



Maratha Vidya Prasarak Samaj's

Rajarshi Shahu Maharaj Polytechnic, Nashik

Udoji Maratha Boarding Campus, Near Pumping Station, Gangapur Road, Nashik-13.

Affiliated to MSBTE Mumbai, Approved by AICTE New Delhi, DTE Mumbai & Govt. of Maharashtra, Mumbai.

*Subject :- Object Oriented Programming
(22316)*



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SYLLABUS

Chapter No.	Name of chapter	Marks With Option
1	Principle of Object Oriented programming	24
2	Classes and Object	30
3	Extending classes using inheritance	28
4	Pointers and polymorphism in C++	10
5	File operations	14
Total Marks: -		106



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BOARD THEORY PAPER PATTERN
FOR OOP(22316)

Q.1	Attempt any FIVE	5*2=10
	a) Principle of Object Oriented programming	
	b) Classes and Object	
	c) Principle of Object Oriented programming	
	d) Classes and Object	
	e) File operations	
	f) Classes and Object	
	g) Extending classes using inheritance	
Q.2	Attempt any THREE	3*4=14
	a) Principle of Object Oriented programming	
	b) Extending classes using inheritance	
	c) Classes and Object	
	d) Pointers and polymorphism in C++	
Q.3	Attempt any THREE	3*4=12
	a) Classes and Object	
	b) Principle of Object Oriented programming	
	c) Extending classes using inheritance	
	d) Classes and Object	
Q.4	Attempt any TWO	2*6=12
	a) Extending classes using inheritance	
	b) Principle of Object Oriented programming	
	c) Classes and Object	
	d) File operations	



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RSM POLY

Q.5		Attempt any TWO	2*6=12
	a)	Pointers and polymorphism in C++	
	b)	File operations	
	c)	Classes and Object	
Q.6		Attempt any TWO	2*6=12
	a)	Principle of Object-Oriented programming	
	b)	Extending classes using inheritance	
	c)	Extending classes using inheritance	



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CLASS TEST - I

PAPER PATTERN

COURSE: - Object Oriented programming (22316)

PROGRAMME: - Information Technology

Syllabus: -

Unit No.	Name of the Unit	Course Outcome (CO)
1	Principle of Object Oriented programming	Co-316-1
2	Classes and Object	Co-316-2
3	Extending classes using inheritance	Co-316-3

Q.1	Attempt any FOUR	4*2=8Marks	Course Outcome (CO)
a)	Principle of Object Oriented programming		CO-316.1
b)	Principle of Object Oriented programming		CO-316.1
c)	Classes and Object		CO-316.2
d)	Classes and Object		CO-316.2
e)	Extending classes using inheritance		CO-316.3
f)	Classes and Object		CO-316.2
Q.2	Attempt any TWO	2*6=12Marks	
a)	Principle of Object Oriented programming		CO-316.1
b)	Extending classes using inheritance		CO-316.3
c)	Classes and Object		CO-316.2



CLASS TEST- II

PAPER PATTERN

COURSE: - Object Oriented programming (22316)

PROGRAMME: - Information Technology

Syllabus: -

Unit No.	Name of the Unit	Course Outcome (CO)
3	Extending classes using inheritance	Co-316-3
4	Pointers and polymorphism in C++	Co-316-4
5	File operations	Co-316-5

Q.1	Attempt any FOUR	4*2=8Marks	Course Outcome (CO)
a)	Extending classes using inheritance		(CO-316.3)
b)	Pointers and polymorphism in C++		(CO-316.4)
c)	Pointers and polymorphism in C++		(CO-316.4)
d)	Extending classes using inheritance		(CO-316.3)
e)	File operations		(CO-316.5)
f)	File operations		(CO-316.5)
Q.2	Attempt any TWO	2*6=12Marks	
a)	Extending classes using inheritance		(CO-316.3)
b)	Pointers and polymorphism in C++		(CO-316.4)
c)	Pointers and polymorphism in C++		(CO-316.4)
d)	File operations		(CO-316.5)



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COURSE OUTCOME

(CO)

COURSE: Object Oriented Programming (22316)

PROGRAMME: - Information Technology

CO.NO	Course Outcome
316.01	Develop C++ program to solve problem using Procedure Oriented Approach.
316.02	Develop C++program using classes and objects.
316.03	Implement Inheritance in C++ program.
316.04	Use Polymorphism in C++ program.
316.05	Develop C++ program to perform file operations.



1. Principal of Object Oriented programming

Position in Question Paper

Total Marks=14

- Q.1. a) 2-Marks.
 - Q.1. c) 2-Marks.
 - Q.2. a) 4-Marks.
 - Q.3. b) 4-Marks.
 - Q.4. b) 4-Marks.
 - Q.6. a) 6-Marks.
-

Descriptive Question

1. Explain Need of OOP.
2. List any four Object Oriented languages
3. Write any four features of object oriented programming.
4. Differentiate between OOP& POP.
5. Explain the structure of C++program with suitable example.
6. Explain different operator used in C++.
7. Describe syntax of „cin,,&„cout” with example.
8. Explain the Scope resolution operator.
9. What is function? What is calling by value? What is call by reference? What is difference between them?
10. Give syntax and example of defining structure and declaring structure variables.
11. Write a C++ program to find whether the entered number is even or odd.
12. Write a C++ program to declare a structure employee with member as empid and empname. Accept and display data for one employee using structure variable
13. Define a structure with its syntax.
14. Write a program to display largest element from entered array.
15. Write a program to swap two integer values by using call by reference.
16. Write a program to find whether a string is palindrome or not.
17. Write a C++ program to accept array of five elements, find and display smallest number from an array.



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18. Write a C++ program to print multiplication table of 7. (Example
 $7*1=7$ $7*10=70$)
19. Write a program to find whether the entered number is even or odd
20. Write a C++ program to declare a structure employee with member as empid and empname. Accept and display data for one employee using structure variable.



MCQ Question

(Total number of Question=Marks*3=14*3=42)

Note: Correct answer is marked with **bold**.

1. Find the is not type of class?
a) Abstract Class
c) Start Class
b) Final Class
d) String Class
2. Class is pass by _____
a) Value
c) Value or Reference, depending on program
b) Reference
d) Copy
3. What is default access specifier for data members or member functions declared within a class without any specifier, in C++?
a) Private
c) Public
b) Protected
d) Depends on compiler
4. Find comment on following class definition?

```
class Student  
{  
    int a;  
    public : float a;  
};
```

- a) **Error: same variable name can't be used twice**
b) Error: Public must come first
c) Error: data types are different for same variable
d) It is correct
5. Find out generic class?
a) Abstract class
c) Template class
b) Final class
d) Efficient Code
6. Size of a class is _____
a) Sum of the size of all the variables declared inside the class
b) Sum of the size of all the variables along with inherited variables in the class
c) Size of the largest size of variable
d) Classes doesn't have any size
7. Find class can have member functions without their implementation?
a) Default class
c) Template class
b) String class
d) Abstract class



