1. 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 the above.

Answer: D

2. What is output of the following program?

```
#include
using namespace std;
class base
{
   int val1, val2;
   public:
   int get()
{
       val1 = 100;
       val2 = 300;
}
   friend float mean(base ob);
};
float mean(base ob)
{
   return float(ob.val1 + ob.val2)/2;
}
int main()
{
   base obj;
   obj.get();
   cout << mean(obj);
   return 0;
}
```

A) 200
B) 150
C) 100
D) 300

Answer: A

Explanation : In this program, We are finding the mean value by declaring the function mean as a friend of class base. 200

3. When a class serves as base class for many derived classes, the situation is called

A) Polymorphism

B) Hierarchical Inheritance

C) Hybrid Inheritance

D) Multipath Inheritance

Answer: A

4. When two or more classes serve as base class for a derived class, the situation is known as

A) Polymorphism

B) Encapsulation

C) Hierarchical Inheritance

D) Multiple Inheritance

Answer: D

5. Data members which are static

A) Cannot be assigned a value

B) Can only be used in static functions

C) Cannot be defined in a union

D) Can be accessed outside the class

Answer: D

Explanation: The static data members must be defined outside the class. Since these are common to all the objects and should be created only once, they must not be defined in the constructor.

6. ..... member variable is initialized to zero when the first object of its class is created where no other initialization is permitted.

A) Friend

B) Static

C) Public

D) Private

Answer: B

7. A ..... member function can only be called by another function that is member of it's class.

A) Friend

B) Static

C) Public

D) Private

Answer: D

8. A member function can be called by using its name inside another function of the same class, which is known as ..... of member function.

A) Sub Function

B) Sub Member

C) Nesting

D) Sibling

Answer: C

9. In C++, the declaration of functions and variables are collectively called .....…

A) Class Members

B) Function Members

C) Object Members

D) Member Variables

Answer: A

10. Only the ..... can have access to the private members and private functions.

A) Data Functions

B) Inline Functions

C) Member Functions

D) Member Variables

Answer: C

11. The binding of data and functions together into a single class-type variable is referred to as

A) Encapsulation

B) Inheritance

C) Polymorphism

D) Dynamic Binding

Answer: A

12. The variables declared inside the class are known as data members and functions are known as

A) Data Functions

B) Inline Functions

C) Member Functions

D) Member Variables

Answer: C

13. When the function is defined inside a class, it is treated as

A) Data Function

B) Inline Function

C) Member Function

D) Member Variable

Answer: B

14. Which of the following statements about member functions are True or False.
i) A member function can call another member function directly with using the dot operator.
ii) Member function can access the private data of the class.

A) i-True, ii-True

B) i-False, ii-True

C) i-True, ii- False

D) i-True, ii-True

Answer: B

15. ……. can be invoked like a normal function without the help of any object.

A) constant member function
B) private member function
C) static member function
D) friend function

Answer: D

16. A …….. can only be called by another function that is a member of its class.

A) constant member function
B) private member function
C) static member function
D) friend function

Answer: B

17. A …….. can have access to only other static members declared in the same class.

A) constant member function
B) private member function
C) static member function
D) friend function

Answer: C

18. A ……., although not a member function, has full access rights to the private members of the class.

A) constant member function
B) private member function
C) static member function
D) friend function

Answer: D

19. A static member function can be called using the ..... instead of its objects.

A) variable name
B) function name
C) Class name
D) object name

Answer: C

20. If a member function does not alter any data in the class, that may be declared as .....…

A) constant member function
B) private member function
C) static member function
D) friend function

Answer: A

21. State whether the following statements are True or False about the characteristics of static data members.

i) Only one copy of static member is created for the entire class and is shared by all the objects of that class, no matter how many objects are created.

ii) Static member variable is visible only within the class, but its lifetime is the entire.

