

QB365 Question Bank Software Study Materials

Introduction to C++ Important 2,3 & 5 Marks Questions With Answers (Book Back and Creative)

11th Standard

Computer Science

Total Marks : 75

2 Marks

10 x 2 = 20

1) What is the use of setw () format manipulator?

Answer : Setw manipulator sets the width of the field assigned for the output. The field width determines the minimum number of characters to be written in output.

Syntax: setw(number of characters)

2) Which of the following two statements are valid? Why? Also write their result.

int a;

(i) int a; a = 3,014;

(ii) int a; a=(3,014);

Answer : (i) It is invalid as comma is not allowed in an integer constant.

(ii) It is valid, Comma in bracket is allowed.

3) Write the following real constants in fractional form:

i) 0.23E4 ii) 0.517E-3 iii) 0.5E-5

Answer : (i) $0.23E4 = 0.23 \times 10^4 = 2300.00$

(ii) $0.517E-3 = 0.517 \times 10^{-3} = 0.000517$

(iii) $0.5E-5 = 0.5 \times 10^{-5} = 0.000005$

4) What is the significance of null (\0) character in a string?

Answer : Sequence of characters enclosed within double quotes are called string literals. By default, string literals are automatically added with a special character "\0" (null) at the end. Therefore, the string "welcome" will actually be represented as "welcome\0" in memory and the size of this string is not 7 but 8 characters, i.e., inclusive of the last character 10.

Valid string literals: "A", "Welcome", "1234"

Invalid string literals: 'A', '1234'

5) What does the modulus operator % do?

Answer : The modulus (%) operator is used to find the remainder of the division.

Example: $10 \% 3 = 1$ (Remainder of the division)

6) Name any four applications developed by C++.

Answer : (i) Photoshop

(ii) Maya

(iii) Amazon

(iv) Facebook

7) What is meant by cascading of operator?

Answer : The multiple use of input and output operators such as >> and << in a single statement is known as cascading of I/O operators

8) What is known as Access Modifier?

Answer : Keyword modifiers / restricts the accessibility of a variable. So, it is known as Access modifier.

9) Write the advantages of using float datatype?

Answer : There are two advantages of using float data types.

- (1) They can represent values between the integers
- (2) They can represent a much greater range of values.

10) Write a note on endl

Answer : endl is used as a line feeder in C++. It can be used as an alternate to '\n', in other words, endl inserts a new line and then makes the cursor to point to the beginning of the next line.

3 Marks

10 x 3 = 30

11) Is C++ case sensitive? What is meant by the term “case sensitive”?

Answer : C++ is a case sensitive programming language so, all the keywords must be in lowercase. Case sensitive means that the uppercase and lowercase letters are considered differently.

12) Differentiate “=” and “==”.

Answer :

=	==
" = "is an assignment operator	" == " is an equal to operator and it is a relational operator.
It is used to assign the value of variable or expression	It is used for comparison of both left and right side operands.
Eg: a = b (b value is assigned to a)	Eg: a==b (a value will be compared with b value).

13) What is the use of a header file?

Answer : Header files contain definitions of Functions and Variables, which is imported or used into any C++ program by using the pre-processor #include statement. Header files have an extension ".h" which contains C++ function declaration and macro definition.

Example: #include< iostream.h >

14) What are arithmetic operators in C++? Differentiate unary and binary arithmetic operators. Give example for each of them.

Answer : Arithmetic operators perform simple arithmetic operations like addition, subtraction, multiplication, division etc.

Unary Operators	Binary Operators
Require only one operand	Require two operands
Example: +, -, *, /, %, >, <, <=, AND, OR	Example: ++ (Plus, Plus) Increment operator, --(Minus, Minus) Decrement operator, NOT, -,

15) Evaluate the following C++ expressions where x, y, z are integers and m, n are floating point numbers. The value of x = 5, y = 4 and m=2.5;

- (i) $n = x + y / x;$
- (ii) $z = m * x + y;$
- (iii) $z *= x * m + x;$

Answer : (i) $n = x + y / x;$

= $5 + 4/5$

= $5 + 0$

= 5 (both x and y are int type. Therefore only integer part of quotient is considered)

(ii) $z = m * x + y;$

= $2.5*5 + 4$ (m is float type, so x value is promoted to float [implicit conversion])

= $12.5 + 4$

= 16 (2 is int type. So '2', the fractional part is discarded)

(iii) $z *= x * m + x;$

= $5*2.5+x$

= $12.5 + 5$

= 18 (z is int type, therefore the fractional part is removed. x is incremented after the addition)

16) Write the following in real constants.