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8. Which of the following describes a friend class?
- a) **Friend class can access all the private members of the class, of which it is a friend**
 - b) Friend class can only access protected members of the class, of which it is a friend
 - c) Friend class don't have any implementation
 - d) Friend class can't access any data member of another class but can use it's methods
9. What is the scope of a class nested inside another class?
- a) Protected scope
 - b) Private scope
 - c) Global scope
 - d) **Depends on access specifier and inheritance used**
10. Class with main () function can be inherited.
- a) **correct**
 - b) incorrect
11. For a member function of a class, which among the following is false?
- a) All member functions must be defined
 - b) Member functions can be defined inside or outside the class body
 - c) **Member functions need not be declared inside the class definition**
 - d) Member functions can be made friend to another class using the friend keyword
12. syntax for class definition is wrong?
- a) `class student {};`
 - b) **`student class {};`**
 - c) `class student {public: student(int a) { } };`
 - d) `class student { student(int a) { } };`
13. following pairs are similar, which one is?
- a) Class and object
 - b) **Class and structure**
 - c) Structure and object
 - d) Structure and functions
14. false for class features Which among the following?
- a) Classes may/may not have both data members and member functions
 - b) **Class definition must be ended with a colon**
 - c) Class can have only member functions with no data members
 - d) Class is similar to union and structures
15. Instance of which type of class can't be created?
- a) Anonymous class
 - b) Nested class
 - c) Parent class
 - d) **Abstract class**
16. How many objects can be declared of a specific class in a single program?
- a) 32768
 - b) 127
 - c) 1
 - d) **As many as you want**



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17. among the following is false?
- a) Object must be created before using members of a class
 - b) Memory for an object is allocated only after its constructor is called
 - c) Objects can't be passed by reference**
 - d) Objects size depends on its class data members
18. Which of the following is incorrect?
- a) class student { } s;
 - c) class student { } s[];**
 - b) class student { }; student s;
 - d) class student { }; student s[5];
19. The object can't be _____
- a) Passed by reference
 - c) Passed by copy
 - b) Passed by value
 - d) Passed as function**
20. How members of an object are accessed?
- a) Using dot operator/period symbol**
 - b) Using scope resolution operator
 - c) Using member names directly
 - d) Using pointer only
21. following pairs are similar, which one is?
- a) Class and object
 - c) Structure and object
 - b) Class and structure**
 - d) Structure and functions
22. If a local class is defined in a function, which of the following is true for an object of that class?
- a) Object is accessible outside the function
 - b) Object can be declared inside any other function
 - c) Object can be used to call other class members
 - d) Object can be used/accessed/declared locally in that function**
23. Object declared in main() function _____
- a) Can be used by any other function
 - b) Can be used by main() function of any other program
 - c) Can't be used by any other function**
 - d) Can be accessed using scope resolution operator
24. When an object is returned _____
- a) A temporary object is created to return the value**
 - b) The same object used in function is a to return the value
 - c) The Object can be returned without creation of temporary object
 - d) Object are returned implicitly, we can't say how it happens inside program



25. Functions can't return objects.

a) True

b) False

26. What is size of the object of following class (64 bit system)?

```
class student { int rollno; char name[20]
```

a) 20

b) 22

c) 24

d) 28

27. Which of following is shared structure of a set of similar objects?

a) Encapsulation

b) A Class

c) Inheritance

d) None of Above

28. Which of following does not have a body

a) An Interface

b) A Class

c) An Abstract Method

d) none of above

29. In oops public, private & protected are.

a) Classes

b) Access Modifiers

c) Interfaces

d) Method signature

30. A private member of a class is visible to

a) every where

b) in sub class

c) members to same package

d) only members of same class

31. Which keyword is used to inherit a class or abstract class is

a) extends

b) extend

c) implement

d) Inherit

32. Which of the following is an abstract data type?

a) Double

b) String

c) Int

d) Class

33. Which of the following is not related to OOPS?

a) Class and Object

b) Constructor and Destructor

c) Structure and Union

d) Inheritance and Polymorphism

34. Constructor can return a value

a) True

b) False

35. OOPs is invented by _____

a) Andrea Ferro

b) Dennis Ritchie

c) Adele Goldberg

d) Alan Kay



36. Which of the following is correct for copy constructor?
- a) The argument object is passed by reference
 - b) It can be defined with zero arguments**
 - c) Used when an object is passed by value to a function
 - d) Used when a function returns an object
37. Which Feature of OOP encourages the code reusability?
- a) Polymorphism
 - b) Inheritance**
 - c) Abstraction
 - d) Encapsulation
38. Language doesn't support single level inheritance?
- a) C language**
 - b) Java
 - c) Kotlin
 - d) C++
39. Which of the following is not the member of class?
- a) Static function**
 - b) Friend function
 - c) Const function
 - d) Virtual function
40. The OOPs concept in C++, exposing only necessary information to users or clients is known as
- a) Data hiding
 - b) Encapsulation
 - c) Hiding complexity
 - d) Abstraction**
41. C++ was originally developed by
- a) Sir Richard Hadlee
 - b) Clocksin and Mellish
 - c) Donald E. Knuth
 - d) Bjarne Stroustrup**
42. At what point of time a variable comes into existence in memory is determined by its
- a) Data type
 - b) Storage class**
 - c) Scope
 - d) All of the above
43. Can main () function be made private?
- a) Yes, always
 - b) Yes, if program doesn't contain any classes
 - c) No, because main function is user defined
 - d) No, never**
44. How many loops are there in C++?
- a) 2**
 - b) 3
 - c) 4
 - d) 5
45. If private member functions are to be declared in C++ then _____
- a) private (private member list)
 - b) private
 - c) private:**
 - d) private: -



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46. The order in which operands are evaluated in an expression is predictable if the operator is
- a) Addition
 - b) Modulus
 - c) Multiply
 - d) &&



2. Classes and Object

Position in Question Paper

Total Marks=18

- Q.1. b) 2-Marks.
- Q.1. d) 2-Marks.
- Q.1. f) 2-Marks.
- Q.2. c) 4-Marks.
- Q.3. a) 4-Marks.
- Q.3. d) 4-Marks.
- Q.4. c) 6-Marks.
- Q.5. c) 6-Marks.

Descriptive Question

1. Define class with its syntax.
2. Explain how memory is allocated to an object of a class with diagram.
3. State any two-access specifier with example.
4. How many ways can we define member function in class? Give its syntax.
5. Difference between Defining member function inside and outside class.
6. Compare structure and class.
7. Explain objects as function argument.
8. List characteristics of static data member and static member function.
9. What do you mean by inline function? Write its syntax and example.
10. Polymorphism is implemented using function overloading. Justify the statement.
11. How do we invoke a constructor.
12. Describe constructor with syntax and example?
13. Explain types of Constructor with example.
14. What is parameterized constructor? Explain the example.
15. Explain overloaded constructor in class with suitable example.
16. Explain multiple constructors in class with example.
17. Explain constructor with default argument.
18. What is copy constructor? Give the syntax and example for copy constructor.
19. What is destructor? Give its syntax. How many destructors can be defined in a single class?
20. Differentiate between constructor and destructor.



