

Pre-Board Examination, 2018

BIT, First Year, Second Semester

Subject : **Introduction to C++ programming**

Set : A

Full Marks : 100

Pass Marks : 40

Time : 3 hrs

Group A (Multiple Choice Questions)

Select the correct answers:

[30x1=30]

- Which of the following term is used for a function defined inside a class?
(a) Member Variable **(b) Member function** (c) Class function (d) Classic function
- Which of the following concept of oops allows compiler to insert arguments in a function call if it is not specified?
(a) Call by value (b) Call by reference **(c) Default arguments** (d) Call by pointer
- Why reference is not same as a pointer?
(a) A reference can never be null.
(b) A reference once established cannot be changed.
(c) Reference doesn't need an explicit dereferencing mechanism.
(d) All of the above.
- Local Variables can be access ?
(a) Code block enclosed in braces { }.
(b) Code block enclosed in bracket ().
(c) Code block enclosed in square bracket [].
(d) None of the above
- `cout` is a/an _____.
(a) operator (b) function **(c) object** (d) macro
- How many types of polymorphisms are supported by C++?
(a) 1 **(b) 2** (c) 3 (d) 4
- Which of the following approach is adapted by C++?
(a) Top-down **(b) Bottom-up** (c) Right-left (d) Left-right
- Which of the following is correct about function overloading?
(a) The types of arguments are different.
(b) The order of argument is different.
(c) The number of argument is same.
(d) Both A and B.
- Which of the following operator is overloaded for object `cout`?
(a) `>>` **(b) <<** (c) `+` (d) `=`
- Which of the following is the correct class of the object `cout`?
(a) `iostream` **(b) istream** **(c) ostream** (d) `ifstream`
- Which of the following operator cannot be overloaded ?
(a) `=` (b) `==` (c) `+` **(d) ::**
- Which of the following operator can be overloaded ?
(a) `.` **(b) &** (c) `sizeof` (d) `?`
- A constructor is called whenever
(a) an object is declared
(b) an object is used
(c) a class is declared

- (d) a class is used
14. Overload function in C++
 (a) **means to have many functions with the same name**
 (b) means to have many functions with same number and type of arguments
 (c) means to have functions with different names
 (d) All of the above
15. Operator overloading is
 (a) making C++ operators work with objects
 (b) giving new meaning to existing C++ operators
 (c) making new C++ operator
 (d) **both a and b**
16. The differences between constructors and destructor are
 (a) constructors can take arguments but destructor can't
 (b) constructors can be overloaded but destructors can't be overloaded
 (c) **both a and b**
 (d) None of these
17. A destructor takes..... argument/arguments.
 (a) 1 (b) 2 (c) 3 (d) **0**
18. The fields in a class of a C++ program are by default
 (a) protected (b) public (c) **private** (d) None of these
19. Which function is used to position back from the end of the file object?
 (a) seekp() (b) **seekg()** (c) both seekg & seekp (d) none of these
20. To overload an operator keyword must be used along with the operator to be overloaded.
 (a) over (b) overload (c) void (d) **operator**
21. Which of the following is not a type of constructor ?
 (a) default constructor
 (b) copy constructor
 (c) **friend constructor**
 (d) copy constructor
22. Which of the following term is used for a function defined inside a class ?
 (a) Member variable
 (b) **Member function**
 (c) Class function
 (d) Classic function
23. Which of the following concept of OOPS allows compiler to insert arguments in a function call if it is not specified ?
 (a) Call by value
 (b) Call by reference
 (c) **Default arguments**
 (d) Call by pointer
24. How many types of polymorphisms are supported by C++ ?
 (a) 1 (b) **2** (c) 3 (d) 4
25. Which of the following statement is correct?
 (a) **A constructor is called at the time of declaration of an object.**
 (b) A constructor is called at the time of use of an object.
 (c) A constructor is called at the time of declaration of a class.
 (d) A constructor is called at the time of use of a class.

26. Which among following is correct syntax of closing a file in c++ ?
 (a) myfile\$close(); (b) myfile@close(); (c) myfile:close(); (d) **myfile.close();**
27. In context to file handling, which of the following are file handling operations ?
 (a) opening
 (b) closing
 (c) read/write
 (d) **all of the mentioned**
28. Which of the following methods can be used to open a file in the file handling ?
 (a) Using open()
 (b) Constructor method
 (c) Destructor method
 (d) **Both a and b**
29. A constructor that does not have any parameters is called..... constructors.
 (a) custom
 (b) dynamic
 (c) static
 (d) **default**
30. What is correct about the static data member of a class?
 (a) A static member function can access only static data members of a class.
 (b) A static data member is shared among all the object of the class.
 (c) A static data member can be accessed directly from `main()`.
 (d) **Both A and B.**

Group B

Answer any six questions:

[6x5=30]

1. Explain cin and cout objects with examples.
2. What is an global variable with example.
3. Explain do while loop with an example.
4. What is reference variable. Give an example.
5. Write a program to input student's record and display it using class and object.
6. Write a program to input any ten numbers in an array and find the sum of these numbers.
7. What is multithreading ? Explain.
8. Write a program to read the contents of a text file and display them on the screen using appropriate method.

Group C

Answer any two questions:

[20x2=40]

9. Explain inheritance. Demonstrate a program implementing inheritance.
10. Explain the selection structure. Explain if, else if and switch case with examples.
11. Explain function. What is function overloading ? Demonstrate programs to overload functions with different types of arguments and different number of arguments.