A) i-True, ii-True
B) i-False, ii-True
C) i-True, ii-False
D) i-True, ii-True

Answer: A

22. Static variables are associated with the class itself rather than with any class object, they are also known as …….

A) class variables
B) object variables
C) function variables
D) internal variables

Answer: A

23. Static variables are like ..... as they are declared in a class declaration and defined in the source file.

A) inline member function
B) non-inline member function
C) static member function
D) dynamic member function

Answer: B

24. While using an object as a function argument, a copy of the entire object is passed to the function in ..... method

A) pass-by-value
B) pass-by-reference
C) pass-by-variable
D) pass-by-function

Answer: A

25. Function overloading and Operator overloading are the types in compile time polymorphism?

(T/F) - True

26. A base class will offer

A) offer more specific objects than its derived classes

B) correspond to something in the rest world

C) behave badly when the chops are down

D) be a generalized version of its derived classes

Answer: D

27. Choose most appropriate statement

A) An abstract base class can have pure virtual destructor

B) An abstract base class can have only virtual destructor

C) An abstract base class can have non virtual destructor

D) An abstract base class cannot have destructor

Answer: D

28. If a base class member access is public, and an inherited class accesses specifier is private, which of the following statement is true ?

A) The base class member can be accessed by derived class objects

B) The base class members cannot be accessed by the derived class members

C) The derived class members can be accessed by the base class objects

D) None of above

Answer: A

29. Which of the following is/are false

A) Inheritance is deriving new class from existing class

B) In an inheritance, all data and function members of base class are derived by derived class

C) We can specify which data and function members of base class will be inherited by derived class

D) We can add new functions to derived class without recompiling the base class

Answer:

30. A function that changes the state of the cout object is called _____?

A) a Member function

B) an Adjuster function

C) a Manipulator function

D) an Operator function

Answer: C

31. An array element is accessed using _____ .

A) A first-in-first-out approach.

B) The dot operator.

C) A member name.

D) An index number.

Answer: D

32. Format flags may be combined using the _____.

A) Bitwise OR operator (|)

B) Logical OR operator (||)

C) Bitwise AND operator (&)

D) Logical AND operator (&&)

Answer: A

33. The following statement where T is true and F is false T&&T||F&&T

A) is true

B) is false

C) is wrong

D) not applicable in C language

Answer: A

34. The function whose prototype is void getData(Item *thing);receives _____ .

A) A pointer to a structure.

B) A reference to a structure.

C) A copy of a structure.

D) Nothing

Answer: A

35. To hide a data member from the program, you must declare the data member in the _____ section of the class.

A) Protected

B) Confidential

C) Hidden

D) Private

Answer: D

36. Which feature in Object Oriented Programming allows reusing code?

A) Polymorphism

B) Inheritance

C) Encapsulation

D) Data hiding

Answer: B

Explanation: Using inheritance we can reuse the code already written and also can avoid creation of many new functions or variables, as that can be done one time and be reused, using classes.

37. Which of the following formulas can be used to generate random integers between 1 and 10?

A) 1 + rand() % (10 - 1 + 1).

B) 1 + (10 - 1 + 1) % rand().

C) 10 + rand() % (10 - 1 + 1).

D) 10 + rand() % (10 + 1).

Answer: A

38. Which of the following will store the number 320000 as a Float number?

A) CounPop = (float) 3.2e5;

B) CounPop = (float) 3.2e6;

C) CounPop = (float) .32e5;

D) CounPop = (float) .32e7;

Answer: A

39. A class can serve as base class for many derived classes (T/F) - **True**

40. Which of the following relation between A.M., G.M. and H.M. holds?

A) A.M. = G.M. = H.M.

B) A.M. <= G.M. <= H.M.

C) A.M. >= G.M. >= H.M.

D) A.M. >= G.M. <= H.M.

Answer: C

41. Sum of squares of the deviations is minimum when deviations taken from --------

A) Mean

B) Median

C) Mode

D) Geometric Mean

Answer: A

42. Which of the following can be classified as hypothetical population?

A) All labourers of a factory

B) Female population of a country

C) Population of real numbers between 0 and 100

D) Students of the world

Answer: C

43. A and B play 10 games of chess of which A won 5 games, B won 3 games and 2 games ended in a draw. The probability of B winning a game in future is

A) 1/2

B) 3/10

C) 1/5

D) 2/5

Answer:

44. The hypothesis usually tested by analysis of variance is

A) Equality of variances of the effects

B) Equality of means of the effects

C) Equality of errors of the factors

D) Equality of median of the effects

Answer:

