Unit 1: Introduction Of C++

Mcq question of C++

1. Who invented C++?
a) Dennis Ritchie
b) Ken Thompson
c) Brian Kernighan
d) Bjarne Stroustrup
View Answer
Answer: d
Explanation: Bjarne Stroustrup is the original creator of C++ in 1979 at AT&T Bell Labs.

2. What is C++?
a) C++ is an object oriented programming language
b) C++ is a procedural programming language
c) C++ supports both procedural and object oriented programming language
d) C++ is a functional programming language
View Answer
Answer: c
Explanation: C++ supports both procedural(step by step instruction) and object oriented programming (using the concept of classes and objects).

3. Which of the following is the correct syntax of including a user defined header files in C++?
a) #include [userdefined]
b) #include “userdefined”
c) #include <userdefined.h>
d) #include <userdefined>
View Answer
Answer: b
Explanation: C++ uses double quotes to include a user-defined header file. The correct syntax of including user-defined is #include “userdefinedname”.

4. Which of the following is used for comments in C++?
a) /* comment */
b) // comment */
c) // comment
d) both // comment or /* comment */
View Answer
Answer: d
Explanation: Both the ways are used for commenting in C++ programming. // is used for single line comments and /* … */ is used for multiple line comments.

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Unit 1: Introduction Of C++

5. Which of the following user-defined header file extension used in c++?
a) hg
b) cpp
c) h
d) hf
View Answer
Answer: c
Explanation: .h extensions are used for user defined header files. To include a user defined header file one should use #include"name.h" i.e. enclosed within double quotes.

6. Which of the following is a correct identifier in C++?
a) VAR_1234
b) $var_name
c) 7VARNAME
d) 7var_name
View Answer
Answer: a
Explanation: The rules for writing an identifier is as follows:
i) may contain lowercase/uppercase letters, digits or underscore(_) only
ii) should start with a non-digit character
iii) should not contain any special characters like @, $, etc.

7. Which of the following is not a type of Constructor in C++?
a) Default constructor
b) Parameterized constructor
c) Copy constructor
d) Friend constructor
View Answer
Answer: d
Explanation: Friend function is not a constructor whereas others are a type of constructor used for object initialization.

8. Which of the following approach is used by C++?
a) Left-right
b) Right-left
c) Bottom-up
d) Top-down
View Answer
Answer: c
Explanation: C++ is an object-oriented language and OOL uses a bottom-up approach to solve/view a problem.

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Unit 1: Introduction Of C++

9. What is virtual inheritance in C++?
a) C++ technique to enhance multiple inheritance
b) C++ technique to ensure that a private member of the base class can be accessed somehow
c) C++ technique to avoid multiple inheritances of classes
d) C++ technique to avoid multiple copies of the base class into children/derived class
View Answer
Answer: d
Explanation: Virtual inheritance is a C++ technique with which it ensures that a derived class contains only one copy of the base class's variables. Refer Wikipedia for more info.

10. What happens if the following C++ statement is compiled and executed?

```
int *ptr = NULL;
delete ptr;
```

a) The program is not semantically correct
b) The program is compiled and executed successfully
c) The program gives a compile-time error
d) The program compiled successfully but throws an error during run-time
View Answer
Answer: b
Explanation: The above statement is syntactically and semantically correct as C++ allows the programmer to delete a NULL pointer, therefore, the program is compiled and executed successfully.

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

```
#include <iostream>
#include <string>
using namespace std;
int main(int argc, char const *argv[])
{
        char s1[6] = "Hello";
        char s2[6] = "World";
        char s3[12] = s1 + " " + s2;
        cout<<s3;
        return 0;
}
```

a) Hello
b) World

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c) Error
d) Hello World
View Answer
Answer: c
Explanation: There is no operation defined for the addition of character array in C++ hence the compiler throws an error as it does not understood what to do about this expression.

12. What is the difference between delete and delete[] in C++?
a) delete is syntactically correct but delete[] is wrong and hence will give an error if used in any case
b) delete is used to delete normal objects whereas delete[] is used to pointer objects
c) delete is a keyword whereas delete[] is an identifier
d) delete is used to delete single object whereas delete[] is used to multiple(array/pointer of) objects
View Answer
Answer: d
Explanation: delete is used to delete a single object initiated using new keyword whereas delete[] is used to delete a group of objects initiated with the new operator.

13. What happens if the following program is executed in C and C++?

```
#include <stdio.h>
int main(void)
{
        int new = 5;
        printf("%d", new);
}
```

a) Error in C and successful execution in C++
b) Error in both C and C++
c) Error in C++ and successful execution in C
d) A successful run in both C and C++
View Answer
Answer: c
Explanation: new is a keyword in C++, therefore, we cannot declare a variable with name new but as there is no such keyword new in C, therefore, the program is compiled and executed successfully in C.