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21. Explain Friend function with example.
22. Why Friend function is required? Give four characteristic of friend function.
23. Write a program to calculate area of circle and rectangle using the concept of function overloading.
24. Write a C++ program to declare a class „circle“ with data members as radius and area. Declare a function get data to accept radius and put data to calculate and display area of circle.
25. Write a C++ program to declare a class addition with data members as x and y . Initialize value of x and y with constructor. Calculate addition and display it using function „display.“
26. Write a C++ program to swap two integer numbers and swap two float numbers using function overloading. (Hint : overload swap function)
27. Write a C++ program to find greatest number among two numbers from two different classes using friend function.
28. Write a C++ program to declare a class „Account“ with data members as accno, name and bal. Accept data for eight accounts and display details of accounts having balance less than 10,000.
29. Write a C++ program to find smallest number from two numbers using friend function. (Hint: use two classes).
30. Write a C++ program to declare a class student with members as roll no, name and department. Declare a parameterized constructor with default value for department as „CO“ to initialize members of object. Initialize and display data for two students.
31. Write a program to show object as function arguments.
32. Write a program to declare a class student having data member name, percentage write constructor to initialize these data member, Accept and display this data for one object.
33. Write a program to declare a class student having data member as hrs, minsecs. write constructor to assign values and destructor to destroy values. Accept & display data for one object.



MCQ Question

(Total number of Question=Marks*3=18*3=54)

Note: Correct answer is marked with **bold**.

1. What does a class in C++ holds?
 - a) data
 - b) both data & functions**
 - c) arrays
 - d) functions
2. How many specifiers are present in access specifiers in class?
 - a) 1
 - b) 2**
 - c) 3
 - d) 4
3. used to define the member of a class externally which one is?
 - a) :
 - b) ::**
 - c) #
 - d) !!\$
4. Which other keywords are also used to declare the class other than class?
 - a) struct
 - b) both struct or union**
 - c) object
 - d) union

```
#include <iostream>
using namespace std;
class rect
{
    int x, y;
public:
    void val (int, int);
    int area ()
    {
        return (x * y);
    }
};
void rect::val (int a, int b)
{
    x = a;
    y = b;
}
int main ()
{
    rect rect;
    rect.val (3, 4);
    cout << "rect area: " << rect.area();
    return 0;
}
```

5. What will be the output of the following C++ code?
 - a) rect area: 24
 - b) rect area: 12**
 - c) compile error because rect is as used as class name and variable name in line #20
 - d) rect area: 56
6. the following is a valid class declaration Which one is?
 - a) **class A { int x; };**
 - b) class B { }
 - c) public class A { }
 - d) object A { int x; };
7. The data members and functions of a class in C++ are by default _____
 - a) protected
 - b) private**
 - c) public
 - d) public & protected

8. Constructors are used to _____
- initialize the objects
 - construct the data members
 - both initialize the objects & construct the data members
 - delete the objects
9. When struct is used instead of the keyword class means, what will happen in the program?
- access is public by default
 - access is private by default
 - access is protected by default
 - access is denied
10. Which category of data type a class belongs to?
- Fundamental data type
 - Derived data type
 - User defined derived data type
 - Atomic data type
11. Find operator a pointer object of a class uses to access its data members and member functions?
- .
 - >
 - ::
 - :::
12. find the output of the following C++ code?

```
#include <iostream>
#include <string>
using namespace std;
class A
{
    int a;

public:
    int assign(int i) const {
        a = i;
    }
    int return_value() const {
        return a;
    }
};
int main(int argc, char const *argv[])
{
    A obj;
    obj.assign(5);
    cout<<obj.return_value();
}
```

- 5
 - 10
 - Error**
 - Segmentation fault
13. Find the correct syntax of accessing a static member of a Class?
- A.value
 - A::value**
 - A->value
 - A^value
14. How the objects are self-referenced in a member function of that class.
- Using a special keyword object
 - Using this pointer**
 - Using * with the name of that object
 - By passing self as a parameter in the member function

15. What does a mutable member of a class mean?
- A member that can never be changed
 - A member that can be updated only if it not a member of constant object
 - A member that can be updated even if it a member of constant object**
 - A member that is global throughout the class
16. What will be the output of the following C++ code?

```
#include <iostream>
using namespace std;
class A
{
public:
    int a;
    int b;
    A(int a, int b) : a(a), b(b) {}
    int sum() const { return a + b; }
};

int main(int argc, char const *argv[])
{
    A obj(1, 2);
    cout << obj.sum();
}
```

- 5**
 - Error
 - Segmentation fault
 - Undefined value
17. Pick the incorrect statement about inline functions in C++?
- They reduce function call overheads
 - These functions are inserted/substituted at the point of call
 - Saves overhead of a return call from a function
 - They are generally very large and complicated function**
18. Inline functions are avoided when _____
- function contains static variables
 - function have recursive calls
 - function have loops
 - all of the mentioned**
19. Pick the correct statement.
- Macros and inline functions are same thing
 - Macros looks like function calls but they are actually not**
 - Inline functions looks like function but they are not
 - Inline function are always large
20. What will be the output of the following C++ code?

```
#include <iostream>
using namespace std;
class S
{
public:
    int m;
    #define MAC(S::m)
};

int main(int argc, char const *argv[])
{
    cout << "Hello World";
    return 0;
}
```

- Hello World
- Error**
- Segmentation Fault
- Blank Space



21. What will be the output of the following C++ code?

```
#include <iostream>
#include <string>
using namespace std;
class A
{
    static int a;
public:
    void change(int i){
        a = i;
    }
    void value_of_a(){
        cout<<a;
    }
};

int A::a = 5;

int main(int argc, char const *argv[])
{
    A a1 = A();
    A a2 = A();
    A a3 = A();
    a1.change(10);
    a1.value_of_a();
    a2.value_of_a();
    a3.value_of_a();
    return 0;
}
```

- a) 1055
b) 555
c) **101010**
d) 51010

22. Which functions of a class are called inline functions?

- a) All the functions containing declared inside the class
b) **All functions defined inside or with the inline keyword**
c) All the functions accessing static members of the class
d) All the functions that are defined outside the class

23.keyword is used to define the user defined data types?

- a) def
b) union
c) **typedef**
d) type

24. Syntax of user-defined data types?

- a) **type def Existing Data Type Name by User**
b) type def Name by User Existing Data Type
c) def Name by User Existing Data Type
d) def Name by User Existing Data

25. How many types of user-defined data type are in C++?

- a) 1
b) 2
c) **3**
d) 4

26. Which of the following is not correct for virtual function in C++ ?

- a) **Virtual function can be static.**
b) Virtual function should be accessed using pointers
c) Virtual function is defined in base class
d) Must be declared in public section of class

27. How can we make a class abstract?

- a) By declaring it abstract using the static keyword
b) By declaring it abstract using the virtual keyword.
c) **By making at least one-member function as pure virtual function**
d) By making all member functions constant



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28. How many specifiers are present in access specifiers in class?
a) 2
b) 1
c) 4
d) 3
29. Which of these following members are not accessed by using direct member access operator?
a) Public
b) Private
c) Protected
d) **Both B & C**
30. Which other keywords are also used to declare the class other than class?
a) Struct
b) Union
c) Object
d) **Both struct & union**
31. Which of the following is true?
a) All objects of a class share all data members of class
b) **Objects of a class do not share non-static members. Every object has its own copy**
c) Objects of a class do not share codes of non-static methods, they have their own copy
d) None of these
32. Which of the following can be overloaded?
a) Object
b) Operators
c) **Both A & B**
d) None of the above
33. Which is also called as abstract class?
a) Virtual function
b) Derived class
c) **Pure virtual function**
d) None of the mentioned
34. What will be the output of the following program?

```
#include <iostream>
using namespace std;
class LFC
{
    static int x;
public:
    static void Set(int xx)
    {
        x = xx;
    }
    void Display()
    {
        cout << x ;
    }
};
int LFC::x = 0;
int main()
{
    LFC::Set(33);
    LFC::Display();
    return 0;
}
```