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Group A (Multiple Choice Questions)

Select the correct answers:

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1. Hiding the complexity is known as
 (a) Abstraction **(b) Encapsulation** (c) Data hiding (d) Composition
2. In C++ code , variables can be passed to a function by
 (a) Pass by value (b) Pass by reference (c) Pass by pointer **(d) All of the mentioned**
3. Which of the following can not be used as identifiers?
 (a) Letters (b) Digits (c) Underscores **(d) Spaces**
4. Which of the following parameter passing mechanism is/are supported by C++ but not in C ?
 (a) Pass by value **(b) Pass by reference** (c) Pass by pointer (d) All of the mentioned
5. Which is correct syntax ?
 (a) myfile.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);Spaces
6. Which of the following storage classes have global visibility in C++?
 (a) Register (b) Static (c) Auto **(d) Extern**
7. _____ allows to create classes which are derived from other classes, so that they automatically include some of its "parent's" members, plus its own members.
 (a) Overloading **(b) Inheritance** (c) Polymorphism (d) Encapsulation
8. In object oriented programming, by wrapping up characteristics and behavior into one unit, we achieve _____.
 (a) Data Abstraction **(b) Data Encapsulation** (c) Data Hiding (d) All of the mentioned
9. The static member variable is initialized to
(a) 0 (b) 1 (c) 2 (d) -1
10. What will be the output of the following code segment ?

```
char C1 = 'A', C2 = 'D';
char *i, *j;
i = &C1; j = &C2;
*i = j;
```

 (a) **A** (b) D (c) AD (d) None
11. What does inheritance allows you to do ?
 (a) create a class
(b) create a hierarchy of classes
 (c) access methods
 (d) None of these
12. What is the syntax of inheritance of class ?
 (a) class name
 (b) class name: access specifier
(c) class name : access specifier class name
 (d) None of these
13. How many types of inheritance are there in C++ ?

- (a) 2 (b) 3 (c) 4 (d) 5
14. is initialized when an object is created.
 (a) **Constructor** (b) Destructor (c) Array (d) Pointer
15. The access specifier allows functions or data to be accessible to other parts of the program.
 (a) private (b) protected (c) **public** (d) inherited
16. Identify the correct statement regarding scope of variables.
 (a) Global variables are declared in a separate file and accessible from any program.
 (b) **Local variables are declared inside a function and accessible within the function only.**
 (c) Global variables are declared inside a function and accessible from anywhere in program.
 (d) Local variables are declared in the main body of the program and accessible only from functions.
17. Which header file is used for reading and writing to a file?
 (a) #include<iostream>
 (b) **#include<fstream>**
 (c) #include<file>
 (d) None of the mentioned
18. Which constructor function is designed to copy objects of the same class type?
 (a) default constructor
 (b) object constructor
 (c) dynamic constructor
 (d) **copy constructor**
19. A function with the same name as the class, but preceded with a tilde character (~) is called _____ of that class.
 (a) constructor (b) **destructor** (c) function (d) object
20. Which stream class is to only write on files ?
 (a) **ofstream** (b) ifstream (c) fstream (d) istream
21. Which of the following approach is adapted by C++?
 (a) Top-down
 (b) **Bottom-up**
 (c) Right-left
 (d) Left-right
22. Which of the following concepts means wrapping up of data and functions together?
 (a) Abstraction
 (b) **Encapsulation**
 (c) Inheritance
 (d) Polymorphism
23. Which of the following functions are performed by a constructor?
 (a) Construct a new class
 (b) Construct a new object
 (c) Construct a new function
 (d) **Initialize objects**
24. Which of the following is correct about the statements given below?
 I. All operators can be overloaded in C++.
 II. We can change the basic meaning of an operator in C++.
 (a) Only I is true.
 (b) **Both I and II are false.**
 (c) Only II is true.

- (d) Both I and II are true.
25. Which of the following is not a type of inheritance?
 (a) Multiple
 (b) Multilevel
(c) Distributive
 (d) Hierarchical
26. Which inheritance type is used in the class given below?

```
class A : public X, public Y
{ }
```

 (a) Multilevel inheritance
(b) Multiple inheritance
 (c) Hybrid inheritance
 (d) Hierarchical Inheritance
27. Which of the following access specifier is used as a default in a class definition?
 (a) protected (b) public **(c) private** (d) friend
28. What is use of eof() ?
 (a) Returns true if a file open for reading has reached the next character.
 (b) Returns true if a file open for reading has reached the next word.
(c) Returns true if a file open for reading has reached the end.
 (d) Returns true if a file open for reading has reached the middle.
29. Which is correct syntax ?
 (a) myfile: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);
30. Which among following is used to open a file in binary mode ?
 (a) ios:app (b) ios::out (c) ios::in **(d) ios::binary**

Group B

Answer any six questions:

[6x5=30]

1. What is selection structure ? Explain.
2. Differentiate between float and integer data types with examples.
3. What is type conversion ? Explain.
4. What is pointer ? Give example of passing values using pointer.
5. Write a program to input a number and find out its square using passing by value method.
6. Explain the library function getline with an example.
7. Write a program to overload binary operator +.
8. Write a program to write data in a file using appropriate method.

Group C

Answer any two questions:

[20x2=40]

9. Explain different types of loop structure with examples.
10. What is an array. Explain different types of array with examples.
11. What are constructors. Explain different types of constructors with examples.