14. What happens if the following program is executed in C and C++?

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

Unit 1: Introduction Of C++

```
{
        printf("Hello");
}
void main()
{
        func();
        func(2);
}
```

a) Outputs Hello twice in both C and C++
b) Error in C and successful execution in C++
c) Error in C++ and successful execution in C
d) Error in both C and C++
View Answer
Answer: d
Explanation: As the func(void) needs no argument during its call, hence when we are calling func(2) with 2 as passed as a parameter then this statement gives the error in both C++ and C compiler.

15. Which of the following is correct about this pointer in C++?
a) this pointer is passed as a hidden argument in all static variables of a class
b) this pointer is passed as a hidden argument in all the functions of a class
c) this pointer is passed as a hidden argument in all non-static functions of a class
d) this pointer is passed as a hidden argument in all static functions of a class
View Answer
Answer: c
Explanation: As static functions are a type of global function for a class so all the object shares the common instance of that static function whereas all the objects have there own instance for non-static functions and hence they are passed as a hidden argument in all the non-static members but not in static members.

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

```
1.  #include <iostream>
2.  #include <string>
3.  #include <algorithm>
4.  using namespace std;
5.  int main()
6.  {
7.      string s = "spaces in text";
8.      s.erase(remove(s.begin(), s.end(), ' ' ), s.end() ) ;
9.      cout << s << endl;
10.  }
```


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a) spacesintext
b) spaces in text
c) spaces
d) spaces in
View Answer
Answer: a
Explanation: In this program, We formed a algorithm to remove spaces in the string.
Output:

```
$ g++ dan.cpp
$ a.out
spacesintext
```

17. Which of the following C++ code will give error on compilation?

```
================code 1================
#include <iostream>
using namespace std;
int main(int argc, char const *argv[])
{
        cout<<"Hello World";
        return 0;
}
=======================================
================code 2================
#include <iostream>
int main(int argc, char const *argv[])
{
        std::cout<<"Hello World";
        return 0;
}
=======================================
```

a) Code 1 only
b) Neither code 1 nor code 2
c) Both code 1 and code 2
d) Code 2 only
View Answer
Answer: b
Explanation: Neither code 1 nor code 2 will give an error as both are syntactically correct as in first code we have included namespace std and in second one we have used scope resolution operator to resolve the conflict.

18. Which of the following type is provided by C++ but not C?
a) double

Unit 1: Introduction Of C++

b) float
c) int
d) bool
View Answer
Answer: d
Explanation: C++ provides the boolean type to handle true and false values whereas no such type is provided in C.

19. What is the value of p in the following C++ code snippet?

```
1.    #include <iostream>
2.    using namespace std;
3.    int main()
4.    {
5.        int p;
6.        bool a = true;
7.        bool b = false;
8.        int x = 10;
9.        int y = 5;
10.        p = ((x | y) + (a + b));
11.        cout << p;
12.        return 0;
13.    }
```

a) 12
b) 0
c) 2
d) 16
View Answer
Answer: d
Explanation: | means bitwise OR operation so x | y (0101 | 1010) will be evaluated to 1111 which is integer 15 and as a is true and b is false so a+b(1 + 0) = 1. So final value of expression in line #10 will be 15 + 1 = 16.

20. By default, all the files in C++ are opened in _____ mode.
a) Binary
b) VTC
c) Text
d) ISCII
View Answer
Answer: c
Explanation: By default, all the files in C++ are opened in text mode. They read the file as normal text.

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Unit 1: Introduction Of C++

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

```
1.     int main()
2.     {
3.         register int i = 1;
4.         int *ptr = &i;
5.         cout << *ptr;
6.  return 0;
7.     }
```

a) Runtime error may be possible
b) Compiler error may be possible
c) 1
d) 0
View Answer
Answer: b
Explanation: Using & on a register variable may be invalid, since the compiler may store the variable in a register, and finding the address of it is illegal.

22. Which of the following correctly declares an array in C++?
a) array{10};
b) array array[10];
c) int array;
d) int array[10];
View Answer
Answer: d
Explanation: Because array variable and values need to be declared after the datatype only.

23. What is the size of wchar_t in C++?
a) Based on the number of bits in the system
b) 2 or 4
c) 4
d) 2
View Answer
Answer: a
Explanation: Compiler wants to make CPU as more efficient in accessing the next value.

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

```
#include<iostream>
using namespace std;
int main ()
```

Unit 1: Introduction Of C++

```
{
   int cin;
   cin >> cin;
   cout << "cin: " << cin;
   return 0;
}
```

a) Segmentation fault
b) Nothing is printed
c) Error
d) cin: garbage value

View Answer

Answer: d
Explanation: cin is a variable hence overrides the cin object. cin >> cin has no meaning so no error.

25. What is the use of the indentation in c++?
a) r distinguishes between comments and inner data
b) distinguishes between comments and outer data
c) distinguishes between comments and code
d) r distinguishes between comments and outer data

View Answer

Answer: c
Explanation: To distinguish between different parts of the program like comments, codes, etc.

26. Which is more effective while calling the C++ functions?
a) call by object
b) call by pointer
c) call by value
d) call by reference

View Answer

Answer: d
Explanation: In the call by reference, it will just passes the reference of the memory addresses of passed values rather than copying the value to new memories which reduces the overall time and memory use.