45. A dice is tossed, If X is the random variable denote the number on the dice, the expected value of X is

A) 1/6

B) 7/2

C) 7/6

D) 1

Answer:

46. The decision whether a test of hypothesis is one tailed or two tailed, depends on

A) Null hypothesis

B) Sample size

C) Level of significance

D) Alternative hypothesis

Answer: C

47.

```
#include <iostream>
using namespace std;
int main()
{
const char* p = "12345";
const char **q = &p;
 *q = "abcde";
const char *s = ++p;
p = "XYZWVU";
cout << *++s;
return 0;
}
```

A) Compiler Error

B) c

C) b

D) Garbage Value

Answer: B

48.

```
#include <stdio.h>
int main()
{
  int ary[4] = {1, 2, 3, 4};
  int *p = ary + 3;
  printf("%d\n", p[-2]);
}
```

A) 1

B) 2

C) Run time error

D) Some Garbage Value

Answer: B

49.

```
#include <stdio.h>
void main()
```

```
{
   char *s= "hello";
   char *p = s;
   printf("%c\t%c", p[0], s[1]);
}
```

A) Run time error

B) h h

C) h e

D) h l

Answer:

50.

```
#include <stdio.h>
void main()
{
  char *s = "hello";
  char *p = s;
  printf("%p\t%p", p, s);
}
```

A) Different Address is printed

B) Same address is printed

C) run time error

D) no address is printed

Answer:

51.

```
#include
void main()
{
   int a[3] = {1, 2, 3};
   int *p = a;
   printf("%p\t%p", p, a);
}
```

A) Same address is printed.

B) Different address is printed.

C) No address is printed

D) Run time error

Answer:

52. Mention the output of below program?

```
#include <iostream>
    using namespace std;
    void print(int i)
    {
      cout << i;
    }
    void print(double  f)
    {
      cout << f;
    }
    int main(void)
    {
      print(5);
      print(500.263);
      return 0;
    }
```

A) 5500.263

B) 500.263

C) 500.2635

D) 500.3

Answer: A

53. A CONSTRUCTOR THAT ACCEPTS _____ PARAMETERS IS CALLED THE DEFAULT CONSTRUCTOR

A) ONE

B) TWO

C) THREE

D) NO

Answer: D

54. A DESTRUCTOR IS USED TO DESTROY THE OBJECTS THAT HAVE BEEN CREATED BY A .....…

A) OBJECT

B) CLASS

C) FUNCTION

D) CONSTRUCTOR

Answer: D

55. According to boolean algebra absorption law, which of following is correct?

A) x+xy=x

B) (x+y)=xy

C) xy+y=x

D) x+y=y

Answer: C

56. Assume the output of the given program

```
#include<iostream>
using namespace std;
class Empty {};
int main()
{
    Empty obj;
    cout << sizeof(obj);
    return 0;
}
```

A) A non-zero value

B) Zero

C) Compile time Error

D) Runtime Error

Answer: A

57. In any ways, Non-member function can have access to the private data of the class

A) Virtual function

B) Static function

C) Friend function

D) None

Answer:

58. In OOP terminology, an object's member variables are often called as _____ and its member functions are sometimes referred to as _____.

A) Values, morals

B) Data, activities

C) Activities, behaviors

D) Attributes, methods

Answer: D

59. Objects created using new operator are stored in

A) Virtual memory

B) Cache memory

C) Heap memory

D) Stack

Answer: C

60. Overloaded functions are

A) Very long functions that can hardly run

B) One function containing another one or more functions inside it.

C) Two or more functions with the same name but different number of parameters or type.

D) Very long functions that can run easily.