- a) The program will print the output 0.
b) The program will print the output 33.
c) The program will print the output Garbage.
d) **The program will report compile time error.**

35. What will be the output of the following program

```
Note:Includes all required header f
class course
{
    int x, y;
    public:
    course(int xx)
    {
        x = ++xx;
    }
    void Display()
    {
        cout<< --x << " ";
    }
};
int main()
{
    course obj(20);
    obj.Display();
    int *p = (int*)&obj ;
    *p = 5;
    obj.Display();
    return 0;
}
```

- a) **20 4**
- b) 21 4
- c) 20 5
- d) 21 5

36. Where does the object is created?

- a) **Class**
- b) Constructor
- c) Destructors
- d) Attributes

37. Which of the following is a valid class declaration?

- a) **Class A {int x ;};**
- b) Class B { }
- c) Public class A { }
- d) Object A {int x;};

38. Which of the following is not correct (in C++)?

- a) Class templates and function templates are instantiated in the same way
- b) Class templates differ from function templates in the way they are initiated
- c) Class template is initiated by defining an object using the template argument
- d) Class templates are generally used for storage classes.

39. Which of the following keywords is used to control access to a class member?

- a) Default
- b) Break
- c) **Protected**
- d) Asm

40. Which of the following statements is incorrect?

- a) Destructor of base class should always be static
- b) **Destructor of base class should always be virtual.**
- c) Destructor of base class should not be virtual.
- d) Destructor of base class should always be private.

41. What will be the output of the following C++ code?

```
#include <iostream>
using namespace std;
class rect
{
    int x, y;
public:
    void val (int, int);
    int area ()
    {
        return (x * y);
    }
};
void rect::val (int a, int b)
{
    x = a;
    y = b;
}
int main ()
{
    rect rect;
    rect.val (3, 4);
    cout << "rect area: " << rect.area();
    return 0;
}
```

- a) rect area: 24
- b) rect area: 12**
- c) compile error because rect is as used as class name and variable name in line #20
- d) rect area: 56

42. Find operator a pointer object of a class uses to access its data members and member functions?

- a) .
- b) ->
- c) :
- d) ::

43. find the output of the following C++ code?

- a) 5
- b) 10
- c) Error**
- d) Segmentation fault

44. Find the correct syntax of accessing a static member of a Class?

- a) A.value
- b) A::value**
- c) A->value
- d) A^value

45. How the objects are self-referenced in a member function of that class.

- a) Using a special keyword object
- b) Using this pointer**
- c) Using * with the name of that object
- d) By passing self as a parameter in the member function

46. What does a mutable member of a class mean?

- a) A member that can never be changed
- b) A member that can be updated only if it not a member of constant object
- c) A member that can be updated even if it a member of constant object**
- d) A member that is global throughout the class

47. What will be the output of the following C++ code?

```
#include <iostream>
#include <string>
using namespace std;
class A
{
    int m;
public:
    int test(int i) const {
        m = i;
    }
    int return_value() const {
        return m;
    }
};

int main(int argc, char const *argv[])
{
    A obj;
    obj.test(5);
    cout<<endl<<obj.return_value();
}
```

- a) 5
- b) Error
- c) Segmentation fault
- d) Undefined value

48. Pick the incorrect statement about inline functions in C++?

- a) They reduce function call overheads
- b) These functions are inserted/substituted at the point of call
- c) Saves overhead of a return call from a function
- d) They are generally very large and complicated function**

49. Inline functions are avoided when

- a) function contains static variables
- b) function have recursive calls
- c) function have loops
- d) all of the mentioned**

50. Pick the correct statement.

- a) Macros and inline functions are same thing
- b) Macros looks like function calls but they are actually not**
- c) Inline functions looks like function but they are not
- d) Inline function are always large

51. What will be the output of the following C++ code?

```
#include <iostream>
using namespace std;
class S
{
    int m;
public:
    #define MAC(S::m)
};

int main(int argc, char const *argv[])
{
    cout<<"Hello World";
    return 0;
}
```

- a) Hello World
- b) Error
- c) Segmentation Fault
- d) Blank Space

52. What will be the output of the following C++ code?

```
#include <iostream>
#include <string>
using namespace std;
class A
{
    static int a;
public:
    void change(int i){
        a = i;
    }
    void value_of_a(){
        cout<<a;
    }
};
int A::a = 5;
int main(int argc, char const *argv[])
{
    A a1 = A();
    A a2 = A();
    A a3 = A();
    a1.change(10);
    a1.value_of_a();
    a2.value_of_a();
    a3.value_of_a();
    return 0;
}
```

- a) 1055
 - b) 555
 - c) 101010
 - d) 51010
53. Which functions of a class are called inline functions?
- a) All the functions containing declared inside the class
 - b) All functions defined inside or with the inline keyword**
 - c) All the functions accessing static members of the class
 - d) All the functions that are defined outside the class
54.keyword is used to define the user defined data types?
- a) def
 - b) union
 - c) typedef
 - d) type
55. Syntax of user-defined data types?
- a) type def Existing Data Type Name By User**
 - b) type def Name By User Existing Data Type
 - c) def Name By User Existing Data Type
 - d) def Name By User Existing Data
56. How many specifiers are present in access specifiers in class?
- a) 2
 - b) 1
 - c) 4
 - d) 3**
57. Which of these following members are not accessed by using direct member access operator?
- a) Public
 - b) Private
 - c) Protected
 - d) Both B & C**
58. Which other keywords are also used to declare the class other than class?
- a) Struct
 - b) Union
 - d) Both struct& union**
59. Which of the following can be overloaded?
- a) Object
 - b) Operators
 - c) Both A & B**
 - d) None of the above

3. Extending classes using inheritance

Position in Question Paper

Total Marks=16

Q.1. g) 2-Marks.

Q.2. b) 4-Marks.

Q.3. c) 4-Marks.

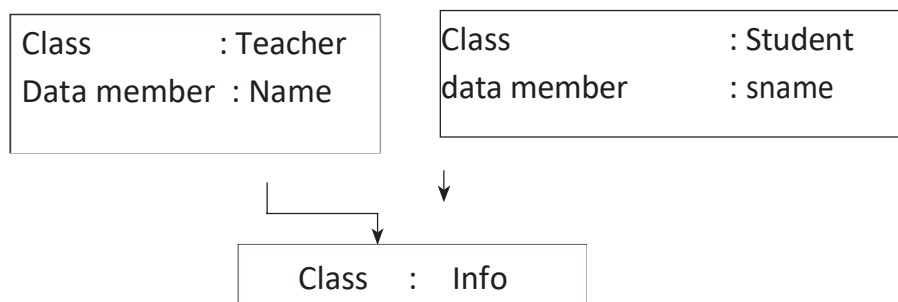
Q.4. a) 6-Marks.

Q.6. b) 6-Marks.

Q.6. c) 6-Marks.