27. What will be the output of the following C++ program?

```
#include <iostream>
#include <string>
#include <cstring>
using namespace std;
int main(int argc, char const *argv[])
```


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Unit 1: Introduction Of C++

```
{
        const char *a = "Hello\0World";
        cout<<a;
        return 0;
}
```

a) Hello
b) World
c) Error
d) Hello World
View Answer
Answer: a
Explanation: char* are terminated by a '\0' character so the string "Hello\0World" will be cut down to "Hello".

28. Which of the following is used to terminate the function declaration in C++?
a) ;
b)]
c))
d) :
View Answer
Answer: a
Explanation: ; semicolon is used to terminate a function declaration statement in C++.

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

```
1.  #include <iostream>
2.  using namespace std;
3.  int main()
4.  {
5.      char c = 74;
6.      cout << c;
7.      return 0;
8.  }
```

a) I
b) J
c) A
d) N
View Answer
Answer: b
Explanation: The literal value for 74 is J. So it will be printing J.

30. What will be the output of the following C++ program?

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Unit 1: Introduction Of C++

```
1.    #include <iomanip>
2.    #include <iostream>
3.    using namespace std;
4.    int main()
5.    {
6.        cout << setprecision(17);
7.        double d = 0.1;
8.        cout << d << endl;
9.        return 0;
10.    }
```

a) compile time error
b) 0.100001
c) 0.11
d) 0.10000000000000001
View Answer
Answer: d
Explanation: The double had to truncate the approximation due to its limited memory, which resulted in a number that is not exactly 0.1.
Output:

```
$ g++ float2.out
$ a.out
0.10000000000000001
```

31. Which keyword is used to define the macros in c++?
a) #macro
b) #define
c) macro
d) define
View Answer
Answer: b
Explanation: #define is the keyword that is used to define the macros in c++.

32. What is the correct syntax of accessing a static member of a class in C++?

```
---------------------------
Example class:
class A
{
        public:
                static int value;
}
---------------------------
```


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a) A->value
b) A^value
c) A.value
d) A::value
View Answer
Answer: d
Explanation: Scope resolution operator(::) is used to access a static member of a class.

33. The C++ code which causes abnormal termination/behaviour of a program should be written under _____ block.
a) catch
b) throw
c) try
d) finally
View Answer
Answer: c
Explanation: Code that leads to the abnormal termination of the program should be written under the try block.

34. What is Inheritance in C++?
a) Deriving new classes from existing classes
b) Overloading of classes
c) Classes with same names
d) Wrapping of data into a single class
View Answer
Answer: a
Explanation: Inheritance is the concept of OOPs in which new classes are derived from existing classes in order to reuse the properties of classes defined earlier.

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

```
1.    #include <iostream>
2.    using namespace std;
3.    int main()
4.    {
5.        int a = 5;
6.        float b;
7.        cout << sizeof(++a + b);
8.        cout << a;
9.        return 0;
10.    }
```

Unit 1: Introduction Of C++

a) 2 5
b) 4 5
c) 4 6
d) 2 6
View Answer
Answer: b
Explanation: The a as a integer will be converted to float while calculating the size. The value of any variable doesn't modify inside sizeof operator. Hence value of variable a will remain 5.
Output:

```
$ g++ size3.cpp
$ a.out
4 5
```

36. Which of the following symbol is used to declare the preprocessor directives in C++?
a) $
b) ^
c) #
d) *
View Answer
Answer: c
Explanation: # symbol is used to declare the preprocessor directives.

37. What will be the output of the following C++ program?

```
#include<iostream>
using namespace std;
int main()
{
          int a = 5;
          auto check = [=]()
         {
                    a = 10;
          };
          check();
          cout<<"Value of a: "<<a<<endl;
          return 0;
}
```

a) Segmentation fault
b) Value of a: 5
c) Value of a: 10

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d) Error
View Answer
Answer: d
Explanation: As this lambda expression is capturing the extrenal variable by value therefore the value of a cannot be changes inside the lambda expression hence the program gives error.

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

```
#include <iostream>
using namespace std;
void square (int *x, int *y)
{
        *x = (*x) * --(*y);
}
int main ( )
{
        int number = 30;
        square(&number, &number);
        cout << number;
        return 0;
}
```

a) 30
b) Error
c) Segmentation fault
d) 870
View Answer
Answer: d
Explanation: As we are passing value by reference therefore the change in the value is reflected back to the passed variable number hence value of number is changed to 870.

39. What is meant by a polymorphism in C++?
a) class having only single form
b) class having four forms
c) class having many forms
d) class having two forms
View Answer
Answer: c
Explanation: Polymorphism is literally meant class having many forms.

40. What will be the output of the following C++ program?

Unit 1: Introduction Of C++

```
#include <iostream>
#include <string>
using namespace std;
int main ()
{
  std::string str ("Sanfoundry.");
  str.back() = '!';
  std::cout << str << endl;
  return 0;
}
```

a) Sanfoundry!
b) Sanfoundry!.
c) Sanfoundry.
d) Sanfoundry.!
View Answer
Answer: a
Explanation: back() function modifies the last character of the string with the character provided.

