any method from overriding we declare the method as
 - (i) static (ii) final (iii) const (iv) None of the above
- (b) Does constructor overloading include different return types for constructors to be overloaded?
 - (i) yes, if return types are different, signature becomes different.
 - (ii) yes, because return types can differentiate two functions.
 - (iii) no, because return types cannot differentiate two functions.
 - (iv) no, constructors don't have any return type.
- (c) Which of the following type of class allows only one object of it to be created
 - (i) Virtual Class (ii) Abstract class
 - (iii) Singleton class (iv) Friend class
- (d) What will happen if the exception is not caught in the program?
 - (i) Error (ii) Program will execute
 - (iii) Block of the code will not execute (iv) None of the above
- (e) In C++ dynamic memory allocation is accomplished with the operator
 - (i) new (ii) melloc
 - (iii) this (iv) allocate
- (f) Which of the following statement is correct?
 - (i) base class pointer cannot point to derived class.
 - (ii) derived class pointer cannot point to base class.
 - (iii) pointer to derived class cannot be created.
 - (iv) pointer to base class cannot be created.
- (g) You should make a function virtual if
 - (i) every class that is derived from this class uses all the member functions from this class.
 - (ii) every class that is derived from this class needs to redefine this function.
 - (iii) that function is an operator.
 - (iv) defined only in the derived classes.
- (h) The fields in a structure in C and a class in C++ are by default
 - (i) public, protected (ii) protected, public
 - (iii) private, private (iv) public, private
- (i) Class Dog: public X, public Y is an example of
 - (i) multiple inheritance (ii) multilevel inheritance
 - (iii) linear inheritance (iv) none of the above

- (j) The compiler identifies a virtual function to be pure
- (i) by the presence of the keyword `pure`.
 - (ii) by its location in the program.
 - (iii) if it is equated to 0.
 - (iv) none of the above
- Q.2** (a) Explain in brief the benefits of object-oriented programming over procedure oriented programming. [7]
- (b) With an example explain the terms *constructor* and *destructor*. [7]
- Q.3** (a) Explain different access specifiers and their scope used in C++. [7]
- (b) What are the advantages of passing arguments by reference? Write a function called `zeroSmaller()` function that receives two integer arguments by reference and then sets smaller of the two numbers to zero. Add the code for `main()` function also from where `zeroSmaller()` is called. [7]
- Q.4** (a) Discuss why converting a base class pointer to a derived class pointer is considered dangerous by the compiler. [7]
- (b) Write a C++ program to find a substring inside a string. [7]
- Q.5** (a) Differentiate between abstract class and interface. [7]
- (c) What is function template? Differentiate between template class and class template. [7]
- Q.6** (a) What are the different forms of inheritance? Give an example for each. [7]
- (b) What is a friend function? A friend function cannot be used to overload the assignment operator (`=`). Explain why? [7]
- Q.7** (a) With the help of example programs, differentiate between Overloading and Overriding. [7]
- (b) Write an object oriented program in C++ to show the overloading of template function. [7]
- Q.8** (a) Write an object oriented program in C++ using function overloading to check whether the input data (either strings or integers) are palindrome or not, and display the results accordingly. [7]
- (b) What is the difference between error and exception? When do we use multiple *catch* handlers? Explain with suitable example. [7]
- Q.9** Write short notes on **any two** of the following: [7x2=14]
- (a) Copy constructor
 - (b) Pure virtual function
 - (c) Object pointer
 - (d) Stack unwinding



Bihar Engineering University, Patna

End Semester Examination - 2022

Course: B.Tech.

Semester: III

Time: 03 Hours

Code: 100313

Subject: Object Oriented Programming using C++

Full Marks: 70

Instructions:-

- (i) The marks are indicated in the right-hand margin.
- (ii) There are **NINE** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question No. **1** is compulsory.