Descriptive Question

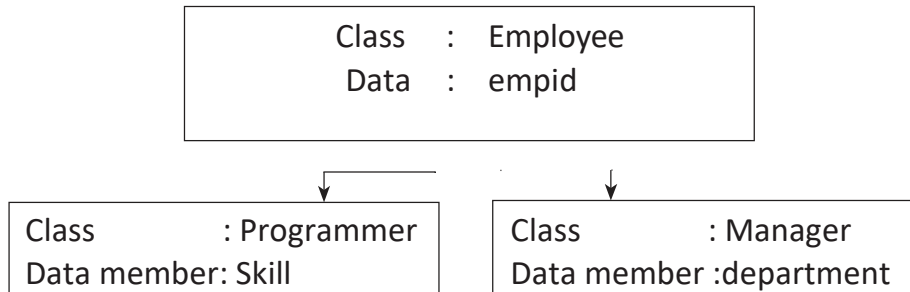
1. What is inheritance? Why inheritance used in C++.
2. What is base class? What is derived class? Give example.
3. State general format of defining derived class.
4. Write any two advantages of inheritance.
5. State different types of inheritance with diagram.
6. Explain single inheritance with diagram.
7. Explain function overriding with example.
8. Explain Multiple inheritance with example.
9. Explain virtual base class in inheritance with suitable diagram.
10. State different visibility modes used in inheritance.
11. Write a C++ program to declare a class „College “with data members as name and college code. Derive a new class,, student from the class college with data members as name and roll no. Accept and display details of one student with college data.
12. Write a C++ program to implement inheritance shown in following figure:





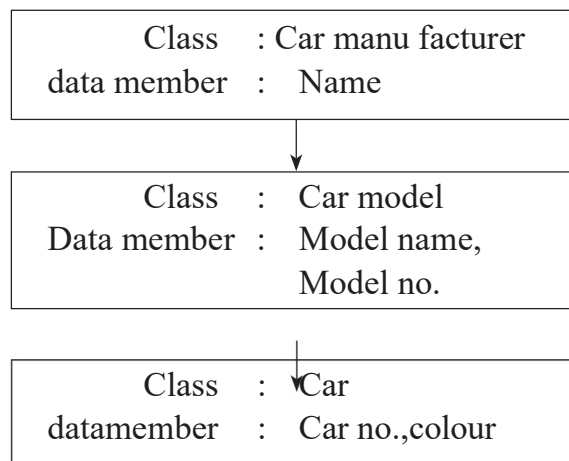
Accept and display data of one teacher and one student using object of class „Info“.

13. Write a C++ program to implement following inheritance.



Accept and display data for one programmer and one manager.

14. Write C++ program for following multi level inheritance.



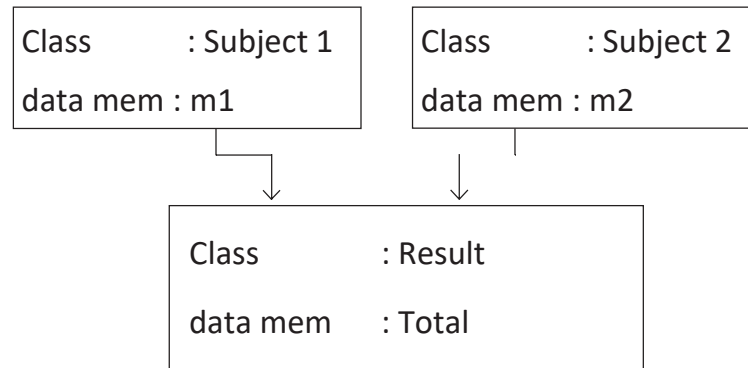
Accept and display data for one car with all details.



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15. Write a C++ program to declare a class COLLEGE with members as college code. Derive a new class as STUDENT with members as studid. Accept and display details of student along with college for one object of student.
16. What is hybrid inheritance? Give one example.
17. Write a program to implement multiple inheritance as shown in following



Accept and display data for one object of class result.



MCQ Question

(Total number of Question=Marks*3=16*3=48)

Note: Correct answer is marked with **bold**.

- among the following best describes the Inheritance?
 - Copying the code already written
 - Using the code already written once
 - Using already defined functions in programming language
 - Using the data and functions into derived segment**
- How many basic types of inheritance are provided as OOP feature?
 - 4
 - 3
 - 2
 - 1
- among the following best defines single level inheritance?
 - A class inheriting a derived class
 - A class inheriting a base class**
 - A class inheriting a nested class
 - A class which gets inherited by 2 classes
- programming language doesn't support multiple inheritance which one is?
 - C++ and Java
 - C and C++
 - Java and Smalltalk
 - Java**
- Find the correct syntax of inheritance?
 - class derived_classname : base_classname { /*define class body*/ };
 - class base_classname : derived_classname { /*define class body*/ };
 - class derived_classname : access base_classname { /*define class body*/ };**
 - class base_classname :access derived_classname { /*define class body*/ };
- among the following best defines the hybrid inheritance?
 - Combination of two or more inheritance types**
 - Combination of same type of inheritance
 - Inheritance of more than 7 classes
 - Inheritance involving all the types of inheritance

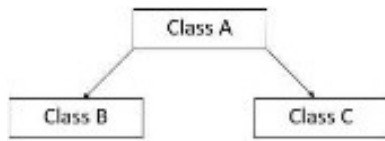


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7. Single inheritance is used with class A and B. A is base class. Then class C, D and E where C is base class and D is derived from C, then E is derived from D. Class C is made to inherit from class B. Which is the resultant type?
- a) Single level
b) **Multilevel**
c) Hybrid
d) Multiple
8. How many types of inheritance should be used for hybrid?
- a) Only 1
b) **At least 2**
c) At most two
d) Always more than 2
9. If _____ inheritance is done continuously, it is similar to tree structure.
- a) **Hierarchical**
b) Multiple
c) Multilevel
d) Hierarchical and Multiple
10. Amongst the following is true for hybrid inheritance?
- a) Constructor calls are in reverse
b) Constructor calls are priority based
c) Constructor of only derived class is called
d) **Constructor calls are usual**
11. The private members are made public to all the classes in inheritance.
- a) Correct
b) **Incorrect**
c) Both a and b
d) None of the above
12. If hierarchical inheritance requires to inherit more than one class to single class, which syntax is correct? (A, B, C are class names)
- a) hierarchical class A: public B, public C
b) multiple class A: public B, public C
c) many class A: public B, public C
d) **class A: public B, public C**
13. maximum number of classes allowed in hybrid inheritance?
- a) 7
b) 127
c) 255
d) **As many as required**
14. If hybrid inheritance is used, it mostly shows _____ feature of OOP.
- a) Flexibility
b) **Reusability**
c) Efficiency
d) Code readability

15. find out type of inheritance



- a) Hybrid
- c) Single

- b) Hierarchical**
- d) Multilevel

16. Base class _____

- a) Can be made abstract**
- b) Can't be made abstract
- c) Must be abstract
- d) If made abstract, compile time error

17. find classes, class uses hierarchical inheritance in following code?

```

class A
{
    int a;
};
class B: class A
{
    int b;
};
class C: class A, class B
{
    int c;
};
class D: class A
{
    int d;
};
  
```

- a) Class A, B, C
- c) Class A, C, D

- b) Class B, C, D
- d) Class D, A, B**

18. Hierarchical inheritance can be a subset of _____

- a) Hybrid inheritance**
- c) Single level inheritance
- b) Multiple inheritance
- d) Multilevel inheritance

19. class constructor is called first when an object of derived class is created?