41. Pick the incorrect statement about inline functions in C++?
a) Saves overhead of a return call from a function
b) They are generally very large and complicated function
c) These functions are inserted/substituted at the point of call
d) They reduce function call overheads
View Answer
Answer: b
Explanation: Inline are functions that are expanded when it is called. The whole code of the inline function gets inserted/substituted at the point of call. In this, they help in reducing the function call overheads. Also they save overhead of a return call from a function. Inline functions are generally kept small.

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

```
1.    #include <iostream>
2.    using namespace std;
3.    int main()
4.    {
5.        int n = 5;
6.        void *p = &n;
7.        int *pi = static_cast<int*>(p);
8.        cout << *pi << endl;
9.        return 0;
10.    }
```


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Unit 1: Introduction Of C++

a) 5
b) 6
c) compile time error
d) runtime error
View Answer
Answer: a
Explanation: We just casted this from void to int, so it prints 5
Output:

```
$ g++ poi1.cpp
$ a.out
5
```

43. What is abstract class in C++?
a) Any Class in C++ is an abstract class
b) Class from which any class is derived
c) Class specifically used as a base class with atleast one virtual functions
d) Class specifically used as a base class with atleast one pure virtual functions
View Answer
Answer: d
Explanation: An abstract class is defined as a class which is specifically used as a base class. An abstract class should have atleast one pure virtual function.

44. Which of the following constructors are provided by the C++ compiler if not defined in a class?
a) Copy constructor
b) Default constructor
c) Assignment constructor
d) All of the mentioned
View Answer
Answer: d
Explanation: If a programmer does not define the above constructors in a class the C++ compiler by default provides these constructors to avoid error on basic operations.

45. What will be the output of the following C++ program?

```
#include <iostream>
using namespace std;
int main()
{
    try
    {
        try
```


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```
        {
            throw 20;
        }
        catch (int n)
        {
            cout << "Inner Catch\n";
            throw;
        }
    }
    catch (int x)
    {
        cout << "Outer Catch\n";
    }
    return 0;
}
```

a) Outer Catch
b)

Inner Catch

Outer Catch

c) Error
d) Inner Catch
View Answer
Answer: b
Explanation: The exception thrown by the inner try catch block is caught by the inner block hence “Inner Catch” is printed but as inner catch block again throws an exception further therefore the exception is thrown further which is caught by the outer catch block hence “Outer Catch” is also printed.

46. Which concept allows you to reuse the written code in C++?
a) Inheritance
b) Polymorphism
c) Abstraction
d) Encapsulation
View Answer
Answer: a
Explanation: Inheritance allows you to reuse your already written code by inheriting the properties of written code into other parts of the code, hence allowing you to reuse the already written code.

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

Unit 1: Introduction Of C++

```
1.    #include <iostream>
2.    using namespace std;
3.    int operate (int a, int b)
4.    {
5.        return (a * b);
6.    }
7.    float operate (float a, float b)
8.    {
9.        return (a / b);
10.    }
11.    int main()
12.    {
13.        int x = 5, y = 2;
14.        float n = 5.0, m = 2.0;
15.        cout << operate(x, y) <<"\t";
16.        cout << operate (n, m);
17.        return 0;
18.    }
```

a) 10.0 5
b) 10 2.5
c) 10.0 5.0
d) 5.0 2.5
View Answer
Answer: b
Explanation: In this program, we are divide and multiply the values.
Output:

```
$ g++ over3.cpp
$ a.out
10      2.5
```

48. How structures and classes in C++ differ?
a) Structures by default hide every member whereas classes do not
b) In Structures, members are public by default whereas, in Classes, they are private by default
c) Structures cannot have private members whereas classes can have
d) In Structures, members are private by default whereas, in Classes, they are public by default
View Answer
Answer: b
Explanation: Structure members are public by default whereas, class members are private by default. Both of them can have private and public members.

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

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Unit 1: Introduction Of C++

```
1.    #include <iostream>
2.    using namespace std;
3.    int main ()
4.    {
5.        int a, b, c;
6.        a = 2;
7.        b = 7;
8.        c = (a > b) ? a : b;
9.        cout << c;
10.        return 0;
11.    }
```

a) 12
b) 14
c) 6
d) 7
View Answer
Answer: d
Explanation: We are using the ternary operator to evaluate this expression. It will return first option, if first condition is true otherwise it will return second
Output:

```
$ g++ ess1.cpp
$ a.out
7
```

50. What is the benefit of c++ input and output over c input and output?
a) Both Type safety & Exception
b) Sequence container
c) Exception
d) Type safety
View Answer
Answer: d
Explanation: C++ input and output are type safety that means we don't need to specify the type of variable we are printing.
eg:
in C we need to specify %d showing that an integer will be printed, whereas in C++ we just cout the variable.
printf("%d", a);
cout<<a;

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

```
1.    #include <stdio.h>
2.    #include<iostream>
```

Unit 1: Introduction Of C++