Q.1 Choose the correct answer of the following (Any seven question only):

[2 x 7 = 14]

- (a) Which among the following best describes the inheritance?
 - (i) copying the code already written
 - (ii) using the code already written once.
 - (iii) using already defined functions in programming language
 - (iv) using the data and functions into derived segment.
- (b) Which of the following is not a type of class?
 - (i) Abstract class
 - (ii) Final class
 - (iii) Start class
 - (iv) String class
- (c) What is the default access specifier for data members or member functions declared within a class without any specifier in C++?
 - (i) Private
 - (ii) Protected
 - (iii) Public
 - (iv) Depends on compiler
- (d) Which of the following is not the member of class ?
 - (i) Static function
 - (ii) Friend function
 - (iii) Constant function
 - (iv) Virtual function
- (e) Which constructor will be called from the object created in the code below?
Class A
{
 int i ;
 A ()
 {
 i= 0;
 }
 A (int x = 0)
 {
 i=x;
 }
};
A obj1;
 - (i) Default constructor
 - (ii) Parameterized constructor
 - (iii) Compile time error
 - (iv) Run-time error
- (f) To prevent any method from overriding, we declare the method as
 - (i) Static
 - (ii) const
 - (iii) final
 - (iv) None of the above
- (g) In C++ dynamic memory allocation is accomplished with the operator:
 - (i) new
 - (ii) this
 - (iii) malloc
 - (iv) delete
- (h) When a class serves as base class for many derived classes, the situation is called
 - (i) polymorphism
 - (ii) hierarchical inheritance
 - (iii) hybrid inheritance
 - (iv) multipath inheritance

P.T.O.

- (i) For a method to be an interface between the outside world and a class, it must be declared
- (i) private (ii) protected
(iii) public (iv) external
- (j) Which of the following statement is correct?
- (i) Base class pointer cannot point to derived class
(ii) Derived class pointer cannot point to base class.
(iii) Pointer to derived class cannot be created
(iv) Pointer to base class cannot be created.
- Q.2** (a) What are the advantages of using exception handling mechanism in a program? [7]
Explain the uses of try, throw and catch keywords using example.
- (b) Write a C++ program to find the sum of the series $1+3+5+\dots+n$. [7]
- Q.3** (a) What is inheritance? Discuss different types of inheritance with examples. [7]
(b) What is operator overloading? Write a program in C++ to overload unary minus operator. [7]
- Q.4** (a) What is pure virtual function? Write a C++ program that prints 'BEU Patna' from inside a member function of a subclass overriding a pure virtual function. [7]
(b) Discuss why converting a base-class pointer to a derived-class pointer is considered dangerous by compiler. [7]
- Q.5** (a) Differentiate between abstract class and interface with suitable examples. [7]
(b) What is access modifier in C++? Differentiate between each type. [7]
- Q.6** (a) Differentiate between a class and an object. Write an example (syntax) to define a class in C++. [7]
(b) With an example, explain the terms *constructor* and *destructor*. [7]
- Q.7** (a) What is a friend function and what are its advantages? What are the guidelines that should be followed while using friend function? [7]
(b) Explain dangling pointer with the help of an example. [7]
- Q.8** (a) Explain how base class member functions can be involved in a derived class if the derived class also has a member function with the same name. [7]
(b) Create a class *complex* and implement the following: [7]
(i) Define suitable constructors and destructors
(ii) Overload the operators + and -
(iii) Write a friend function *sum* which adds the real and imaginary parts of a complex object.
- Q.9** Write short notes on any two of the following: [7 x 2=14]
(a) Polymorphism
(b) Function Templates
(c) Container class
(d) Inline function



Bihar Engineering University, Patna

B.Tech 8th Semester Examination, 2024(S)

Course: B.Tech

Code: 100313

Subject: Object Oriented Programming Using C++

Time: 03 Hours

Full Marks: 70


Instructions:-

- (i) The marks are indicated in the right-hand margin.
- (ii) There are **NINE** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question No. 1 is compulsory.

Q.1 Choose the correct option / answer the following (Any seven question only):-

[2 x 7 = 14]