- a) Base class constructor**
- b) Derived class constructor
- c) Firstly created derived class constructor
- d) Last created derived class

20. How can you make the private members inheritable?

- a) By making their visibility mode as public only
- b) By making their visibility mode as protected only
- c) By making their visibility mode as private in derived class
- d) It can be done both by making the visibility mode public or protected**



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21. How many types of inheritance can be used at a time in a single program?
- a) Any two types
 - b) Any three types
 - c) Any 4 types
 - d) Any type, any number of times**
22. If 6 classes use single level inheritance with pair classes (3 pairs), which inheritance will this be called?
- a) Single**
 - b) Multiple
 - c) Hierarchical
 - d) Multilevel
23. Among the following is false?
- a) If one class inherits the inherited class in single level inheritance, it is multi-level inheritance
 - b) Hybrid inheritance always contains multiple inheritance**
 - c) Hierarchical inheritance involves inheriting same class into more than one classes
 - d) Hybrid inheritance can involve any types of inheritance together
24. If class A has two nested classes B and C. Class D has one nested class E, and have inherited class A. If E inherits B and C, then _____
- a) It shows multiple inheritance
 - b) It shows hierarchical inheritance
 - c) It shows multiple inheritance
 - d) Multiple inheritance among nested classes, and single level for enclosing classes**
25. How many classes can be inherited by a single class in multiple inheritance (C++)?
- a) Only 2
 - b) Only 27
 - c) Only 1024
 - d) Any number of classes can be inherited**
26. What is meant by multiple inheritance?
- a) Deriving a base class from derived class
 - b) Deriving a derived class from base class
 - c) Deriving a derived class from more than one base class**
 - d) None of the mentioned
27. What will be the order of execution of base class constructors in the following method of inheritance. Class a: public b, public c {...};
- a) b (); c (); a();**
 - b) c (); b (); a ();
 - c) a (); b (); c();
 - d) b (); a (); c ();



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28. Inheritance allow in C++ Program?
- a) Class Re-usability
 - b) Creating a hierarchy of classes
 - c) Extendibility
 - d) **All of the above**
29. Can we pass parameters to base class constructor though derived class or derived class constructor?
- a) **Yes**
 - b) No
 - c) May Be
 - d) Can't Say
30. What are the things are inherited from the base class?
- a) Constructor and its destructor
 - b) Operator=() members
 - c) Friends
 - d) **All of the above**
31. among the following best defines single level inheritance?
- a) A class inheriting a derived class
 - b) **A class inheriting a base class**
 - c) A class inheriting a nested class
 - d) A class which gets inherited by 2 classes
32. programming language doesn't support multiple inheritance which one is?
- a) C++ and Java
 - b) C and C++
 - c) Java and Smalltalk
 - d) **Java**
33. Find the correct syntax of inheritance?
- a) class derived_classname : base_classname { /*define class body*/ };
 - b) class base_classname : derived_classname { /*define class body*/ };
 - c) **class derived_classname : access base_classname { /*define class body*/ };**
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 - b) By making their visibility mode as protected only
 - c) By making their visibility mode as private in derived class
 - d) **It can be done both by making the visibility mode public or protected**
42. How many types of inheritance can be used at a time in a single program?
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 - b) Any three types
 - c) Any 4 types
 - d) **Any type, any number of times**
43. If 6 classes use single level inheritance with pair classes (3 pairs), which inheritance will this be called?
- a) **Single**
 - b) Multiple
 - c) Hierarchical
 - d) Multilevel
44. amongst the following is false?
- a) If one class inherits the inherited class in single level inheritance, it is multi-level inheritance
 - b) **Hybrid inheritance always contains multiple inheritance**
 - c) Hierarchical inheritance involves inheriting same class into more than one classes
 - d) Hybrid inheritance can involve any types of inheritance together



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45. If class A has two nested classes B and C. Class D has one nested class E, and have inherited class A. If E inherits B and C, then _____

- a) It shows multiple inheritance
- b) It shows hierarchical inheritance
- c) It shows multiple inheritance
- d) Multiple inheritance among nested classes, and single level for enclosing classes**

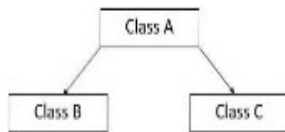
46. How many classes can be inherited by a single class in multiple inheritance (C++)?

- a) Only 2
- b) Only 27
- c) Only 102
- d) Any number of classes can be inherited**

47. If hybrid inheritance is used, it mostly shows _____ feature of OOP.

- a) Flexibility
- b) **Reusability**
- c) Efficiency
- d) Code readability

48. find out type of inheritance



- a) Hybrid
- b) **Hierarchical**
- c) Single
- d) Multilevel

49. Base class _____

- a) Can be made abstract**
- b) Can't be made abstract
- c) Must be abstract
- d) If made abstract, compile time error

50. find classes, class uses hierarchical inheritance in following code?

```
class A
{
    int a;
};
class B: class A
{
    int b;
};
class C: class A, class B
{
    int c;
};
class D: class A
{
    int d;
};
```

- a) Class A, B, C
- b) Class B, C, D
- c) Class A, C, D
- d) Class D, A, B**



4. Pointers and polymorphism in C++

Position in Question Paper

Total Marks=14

Q.1. a) 2-Marks.

Q.2. d) 4-Marks.

Q.5. a) 6-Marks.

Q.6. d) 6-Marks.

Descriptive Question

1. Define pointer variable. Give its syntax.
2. What is advantages of using pointer.
3. How address of (&) operator is used in pointer, explain with example.
4. Give significance of „&“and„*“operator.
5. Explain pointer arithmetic with example.
6. What is pointer to array? Explain with example.
7. Explain memory management operator.
8. How pointer is assigned to object? Explain with simple example.
9. Explain „this“ pointer.
10. Explain the derived class access by pointer.
11. Explain Virtual Function with example.
12. What is need of virtual function? Explains with example.
13. Explain „pure“ Virtual function.
14. Explain Abstract class with example.
15. Define polymorphism. list types of polymorphism.
16. What is static polymorphism.
17. Compare Compile time polymorphism and Runtime polymorphism.
18. Explain rules for operator overloading.
19. Write a program to find reverse of a string using pointer to string. Q20. Write a program to overloaded binary ++ operator.
21. Write a program to overloaded – operator to negate value of variable.
22. Write a program to copy the content of one string to another string using pointer to string.
23. Write a program to declare a class Account having data member as acc_no and balance. Accept and display data for five object using pointer to array of object.
24. Write a program which concate and reverse string by using pointer to string. Q25. Write a



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- program for overloaded of ++ unary operator for inch of feet conversion. 12 inches = 1 feet
26. Write a program to copy content of one string to another string using pointer to string.
 27. Write a program to search a number from an array using pointer to array.
 28. Implement a program to declare a class city with data member city name and state. Accept and display data for 1 object using pointer to object.
 29. Write a program to search a number from an array using pointer to array.
 30. Write a program to find length of a string using pointer to string.
 31. Write a C++ program to overload binary operator „+“ to concatenate two strings.