```
3.    using namespace std;
4.    int main ()
5.    {
6.        int array[] = {0, 2, 4, 6, 7, 5, 3};
7.        int n, result = 0;
8.        for (n = 0; n < 8; n++)
9.        {
10.            result += array[n];
11.        }
12.        cout << result;
13.        return 0;
14.    }
```

a) 21
b) 27
c) 26
d) 25
View Answer
Answer: b
Explanation: We are adding all the elements in the array and printing it. Total elements in the array is 7, but our for loop will go beyond 7 and add a garbage value.

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

```
1.    #include <iostream>
2.    #include <string>
3.    using namespace std;
4.    int main ()
5.    {
6.        string str ("Sanfoundry");
7.        for (size_t i = 0; i < str.length();)
8.        {
9.            cout << str.at(i-1);
10.        }
11.        return 0;
12.    }
```

a) runtime error
b) Sanfo
c) S
d) Sanfoundry
View Answer

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Unit 1: Introduction Of C++

Answer: a
Explanation: This program will terminate because the cout element is out of range.

53. What will be the output of the following C++ program?

```
#include <iostream>
using namespace std;
class A{
public:
        A(){
                cout<<"Constructor called\n";
           }
        ~A(){
                cout<<"Destructor called\n";
            }
};
int main(int argc, char const *argv[])
{
        A *a = new A[5];
        delete[] a;
        return 0;
}
```

a) Segmentation fault
b) “Constructor called” five times and then “Destructor called” five times
c) “Constructor called” five times and then “Destructor called” once
d) Error
View Answer
Answer: b
Explanation: In the above program we have first initiated five-pointer variables using new keyword hence fives time constructor will be called after that as we using delete[] (used for deleting multiple objects) to delete variables hence all the five objects created will be destroyed and hence five times destructor will be called.

54. Which of the following is the correct syntax of including a user defined header files in C++?
a) #include <userdefined.h>
b) #include <userdefined>
c) #include “userdefined”
d) #include [userdefined]
View Answer
Answer: c
Explanation: C++ uses double quotes to include a user-defined header file. The correct syntax of including user-defined is #include “userdefinedname”.

Unit 1: Introduction Of C++

55. Which of the following is a correct identifier in C++?
a) 7var_name
b) 7VARNAME
c) VAR_1234
d) $var_name
View Answer
Answer: c
Explanation: The rules for writing an identifier is as follows:
i) may contain lowercase/uppercase letters, digits or underscore(_) only
ii) should start with a non-digit character
iii) should not contain any special characters like @, $, etc.

56. Which of the following is called address operator?
a) *
b) &
c) _
d) %
View Answer
Answer: b
Explanation: & operator is called address operator and is used to access the address of a variable.

57. Which of the following is used for comments in C++?
a) // comment
b) /* comment */
c) both // comment or /* comment */
d) // comment */
View Answer
Answer: c
Explanation: Both the ways are used for commenting in C++ programming. // is used for single line comments and /* … */ is used for multiple line comments.

58. What are the actual parameters in C++?
a) Parameters with which functions are called
b) Parameters which are used in the definition of a function
c) Variables other than passed parameters in a function
d) Variables that are never used in the function
View Answer
Answer: a
Explanation: Actual parameters are those using which a function call is made i.e. which are actually passed in a function when that function is called.

Unit 1: Introduction Of C++

59. What are the formal parameters in C++?
a) Parameters with which functions are called
b) Parameters which are used in the definition of the function
c) Variables other than passed parameters in a function
d) Variables that are never used in the function
View Answer
Answer: b
Explanation: Formal parameters are those which are used in the definition of a function. They are the parameters that represent the actual parameters passed and they are the one which is used inside the function.

60. Which function is used to read a single character from the console in C++?
a) cin.get(ch)
b) getline(ch)
c) read(ch)
d) scanf(ch)
View Answer
Answer: a
Explanation: C++ provides cin.get() function to read a single character from console whereas others are used to read either a single or multiple characters.

61. Which function is used to write a single character to console in C++?
a) cout.put(ch)
b) cout.putline(ch)
c) write(ch)
d) printf(ch)
View Answer
Answer: a
Explanation: C++ provides cout.put() function to write a single character to console whereas others are used to write either a single or multiple characters.

62. What are the escape sequences?
a) Set of characters that convey special meaning in a program
b) Set of characters that whose use are avoided in C++ programs
c) Set of characters that are used in the name of the main function of the program
d) Set of characters that are avoided in cout statements
View Answer
Answer: a
Explanation: Escape sequence is a set of characters that convey a special meaning to the program. They are used to convey a meaning which cannot be conveyed directly.

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Unit 1: Introduction Of C++

63. Which of the following escape sequence represents carriage return?
a) \r
b) \n
c) \n\r
d) \c
View Answer
Answer: a
Explanation: \r is used to represent carriage return which means move the cursor to the beginning of the next line.

64. Which of the following escape sequence represents tab?
a) \t
b) \t\r
c) \b
d) \a
View Answer
Answer: a
Explanation: \t is used to represent tab which means a set of blank spaces in a line.

65. Who created C++?
a) Bjarne Stroustrup
b) Dennis Ritchie
c) Ken Thompson
d) Brian Kernighan
View Answer
66. Which of the following is called insertion/put to operator?
a) <<
b) >>
c) >
d) <
View Answer
Answer: a
Explanation: << operator is called insertion or put to operator i.e. insert/put things to console/files.

67. Which of the following is called extraction/get from operator?
a) <<
b) >>
c) >
d) <
View Answer

Answer: b
Explanation: >> operator is called extraction or get from operator i.e. extract/get things from console/files.

68. A language which has the capability to generate new data types are called _____
a) Extensible
b) Overloaded
c) Encapsulated
d) Reprehensible
View Answer
Answer: a
Explanation: Languages that can produce/generate new data types are called extensible languages as they have the ability to handle new data types.

69. What happens if the following program is executed in C and C++?