- (i) 15.223
- (ii) 211.05
- (iii) 0.00025.

Answer : (i) 15.223 = 0.15223E2

(ii) 211.05 = 0.21105E3

(iii) 0.00025 = 0.25E-3

17) Rewrite the following program segment using if else statement.

Com = (sales > 15000) ? sale A5/100 : 0;

Answer : if (sales > 15000)

com = sales * 5/100;

else

com = 0;

18) State the escape sequences for horizontal tab and new line feed.

Answer : Escape sequences for horizontal tab is "\t" and for new line is "\n".

19) What is Automatic conversion and Type promotion?

Answer : 1. Implicit type conversion is a conversion performed by the compiler automatically. So, implicit conversion is also called "Automatic conversion".

2. This type of conversion is applied usually whenever different data types are intermixed in an expression. If the type of the operands differs, the compiler converts one of them to match with the other, using the rule that the "smaller" type is converted to the "wider" type, which is called "Type Promotion".

20) If a = 65, b == 15, what is the result of a|b?

Answer : Equivalent Binary values of 65 = 01000001; 15 = 00001111

Operation	Result
a b	a 01000001
	b 00001111
	a b 01001111
	(a b)=01001111 ₂ =79 ₁₀

5 Marks

5 x 5 = 25

21) Write about Binary operators used in C++.

Answer : Binary Operators require two operands.

Arithmetic operators that perform simple arithmetic operations like addition, subtraction, multiplication, division (+, -, *, /) etc. are binary operators which requires minimum of two operands.

Relational operators are used to determine the relationship between its operands. The relational operators (<, >, >=, <=, !=) are applied on two operands, hence they are binary operators.

AND, OR (logical operator) both are binary operators.

Assignment operator is also a binary operator (+=, -=, *=, /=, %=)

22) What are the types of Errors?

Answer :

Type of Error	Description
Syntax Error	Syntax errors occur when grammatical rules of C++ are violated.
Semantic Error	Semantic Error occur when there is wrong use of variable/ operator/order of execution etc. It is also called as Logical Error.
Run-time error	A run time error occurs during the execution of a program. It is occurs because of some illegal operation that takes place.

23) Explain any five familion applications developed by C++?

Answer : (i) **Android** - Famous Operating system for smart phones developed by Java and C++

(ii) **Adobe Systems** - All major applications are developed in C++

Photoshop & ImageReady

Illustrator

Acrobat,

InDesign,

GoLive,

Frame (mostly C, some C++)

(iii) **Maya** - 3D Animation Multimedia software has been used in the production of every major film involving computer-generated effects including Star Wars, Spider Man, Lord of the Rings, Stuart Little etc.,

(iv) **Amazon.com** - Large scale e-commerce application

(v) **Amadeus**: running the biggest non-military datacenter in Europe (in excess of 5000transactions per second, 2,00,000 terminals connected, 24/7 operation) is doing most of its current development in C++. All Unix - based server applications are completely C++. Some of them :

Car reservation

Customer profile server

Electronic ticketing

TCP IIP front end

(vi) **Facebook** - Several high performance and high-reliability components

24) Explain Bitwise Shift operator with an example.

Answer : (i) The Bitwise shift operators: There are two bitwise shift operators in C++, Shift left (< <) and Shift right (> >).

(ii) Shift left (< <):- The value of the left operand is moved to left by the number of bits specified by . the right operand. Right operand should be an unsigned integer.

(iii) Shift right (> >):- The value of the left operand is moved to right by the number of bits specified by the right operand. Right operand should be an unsigned integer.

Example:

If a = 15; Equivalent binary value of a is 0000 1111

OPERATOR	OPERATION	RESULT
		a 00001111
< <	a < < 3	(a < < 3) 01111000
		(a < < 3) = 01111000 ₂ = 120 ₁₀

25) If a = 17, b = 24, what is the result of the following?

(I) a&b (it) a | b (iii) a^b (iv) a > > 3 (v) ~ b

Answer :

Operation	Result
a&b	a 00010001
	b 00011000
	a&b 00010000
	*a&b)=00010000 ₂ =16 ₁₀
a b	a 00010001
	b 00011000
	a b 00011000
	(a b)=00011001 ₂ =25 ₁₀
a^b	a 00010001
	b 00011000
	a^b 00001001
	(a^b)=00001001 ₂ =9 ₁₀
a >> 3	a 00010001
	a >> 3 00000001
	2 ₁₀
~b	b 00011000
	~b 11100111
	(~b)-25 ₁₀