MCQ Question

(Total number of Question=Marks*3=14*3=42)

Note: Correct answer is marked with **bold**.

1. If same message is passed to objects of several different classes and all of those can respond in a different way, what is this feature called?

```
abstract class student
{
    public : int marks;
    calc_grade();
}
class topper:public student
{
    public : calc_grade()
    {
        return 10;
    }
};
class average:public student
{
    public : calc_grade()
    {
        return 20;
    }
};
class failed{ int marks; };
```

- a) Inheritance
b) Overloading
c) **Polymorphism**
d) Overriding
2. In the following code class/set of classes can illustrate polymorphism?
a) Only class student can show polymorphism
b) Only class student and topper together can show polymorphism
c) **All class student, topper and average together can show polymorphism**
d) Class failed should also inherit class student for this code to work for Polymorphism
3. In case of using abstract class or function overloading, which function is supposed to be called first?
a) Local function
b) Function with highest priority in compiler
c) **Global function**
d) Function with lowest priority because it might have been halted since long time, because of low priority



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4. In the following options, can't be used for polymorphism?
- a) **Static member functions**
 - b) Member functions overloading
 - c) Predefined operator overloading
 - d) Constructor overloading
5. among the following can show polymorphism?
- a) Overloading||
 - b) Overloading+=
 - c) **Overloading<<**
 - d) Overloading &&
6. Pointer is possible in C language.
- a) **correct**
 - b) in correct
 - c) with
 - d) none of the above
7. if we use abstract class functions for polymorphism, what problem may arise?
- a) All classes are converted as abstract class
 - b) Derived class must be of abstract type
 - c) **All the derived classes must implement the undefined functions**
 - d) Derived classes can't redefine the function
8. the following statement, which is not true for polymorphism?
- a) It is feature of OOP
 - b) Ease in readability of program
 - c) Helps in redefining the same functionality
 - d) **Increases overhead of function definition always**
9. If 2 classes derive one base class and redefine a function of base class, also overload some operators inside class body. Among these two things of function and operator overloading, where is polymorphism used?
- a) Function overloading only
 - b) Operator overloading only
 - c) Both of these are using polymorphism
 - d) **Either function overloading or operator overloading because polymorphism can be applied only once in a program**
10. The operator used for dereferencing or indirection is _____
- a) *
 - b) &
 - c) ->
 - d) -->>
11. In the following C++ code snippet, what will be output?

```
Int a =100 int b = 100;
```

```
Int *p=&a,*q=&;
```

```
P=q;
```

- a) b is assigned to a
- b) **p now points to b**
- c) a is assigned to b
- d) q now points to a



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12. Find output of the following C++ code

```
#include <iostream>
using namespace std;
int main()
{
    int a = 5, b = 10, c = 15;
    int *arr[ ] = {&a, &b, &c};
    cout << arr[1];
    return 0;
}
```

- a) 5
 - b) 10
 - c) 15
 - d) it will return some random number**
13. Pointer can be initialized with
- a) Null
 - b) Zero
 - c) Address of an object of same type
 - d). All of the above**
14. Pointers can be declared with _____ .
- a) Auto
 - b) void**
 - c) asm
 - d) None of the above
15. Among the following best describes polymorphism?
- a) It is the ability for a message/data to be processed in more than one form**
 - b) It is the ability for a message/data to be processed in only 1 form
 - c) It is the ability for many messages/data to be processed in one way
 - d) It is the ability for undefined message/data to be processed in at least one way
16. What do you call the languages that support classes but not polymorphism?
- a) Class based language
 - b) Procedure Oriented language
 - c) Object-based language**
 - d) If classes are supported, polymorphism will always be supported
17. Which type of function among the following shows polymorphism?
- a) Inline function
 - b) Virtual function**
 - c) Undefined functions
 - d) Class member functions
18. In case of using abstract class or function overloading, which function is supposed to be called first?
- a) Local function
 - b) Function with highest priority in compiler**
 - d) Function with lowest priority because it might have been halted since long time,



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because of low priority

19. among the following can't be used for polymorphism?
- a) **Static member functions**
 - b) Member functions overloading
 - c) Predefined operator overloading
 - d) Constructor overloading
20. problem may arise if we use abstract class functions for polymorphism?
- a) All classes are converted as abstract class
 - b) Derived class must be of abstract type
 - c) **All the derived classes must implement the undefined functions**
 - d) Derived classes can't redefine the function
21. What is the index number of the last element of an array with 9 elements?
- a) 9
 - b) **8**
 - c) 0
 - d) Programmer-defined
22. The correct statement for a function that takes pointer to a float, a pointer to a pointer to a char and returns a pointer to a pointer to a integer is _____
- a) `int **fun(float**, char**)`
 - b) `int *fun(float*, char*)`
 - c) **`int **fun(float*, char**)`**
 - d) `int ***fun(*float, **char)`
23. What will be the output of the following C++ code?

```
#include <iostream>
using namespace std;
int main()
{
    char arr[20];
    int i;
    for(i = 0; i < 10; i++)
        *(arr + i) = 65 + i;
    *(arr + i) = '\0';
    cout << arr;
    return(0);
}
```

- a) **ABCDEFGHIJ**
 - b) AAAAAAAAAA
 - c) JJJJJJJ
 - d) AAAAAAJJJ
24. What will be the output of the following C++ code?

```
#include <iostream>
using namespace std;
int main()
{
    char *ptr;
    char Str[] = "abcdefg";
    ptr = Str;
    ptr += 5;
    cout << ptr;
    return 0;
}
```

- a) **fg**
- b) cdef
- c) defg
- d) a



25. Choose the right option.

String * x,y;

- a) x is a pointer to a string, y is a string
- b) y is a pointer to a a, x is a a
- c) both x and y are pointers to string types
- d) y is a pointer to a string

26. If same message is passed to objects of several different classes and all of those can respond in a different way, what is this feature called?

- a) Inheritance
- b) Overloading
- c) **Polymorphism**
- d) Overriding

27. in the following code class/set of classes can illustrate polymorphism?

```
abstract class student
{
    public : int marks;
    calc_grade();
}
class topper:public student
{
    public : calc_grade()
    {
        return 10;
    }
};
class average:public student
{
    public : calc_grade()
    {
        return 20;
    }
};
class failed{ int marks; };
```

- a) Only class student can show polymorphism
- b) Only class student and topper together can show polymorphism
- c) **All class student, topper and average together can show polymorphism**
- d) Class failed should also inherit class student for this code to work for polymorphism

28. In case of using abstract class or function overloading, which function is supposed to be called first?

- a) Local function
- b) Function with highest priority in compiler
- c) **Global function**
- d) Function with lowest priority because it might have been halted since long time, because of low priority

29. In the following options, can't be used for polymorphism?

- a) **Static member functions**
- b) Member functions overloading
- c) Predefined operator overloading
- d) Constructor overloading

30. among the following can show polymorphism?