```
#include<stdio.h>
int main()
{
   foo();
}
int foo()
{
   printf("Hello");
   return 0;
}
```

a) Error in both C and C++
b) Warning in both C and C++
c) Error in C++ but Warning in C
d) Error in C but Warning in C++
View Answer
Answer: c
Explanation: In C++ all the functions should be declared before it is called otherwise the C++ compiler will give an error but in case of C the compiler just gives a warning and the program can be executed.

71. What happens if the following program is executed in C and C++?

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

```
        const int j = 20;
        int *ptr = &j;
        printf("*ptr: %d\n", *ptr);
        return 0;
}
```

a) Error in both C and C++
b) Warning in both C and C++
c) Error in C but Warning in C++
d) Error in C++ but Warning in C

View Answer

Answer: d

Explanation: C++ is strict on the use of types of variables hence when the programmer tries to assign const int to a normal pointer the program gives error whereas C is not strict on types therefore it gives warning only.

72. What happens if the following line is executed in C and C++?

```
int *p = malloc(10);
```

a) Error in both C and C++
b) Warning in both C and C++
c) Error in C++ and successful execution in C
d) Error in C and successful execution in C++

View Answer

Answer: c

Explanation: C++ is strict in type check but C is not and as malloc returns a void* which we are trying to assign to an int*, therefore, the C++ compiler gives error whereas C compiler executes the program successfully.

73. What happens if the following line is executed in C and C++?

```
const int a;
```

a) Error in both C and C++
b) Warning in both C and C++
c) Error in C and successful execution in C++
d) Error in C++ and successful execution in C

View Answer

Answer: d

Explanation: C++ compiler does not allow the programmer to declare a constant variable without initializing it hence the C++ compiler gives an error whereas C allows such declaration, therefore, the program compiles and runs successfully.

74. What happens if the following program is executed in C and C++?

Unit 1: Introduction Of C++

```
#include <stdio.h>
int main(void)
{
        int new = 5;
        printf("%d", new);
}
```

a) Error in both C and C++
b) A successful run in both C and C++
c) Error in C and successful execution in C++
d) Error in C++ and successful execution in C

View Answer

Answer: d

Explanation: new is a keyword in C++, therefore, we cannot declare a variable with name new but as there is no such keyword new in C, therefore, the program is compiled and executed successfully in C.

75. What happens if the following program is executed in C and C++?

```
#include <stdio.h>
void main()
{
        printf("Hello World");
}
```

a) Error in both C and C++
b) Successful run in both C and C++
c) Error in C and successful execution in C++
d) Error in C++ and successful execution in C

View Answer

Answer: d

Explanation: main() function in C++ must return int otherwise the C++ compiler gives the error whereas C does not forces such things on main() function. Thereas when we aremaking void main(){} function in this program the C++ compiler gives error whereas C compiler runs successfully.

76. What happens if the following program is executed in C and C++?

```
#include <stdio.h>
void func(void)
{
        printf("Hello");
}
void main()
```

```
{
        func();
        func(2);
}
```

a) Error in both C and C++
b) Outputs Hello twice in both C and C++
c) Error in C and successful execution in C++
d) Error in C++ and successful execution in C

View Answer

Answer: a

Explanation: As the func(void) needs no argument during its call, hence when we are calling func(2) with 2 as passed as a parameter then this statement gives the error in both C++ and C compiler.

77. What happens if the following program is executed in C and C++?