- (a) If no access specifier is written, by default, the class will be derived in which mode?
 - (i) public
 - (ii) private
 - (iii) protected
 - (iv) none of these
- (b) To prevent any method from overriding we declare the method as
 - (i) static
 - (ii) const
 - (iii) final
 - (iv) none of these
- (c) Which of the following statement is correct?
 - (i) base class pointer cannot point to derived class
 - (ii) pointer to derived class cannot be created
 - (iii) derived class pointer cannot point to base class
 - (iv) pointer to base class cannot be created
- (d) The size of an object is equal to
 - (i) total size of member data variables
 - (ii) total size of member function
 - (iii) both (i) and (ii)
 - (iv) none of these
- (e) What will happen if the exception is not caught in the program?
 - (i) Error
 - (ii) Program will execute
 - (iii) Block of the code will not execute
 - (iv) None of these
- (f) Which of the following type of class allows only one object of it to be created
 - (i) Virtual Class
 - (ii) Singleton class
 - (iii) Abstract class
 - (iv) Friend Class
- (g) Which of the following statement is correct?
 - (i) The *try* block should be followed by a *catch* block
 - (ii) The *try* block should be followed by either a *catch* block or a *finally* block
 - (iii) The *try* block should be followed by a *finally* block
 - (iv) The *try* block should be followed by at least two *catch* blocks
- (h) Choose the option below which is shown by function overriding
 - (i) Abstraction
 - (ii) Polymorphism
 - (iii) Encapsulation
 - (iv) Inheritance
- (i) In case of more than one catch block matches the type of exception thrown, which catch block is executed?
 - (i) first
 - (ii) both
 - (iii) last
 - (iv) none of these
- (j) In C++ dynamic memory allocation is accomplished with the operator
 - (i) new
 - (ii) this
 - (iii) melloc
 - (iv) allocate

- Q.2** (a) What do you mean by dynamic initialization of objects? Why do we need to do this? How this is achieved? [7]
(b) What is the main advantage of passing arguments by reference? When do we need to use default arguments in a function. [7]
- Q.3** (a) With an example, differentiate between run-time and compile-time polymorphism. [7]
(b) What do we mean by object-oriented programming? Explain the basic characteristics of OOP. [7]
- Q.4** (a) With an example explain the terms *constructor* and *destructor*. What is default constructor? [7]
(b) What are command line arguments? Write a program in C++ to find factorial of a given number using command line argument. [7]
- Q.5** (a) What is an interface? What are the differences between interface and abstract class? [7]
(b) What is the difference between method overloading and method overriding? Explain with example. [7]
- Q.6** (a) Describe different forms of inheritance in OOP with suitable example for each. [7]
(b) Explain virtual function and its need with suitable example. When do we make a virtual function “pure”? [7]
- Q.7** (a) Write a program that uses a function template called *min* to determine the smaller of two arguments. (Program should work for integer, float, and char number pairs). [7]
(b) A friend function cannot be used to overload the assignment operator =. Explain why? [7]
- Q.8** (a) What is the difference between error and exception? What do you mean by exception handling? [7]
(b) Explain the keywords: try, catch and throw with suitable examples. [7]
- Q.9** Write short notes on **any two** of the following:- [2 x 7 = 14]
(a) Friend function
(b) Type Casting
(c) Creating own Exception Class
(d) Accessor and Mutator Functions
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Bihar Engineering University, Patna

B.Tech 3rd Semester Examination, 2024

Course: B.Tech

Code: 100313

Subject: Object Oriented Programming using C++

Time: 03 Hours

Full Marks: 70

Instructions:-

- (i) The marks are indicated in the right-hand margin.
- (ii) There are **NINE** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question No. 1 is compulsory.

Q.1 Choose the correct option / answer the following (Any seven question only):

[2 x 7 = 14]

- (a) What is the default access specifier for class members in C++?
- | | |
|----------------|---------------|
| (i) public | (iii) private |
| (ii) protected | (iv) internal |
- (b) What will be the output of the following code?
- ```
#include <iostream>
class Test {
public:
 Test() { std::cout << "Constructor"; }
 ~Test() { std::cout << "Destructor"; }
};
int main() {
 Test t;
 return 0;
}
```
- |                            |                            |
|----------------------------|----------------------------|
| (i) Constructor            | (iii) Destructor           |
| (ii) ConstructorDestructor | (iv) DestructorConstructor |
- (c) What will be the output of the following code?
- ```
#include <iostream>
void display(int x) { std::cout << "Int"; }
void display(double x) { std::cout << "Double"; }
int main() {
    display(5.5f);
}
```
- | | |
|------------|--------------|
| (i) Int | (iii) Double |
| (ii) Float | (iv) Error |
- (d) What is the output of the following code snippet?
- ```
int arr[] = {1, 2, 3};
int* p = arr;
cout << *(p + 1);
```
- |        |            |
|--------|------------|
| (i) 1  | (iii) 2    |
| (ii) 3 | (iv) Error |
- (e) What is the output of the following code snippet?
- ```
string s = "C++";
s += " Rocks";
cout << s;
```
- | | |
|----------------|-------------|
| (i) C++ | (iii) Rocks |
| (ii) C++ Rocks | (iv) Error |