Answer: C

61. Specify the output of the given program?

```
#include
using namespace std;
int Add(int X, int Y, int Z)
{
 return X + Y;
 }
double Add(double X, double Y, double Z)
{
return X + Y;
}
int main()
{
 cout << Add(5, 6);
 cout << Add(5.5, 6.6);
 return 0;
}
```

A) 11 12.1

B) 12.1 11

C) 11 12

D) Compile time error

Answer:

62. What is the output of the following program?

```
#include
using namespace std;
int operate (int a, int b)
{
return (a * b);
}
float operate (float a, float b)
{
return (a / b);
}
int main()
{
int x = 5, y = 2;
float n = 5.0, m = 2.0;
cout << operate(x, y) <<"\t";
cout << operate (n, m);
return 0;
}
```

A) 10.0 5.0

B) 5.0 2.5

C) 10.0 5

D) 10 2.5

Answer:

63. WHAT WILL BE THE OUTPUT

```
#include <iostream>
using namespace std;
 class GFG
{
public:
GFG()
{
```

```
 cout << "Hi from GFG. ";
}
} g;
int main()
{
   cout << "You are in Main.";
   return 0;
}
```

A) Hi from GFG

B) You are in Main

C) You are in Main. Hi from GFG.

D) Hi from GFG. You are in Main.

Answer: D

64. WHICH IS THE CORRECT FORM OF DEFAULT CONSTRUCTOR FOR FOLLOWING CLASS?

```
#include <iostream>
using namespace std;
class sample
{
   private:
      int x,y;
};
```

A) void sample(){}

B) void sample(){ x=0; y=0;}

C) void sample(int a,int b){ x=a; y=b;}

D) Both 1 and 2

Answer: D

65. Which of the following is true about the following program

```
#include <iostream>
class Test
{
public:
int i;
void get();
};
```

```
void Test::get()
{
std::cout << "Enter the value of i: ";
std::cin >> i;
}
Test t;  // Global object
int main()
{
Test t;  // local object
t.get();
std::cout << "value of i in local t: "<<t.i<<'\n';
::t.get();
std::cout << "value of i in global t: "<<::t.i<<'\n';
return 0;
}
```

A) Compiler Error: Cannot have two objects with same class name

B) Compiler Error in Line "::t.get();"

C) Runtime Error

D) Compile and run succesfully

Answer: D

66. (x*y)*z=x*(y*z) is the

A) commutative property

B) inverse property

C) associative property

D) Identity element

Answer: C

67. ----------is a property that describes various characteristics of an entity.

A) ER Diagram

B) Column

C) Relationship

D) Attribute

Answer: D

68. ----------engine executes low level instructions generated by the DML compiler.

A) DDL Analyzer

B) Query Interpreter

C) Database Engine

D) None of the these

Answer:

69. ..... is a condition specified on a database schema and restricts the data that can be stored in an instance of the database.

A) Key Constraint

B) Check Constraint

C) Foreign key constraint

D) Integrity constraint

Answer: D

70. ..... is a specific concurrency problem wherein two transactions depend on each other for something.

A) phantom read problem

B) transaction read problem

C) Deadlock

D) Locking

Answer: C

71. ..... helps solve concurrency problem.

A) locking

B) transaction monitor

C) transaction serializability

D) two phase commit

Answer: A

72. ..... protocol grantees that a set of transactions becomes serialisable.

A) two phase locking

B) two phase commit

C) transaction locking

D) Checkpoints

Answer: A

73. ..... would only be an effective choice in a environment in which many disk errors occur**.**

A) RAID Level 0

B) RAID Level 1

C) RAID Level 2

D) RAID Level 3

Answer: C

74. ..... is not a true member of RAID family, because it does not include redundancy to improve performance.

A) RAID Level 0

B) RAID Level 1

C) RAID Level 2

D) RAID Level 3

Answer: A

75. ..... PROVIDES THE FLEXIBILITY OF USING DIFFERENT FORMAT OF DATA AT RUN TIME DEPENDING UPON THE SITUATION.

A) DYNAMIC INITIALIZATION

B) RUN TIME INITIALIZATION

C) STATIC INITIALIZATION

D) VARIABLE INITIALIZATION

Answer: A

76. ..... specifies the actions needed to remove the drawbacks in the current design of database.

A) 1 NF

B) 2 NF

C) 3 NF

D) Normal form

Answer: D

77. 3428 is the decimal value for which of the following binary-coded decimal (BCD) groupings?