```
#include <stdio.h>
void func()
{
        printf("Hello");
}
void main()
{
        func();
        func(2);
}
```

a) Error in both C and C++
b) Outputs Hello twice in both C and C++
c) Error in C and Outputs Hello twice in C++
d) Error in C++ and Outputs Hello twice in C

View Answer

Answer: d

Explanation: In C++ whenever a function without argument is declared it is equivalent to function with void arguments i.e. func() == func(void) whereas in C a function without argument is equivalent to func(...) i.e. it can take any number of arguments so func(2) call is also valid in C but not valid in C++. Hence it gives error in C++ whereas no error in C.

78. Which of the following type is provided by C++ but not C?
a) int
b) bool
c) float

d) double
View Answer
Answer: b
Explanation: C++ provides the boolean type to handle true and false values whereas no such type is provided in C.

79. Which of the following feature is not provided by C?
a) Pointers
b) Structures
c) References
d) Functions
View Answer
Answer: c
Explanation: References are introduced in C++. They are not present in C.

80. What is the size of wchar_t in C++?
a) 2
b) 4
c) 2 or 4
d) Based on the number of bits in the system
View Answer
Answer: d
Explanation: Compiler wants to make CPU as more efficient in accessing the next value.

81. Pick the odd one out.
a) array type
b) character type
Fc) boolean type
d) integer type
View Answer
Answer: a
Explanation: Array type is not the basic type and it is constructed using the basic type.

82. Which data type is used to represent the absence of parameters?
a) int
b) short
c) void
d) float
View Answer
Answer: c
Explanation: Because void specifies an empty set of values/parameters.

Unit 1: Introduction Of C++

83. What does '\a' escape code represent?
a) alert
b) backslash
c) tab
d) form feed
View Answer
Answer: a
Explanation: Because \a is used to produce a beep sound.

84. Which type is best suited to represent the logical values?
a) integer
b) boolean
c) character
d) float
View Answer
Answer: b
Explanation: Logical values can be either true or false, so the boolean type is suited for it.

85. Identify the user-defined types from the following?
a) enumeration
b) classes
c) both enumeration and classes
d) int
View Answer
Answer: c
Explanation: They must be defined by the users before use, unlike the other types which are readily available.

86. Which of the following statements are true?

```
int f(float)
```

a) f is a function taking an argument of type int and returning a floating point number
b) f is a function taking an argument of type float and returning an integer
c) f is a function of type float
d) f is a function of type int
View Answer
Answer: b
Explanation: The argument that is passed to a function f is of float type and the function finally returns a value that id is of integer type.

Unit 1: Introduction Of C++

87. The value 132.54 can be represented using which data type?
a) double
b) void
c) int
d) bool
View Answer
Answer: a
Explanation: The given value is with decimal points, so float or double can be used.

88. When a language has the capability to produce new data type mean, it can be called as
a) overloaded
b) extensible
c) encapsulated
d) reprehensible
View Answer
Answer: b
Explanation: Extensible is used to add new features to C++.

89. Pick the odd one out.
a) integer, character, boolean, floating
b) enumeration, classes
c) integer, enum, void
d) arrays, pointer, classes
View Answer
Answer: c
Explanation: integer, character, boolean & floating consists of all fundamental types, enumeration & classes consists of user-defined types and arrays, pointer & classes consists of derived types but integer, enum & void is a mixture.

90. How many characters are specified in the ASCII scheme?
a) 64
b) 128
c) 256
d) 24
View Answer
Answer: b
Explanation: There are 128 characters defined in the C++ ASCII list.

91. Given the variables p, q are of char type and r, s, t are of int type. Select the right statement?

1. t = (r * s) / (r + s);

2. t = (p * q) / (r + s);

a) 1 is true but 2 is false
b) 1 is false and 2 is true
c) both 1 and 2 are true
d) both 1 and 2 are false
View Answer
Answer: c
Explanation: Every character constant has an integer value. Also char belongs to the integral type hence arithmetic and logical operations can be performed on them.

92. Which of the following belongs to the set of character types?
a) char
b) wchar_t
c) only a
d) both wchar_t and char
View Answer
Answer: d
Explanation: wchar_t and char are used to represent wide character and character.

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

```
#include <iostream>
using namespace std;
int main()
{
    char c = 74;
    cout << c;
    return 0;
}
```

a) A
b) N
c) J
d) I
View Answer
Answer: c
Explanation: The literal value for 74 is J. So it will be printing J.

94. How do we represent a wide character of the form wchar_t?
a) L'a'
b) l'a'
c) L[a]

d) la
View Answer
Answer: a
Explanation: A wide character is always indicated by immediately preceding the character literal by an L.

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

```
#include <stdio.h>
int main()
{
    char a = '\012';

    printf("%d", a);
    return 0;
}
```

a) Compiler error
b) 12
c) 10
d) Empty
View Answer
Answer: c
Explanation: The value '\012' means the character with value 12 in octal, which is decimal 10.

96. In C++, what is the sign of character data type by default?
a) Signed
b) Unsigned
c) Implementation dependent
d) Unsigned Implementation
View Answer
Answer: c
Explanation: The standard does not specify if plain char is signed or unsigned. There are three distinct character types according to the standard: char, signed char and unsigned char.

97. Is the size of character literals different in C and C++?
a) Implementation defined
b) Can't say
c) Yes, they are different
d) No, they are not different
View Answer

Answer: c
Explanation: In C++, sizeof('a') == sizeof(char) == 1. In C however, sizeof('a') == sizeof(int).

98. Suppose in a hypothetical machine, the size of char is 32 bits. What would sizeof(char) return?
a) 4
b) 1
c) Implementation dependent
d) Machine dependent
View Answer
Answer: b
Explanation: The standard does NOT require a char to be 8-bits, but does require that sizeof(char) return 1.

99. What constant defined in <climits> header returns the number of bits in a char?
a) CHAR_SIZE
b) SIZE_CHAR
c) BIT_CHAR
d) CHAR_BIT
View Answer
Answer: d
Explanation: CHAR_BIT is a macro constant defined in <climits> header file which expresses the number of bits in a character object in bytes.

101. The size_t integer type in C++ is?
a) Unsigned integer of at least 64 bits
b) Signed integer of at least 16 bits
c) Unsigned integer of at least 16 bits
d) Signed integer of at least 64 bits
View Answer
Answer: c
Explanation: The size_t type is used to represent the size of an object. Hence, it's always unsigned. According to the language specification, it is at least 16 bits.

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