- (f) Which of the following statement is incorrect?
- | | |
|---|---|
| (i) A static member function cannot be declared as virtual function | (iii) A static member function cannot access the "this pointer" |
| (ii) Static and non-static functions with identical signatures cannot coexist in the same class in C++. | (iv) A non static member function can access only non static data members of a class. |
- (g) Identify the correct function template syntax.
- | | |
|---|--|
| (i) <code>template<T> void show(T t);</code> | (iii) <code>template<class> show(T t);</code> |
| (ii) <code>function template<T> show(T t);</code> | (iv) <code>template<typename T> void show(T t);</code> |
- (h) What will be the output of this code?
- ```
#include <iostream>
class Demo {
public:
 void show() { std::cout << "Hello"; }
};
int main() {
 Demo d, *ptr = &d;
 ptr->show();
}
```
- |            |            |
|------------|------------|
| (i) Hello  | (iii) show |
| (ii) Error | (iv) None  |
- (i) What happens when a derived class object is assigned to a base class pointer?
- ```
class Base { };
class Derived : public Base { };
int main() {
    Derived d;
    Base* b = &d;
}
```
- | | |
|------------------|-------------------------|
| (i) Error | (iii) Requires template |
| (ii) Not allowed | (iv) Upcasting; allowed |
- (j) What is the output of this code?
- ```
#include <iostream>
class A {
public:
 ~A() { std::cout << "Destructor "; }
};
int main() {
 try {
 A a;
 throw 1;
 } catch (...) {
 std::cout << "Caught";
 }
}
```
- |                        |              |
|------------------------|--------------|
| (i) Caught Destructor  | (iii) Caught |
| (ii) Destructor Caught | (iv) Error   |

- Q.2** (a) Explain the features of Object-Oriented Programming (OOP). How does OOP differ from the procedural programming paradigm? Also, list the advantages of using OOP in C++. [7]
- (b) Differentiate between while, do-while, and for loops in C++. Write a program to print the Fibonacci series using any loop. Hint: Fibonacci series: 0, 1, 1, 2, 3, 5, 8, 13, 21.... [7]

- Q.3** (a) Write a C++ program using function overloading to calculate the area of a square, rectangle, and circle using three overloaded area() functions. Demonstrate all three in main() and explain how function overloading works. [7]
- (b) Write a C++ program using the string class to input two strings, concatenate them, compare them, and find the length of the resulting string. [7]
- Q.4** (a) Differentiate between a struct and a class in C++. Explain with examples how data hiding and default access specifiers differ between the two. [7]
- (b) Write a C++ program to define a class Account with data members like accountNumber, holderName, and balance. Include a default constructor to initialize default values, a parameterized constructor to assign specific values, and a destructor to display a message when the object is destroyed. In the main() function, create objects using both constructors. Also, briefly explain the role of constructors and destructors in C++. [7]
- Q.5** (a) Write a program to overload the + operator to add two complex numbers using a class Complex. Also, discuss the rules and limitations of operator overloading. [7]
- (b) What is a function template in C++? Write a template function maximum() that returns the larger of two values. Demonstrate its use with integers, floats, and characters. [7]
- Q.6** (a) What is a virtual base class in C++? Explain its role in resolving the diamond problem with an example involving classes A, B, C, and D, where D inherits from both B and C, and B and C inherit from A. [7]
- (b) Explain single and multiple inheritance in C++ with suitable examples. Write a program to demonstrate both types of inheritance. Also, discuss how ambiguity is handled in multiple inheritance. [7]
- Q.7** (a) Write a C++ program to demonstrate the use of an abstract class with a pure virtual function. Explain how this supports runtime polymorphism. [7]
- (b) What is a void pointer in C++? Explain its use with an example. Also, demonstrate how a void pointer can be typecast to access different data types. [7]
- Q.8** (a) Write a C++ program to demonstrate a pointer to a class and a pointer to an object. Create a class Student and use a pointer to access its member functions. Explain the concept of dynamic object access using pointers. [7]
- (b) Explain how arrays and pointers are related in C++. Write a program to process an array using pointers (e.g., calculate the sum of elements). Discuss pointer arithmetic with arrays. [7]
- Q.9** (a) What is exception handling in C++? Explain the purpose and working of the try, throw, and catch keywords with proper syntax. Also, briefly explain the concept of stack unwinding in the context of exceptions. [7]
- (b) Write a program to handle division by zero using exception handling. Also, describe how control is transferred during an exception. [7]