- a) Overloading||
- b) Overloading+=
- c) **Overloading<<**
- d) Overloading &&



31. Pointer is possible in C language.
- a) correct
 - b) in correct
 - c) with
 - d) nond of the above
32. if we use abstract class functions for polymorphism, what problem may arise?
- a) All classes are converted as abstract class
 - b) Derived class must be of abstract type
 - c) **All the derived classes must implement the undefined functions**
 - d) Derived classes can't redefine the function
33. the following statement, which is not true for polymorphism?
- a) It is feature of OOP
 - b) Ease in readability of program
 - c) Helps in redefining the same functionality
 - d) **Increases overhead of function definition always**
34. If 2 classes derive one base class and redefine a function of base class, also overload some operators inside class body. Among these two things of function and operator overloading, where is polymorphism used?
- a) Function overloading only
 - b) Operator overloading only
 - c) Both of these are using polymorphism
 - d) **Either function overloading or operator overloading because polymorphism can be applied only once in a program**
35. The operator used for dereferencing or indirection is _____
- a) *
 - b) &
 - c) ->
 - d) -->>
36. In case of using abstract class or function overloading, which function is supposed to be called first?
- a) Local function
 - b) **Function with highest priority in compiler**
 - c) Global function
 - d) Function with lowest priority because it might have been halted since long time, because of low priority
- 37..... among the following can't be used for polymorphism?
- a) **Static member functions**
 - b) Member functions overloading
 - c) Predefined operator overloading
 - d) Constructor overloading



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- 38..... problem may arise if we use abstract class functions for polymorphism?
- a) All classes are converted as abstract class
 - b) Derived class must be of abstract type
 - c) **All the derived classes must implement the undefined functions**
 - d) Derived classes can't redefine the function
39. What is the index number of the last element of an array with 9 elements?
- a) 9
 - b) **8**
 - c) 0
 - d) Programmer-defined
- 40 .The correct statement for a function that takes pointer to a float, pointer to a pointer to a char and returns a pointer to a pointer to a integer is _____
- a) `int **fun(float**, char**)`
 - b) `int *fun(float*, char*)`
 - c) **`int **fun(float*, char**)`**
 - d) `int ***fun(*float, **char)`
41. What will be the output of the following C++ code?

```
#include <iostream>
using namespace std;
int main()
{
    char arr[20];
    int i;
    for(i = 0; i < 10; i++)
        *(arr + i) = 65 + i;
    *(arr + i) = '\0';
    cout << arr;
    return(0);
}
```

- a) **ABCDEFGHIJ**
- b) AAAAAAAAAA
- c) JJJJJJJ
- d) AAAAAAJJJ

42. What will be the output of the following C++ code?

```
#include <iostream>
using namespace std;
int main()
{
    char *ptr;
    char Str[] = "abcdefg";
    ptr = Str;
    ptr += 5;
    cout << ptr;
    return 0;
}
```

- a) **fg**
- b) cdef
- c) defg
- d) a

43. Choose the right option.

String * x,y;

- a) **x is a pointer to a string, y is a string**
- b) y is a pointer to a a, x is a a
- c) both x and y are pointers to string types
- d) y is a pointer to a string



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44. What do you call the languages that support classes but not polymorphism?
- a) Class based language
 - b) Procedure Oriented language
 - c) Object-based language**
 - d) If classes are supported, polymorphism will always be supported
45. Which type of function among the following shows polymorphism?
- a) Inline function
 - b) Virtual function**
 - c) Undefined functions
 - d) Class member functions



5. File Operations

Position in Question Paper

Total Marks=08

Q.1. e) 2-Marks.

Q.4. d) 6-Marks.

Q.5. b) 6-Marks.

Descriptive Question

1. Describe meaning of following:

(i) ios : :in

(ii) ios : :out

2. Give the syntax and use of with respect to

(i) get ()

(ii) put ()

3. Explain the any two file stream classes needed for the file manipulation.

4. What are stream extraction and stream insertion operators?

5. Explain the function used to read and write data in binary file.

6. List file mode operation.

7. Explain the namespace in C++, with their syntax and Rule with example.

8. Write a C++ program to count number of spaces present in contents of file.

9. Write a C++ program to write "Welcome to poly" in a file .Then read the data from file and display it on screen

9. What will be the output of the following C++ code?

```
#include <iostream>
#include <fstream>
using namespace std;
int main ()
{
    int length;
    char * buffer;
    ifstream is;
    is.open ("sample.txt", ios :: binary );
    is.seekg (0, ios :: end);
    length = is.tellg();
    is.seekg (0, ios :: beg);
    buffer = new char [length];
    is.read (buffer, length);
    is.close();
    cout.write (buffer, length);
    delete[] buffer;
    return 0;
}
```

- a) This is sample
- b) sample
- c) Error
- d) Runtime error

10. What will be the output of the following C++ code?

```
#include <iostream>
using namespace std;
int main ()
{
    char first, second;
    cout << "Enter a word: ";
    first = cin.get();
    cin.sync();
    second = cin.get();
    cout << first << endl;
    cout << second << endl;
    return 0;
}
```

- a) first
- b) second
- c) returns first 2 letter or number from the entered word
- d) third

11. What will be the output of the following C++ code?

```
#include <iostream>
using namespace std;
int main ()
{
    int a = 100;
    double b = 3.14;
    cout << a;
    cout << endl;
    cout << b << endl << a * b;
    endl (cout);
    return 0;
}
```

- a) 100
- b) 3.14
- c) 314
- d) All of the mentioned



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12.member function is used to determine whether the stream object is currently associated with a file?
- a) **is open**
 - b) buf
 - c) string
 - d) is out
13. header file is used for reading and writing to a file?
- a) **#include<iostream>**
 - b) #include<fstream>
 - c) #include<file>
 - d) #include<fe>
14. How many objects are used for input and output to a string?
- a) 1
 - b) 2
 - c) **3**
 - d) 4
15. Which is correct syntax ?
- a) my:open ("example.bin", ios::out);
 - b) **myfile.open ("example.bin", ios::out);**
 - c) myfile::open ("example.bin", ios::out);
 - d) myfile.open ("example.bin", ios:out);
16.is used to get the input during runtime?
- a) cout
 - b) **cin**
 - c) coi
 - d) None of the mentioned
17. How many parameters are there in get line function?
- a) 1
 - b) 2
 - c) **3**
 - d) 4
18. When will the cin can start processing of input?
- a) **After pressing return key**
 - b) BY pressing blank space
 - c) Both a & b
 - d) None of the mentioned
19.is meant by of stream in c++?
- a) **Writes to a file**
 - b) Reads from a file
 - c) Both a & b
 - d) None of the mentioned
20. What must be specified when we construct an object of class ostream?
- a) stream
 - b) **streambuf**
 - c) memory
 - d) None of the mentioned
21. How does the strings are stored in the memory?
- a) **Contiguous**
 - b) Non-contiguous
 - c) Null
 - d) All of the mentioned



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22. Which one of the following is correct syntax for opening a file.
- a) **FILE *fopen (const *filename, const char *mode)**
 - b) FILE *fopen (const *filename)
 - c) FILE *open (const *filename, const char *mode)
 - d) FILE open (const*filename)
23. If the mode includes b after the initial letter, what does it indicate?
- a) text file
 - b) big text file
 - c) **binary file**
 - d) blueprint text
24. What does tmp file () returns when it could not create the file?
- a) stream and NULL
 - b) only stream
 - c) **only NULL**
 - d) does not return anything
25. _____ removes the named file, so that a subsequent attempt to open it will fail.
- a) **remove (const *filename)**
 - b) remove(filename)
 - c) remove()
 - d) fclose (filename)