```
1.    #include <iostream>
2.    using namespace std;
3.    int main()
4.    {
5.         int x = -1;
6.        unsigned int y = 2;
7.
```

Unit 1: Introduction Of C++

```
8.        if(x > y)
9.        {
10.        cout << "x is greater";
11.        }
12.        else
13.        {
14.                  cout << "y is greater";
15.        }
16.    }
```

a) x is greater
b) y is greater
c) implementation defined
d) arbitrary
View Answer
Answer: a
Explanation: x is promoted to unsigned int on comparison. On conversion x has all bits set, making it the bigger one.

103. Which of these expressions will return true if the input integer v is a power of two?
a) (v | (v + 1)) == 0;
b) (~v & (v – 1)) == 0;
c) (v | (v – 1)) == 0;
d) (v & (v – 1)) == 0;
View Answer
Answer: d
Explanation: Power of two integers have a single set bit followed by unset bits.

104. What is the value of the following 8-bit integer after all statements are executed?

```
1. int x = 1;
2. x = x << 7;
3. x = x >> 7;
```

a) 1
b) -1
c) 127
d) Implementation defined
View Answer

Answer: d
Explanation: Right shift of signed integers is undefined, and has implementation-defined behaviour.

105. Which of these expressions will make the rightmost set bit zero in an input integer x?
a) x = x | (x-1)
b) x = x & (x-1)
c) x = x | (x+1)
d) x = x & (x+2)
View Answer
Answer: b
Explanation: If x is odd the last bit will be 1 and last bit of x-1 will become 0. If x is even then last bit of x will be 0 and last bit of x-1 will become 1. In both case AND operation of 1 and 0 will be 0. Hence last bit of final x will be 0.

106. Which of these expressions will isolate the rightmost set bit?
a) x = x & (~x)
b) x = x ^ (~x)
c) x = x & (-x)
d) x = x ^ (-x)
View Answer
Answer: c
Explanation: Negative of a number is stores as 2;s complement in C++, so when you will take AND of x and (-x) the rightmost digit will be preserved.

107. 0946, 786427373824, 'x' and 0X2f are _____ _____ ____ and _____ literals respectively.
a) decimal, character, octal, hexadecimal
b) octal, hexadecimal, character, decimal
c) hexadecimal, octal, decimal, character
d) octal, decimal, character, hexadecimal
View Answer
Answer: d
Explanation: Literal integer constants that begin with 0x or 0X are interpreted as hexadecimal and the ones that begin with 0 as octal. The character literal are written within ''.

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

```
1.    #include <iostream>
2.    using namespace std;
3.    int main()
4.    {
```

Unit 1: Introduction Of C++

```
5.        int a = 8;
6.        cout << "ANDing integer 'a' with 'true' :" << a && true;
7.        return 0;
8.    }
```

a) ANDing integer ‘a’ with ‘true’ :8
b) ANDing integer ‘a’ with ‘true’ :0
c) ANDing integer ‘a’ with ‘true’ :1
d) ANDing integer ‘a’ with ‘true’ :9
View Answer
Answer: a
Explanation: The && operator in C++ uses short-circuit evaluation so that if bool1 evaluates to false it doesn’t bother evaluating bool2. So as here bool1 is 8 which is true as it is non-zero so C++ does not cares about the expression further and prints the answer of expression which is 8. If you write true && 8 then the output will be 1 because true is true and its integer equivalent is 1 so 1 will be printed.

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

```
1.    #include <iostream>
2.    using namespace std;
3.    int main()
4.    {
5.        int i = 3;
6.        int l = i / -2;
7.        int k = i % -2;
8.        cout << l << k;
9.        return 0;
10.    }
```

a) compile time error
b) -1 1
c) 1 -1
d) implementation defined
View Answer
Answer: b
Explanation: Sign of result of mod operation on negative numbers is sign of the dividend.

110. What will be the output of the following C++ function?

```
1.    int main()
2.    {
3.        register int i = 1;
```


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```
4.         int *ptr = &i;
5.         cout << *ptr;
6.  return 0;
7.     }
```

a) 0
b) 1
c) Compiler error may be possible
d) Runtime error may be possible
View Answer
Answer: c
Explanation: Using & on a register variable may be invalid, since the compiler may store the variable in a register, and finding the address of it is illegal.