A) 1101000100100000

B) 11010000101000

C) 011010010000010

D) 110100001101010

Answer: B

78. 4 to 1 mux would have

A) 2 inputs

B) 3 inputs

C) 4 inputs

D) 5 inputs

Answer: C

79. 4 to 1 mux would have

A) 1 output

B) 3 outputs

C) 4 outputs

D) 2 ouputs

Answer: A

80. Message passing system allows processes to :

A) Communicate with one another without resorting to shared data.

B) Communicate with one another by resorting to shared data.

C) Share Data

D) Name the recipient or sender of the message

Answer: A

81. If a higher priority process arrives and wants service, the memory manager can swap out the lower priority process to execute the higher priority process. When the higher priority process finishes, the lower priority process is swapped back in and continues execution. This variant of swapping is sometimes called :

A) priority swapping

B) pull out, push in

C) roll out, roll in

D) None of these

Answer: C

82. Run time mapping from virtual to physical address is done by

A) Memory management unit

B) CPU

C) PCI

D) none of the mentioned

Answer: A

83. A binary semaphore is a semaphore with integer values :

A) 1 & 0

B) -1 & 1

C) 0 & -1

D) 0.5

Answer:

84. A process can be

A) single threaded

B) Multithreaded

C) both (a) and (b)

D) none of the mentioned

Answer: C

85. A set of processes is deadlock if

A) each process is blocked and will remain so forever

B) each process is terminated

C) all processes are trying to kill each other

D) none of the mentioned

Answer: A

86. In Unix, Which system call creates the new process?

A) Fork

B) Create

C) New

D) none of the mentioned

Answer: A

87. Messages sent by a process :

A) have to be of a fixed size

B) have to be a variable size

C) can be fixed or variable sized

D) None of these

Answer: C

88. semaphore :

A) is a binary mutex

B) must be accessed from only one process

C) can be accessed from multiple processes

D) None of these

Answer: C

89. Semaphore is a/an _____ to solve the critical section problem.

A) hardware for a system

B) special program for a system

C) integer variable

D) None of these

Answer: C

90. Termination of the process terminates

A) first thread of the process

B) first two threads of the process

C) all threads within the process

D) no thread within the process

Answer: C

91. The link between two processes P and Q to send and receive messages is called :

A) communication link

B) message-passing link

C) synchronization link

D) All of these

Answer: A

Explanation: The link between two processes P and Q to send and receive messages is called communication link. Two processes P and Q want to communicate with each other; there should be a communication link that must exist between these two processes so that both processes can able to send and receive messages using that link.

92. The page table contains

A) base address of each page in physical memory

B) page offset

C) page size

D) none of the mentioned

Answer: A

93. The two kinds of semaphores are :

A) Mutex & Duplex

B) Binary & Counting

C) Counting & Signal

D) decimal & Integer

Answer: B

94. When high priority task is indirectly preempted by medium priority task effectively inverting the relative priority of the two tasks, the scenario is called

A) priority inversion

B) priority removal

C) priority exchange

D) priority modification

Answer: A

Explanation: When a high priority task is indirectly preempted by a medium priority task effectively inverting the relative priority of the two tasks, the scenario is called priority inversion.

95. Which one of the following is not a valid state of a thread?

A) Running

B) Parsing

C) Ready

D) Blocked

Answer: B

96. Which one of the following is the address generated by CPU?

A) physical address

B) absolute address

C) logical address

D) none of the mentioned

Answer: C

97. A monitor is a module that encapsulates

A) shared data structures

B) procedures that operate on shared data structure

C) synchronization between concurrent procedure invocation

D) all of the mentioned

Answer: D

Explanation - A monitor is a module that encapsulates shared data structures, procedures that operate on shared data structure, synchronization between concurrent procedure invocation.

98. A mutex is :

A) is a binary mutex

B) must be accessed from only one process

C) can be accessed from multiple processes

D) None of these

Answer: B

99. A process can be terminated due to

A) normal exit

B) fatal error

C) killed by another process

D) all of the mentioned

Answer: D

Explanation: A process can be terminated normally by completing its task or because of fatal error or killed by another process or forcefully killed by a user. When the process completes its task without any error then it exits normally. The process may exit abnormally because of the occurrence of fatal error while it is running. The process can be killed or terminated forcefully by another process.