C Multiple Choice Questions with Answers and Explanation

Q1. int a = printf("firstBit") && printf("Solutions"); printf("%d", a);

(a) firstBitSolutions0
(b) firstBitSolutions1
(c) SolutionsfirstBit1
(d) firstBitSolutions01
Answer: (b) firstBitSolutions1
Explanation: Logical AND '&&' evaluates both non-zero returns. Both printf return non-zero, so a = 1.

Q2. Which of the following is an arithmetic operator?

(a) &&
(b) =
(c) ==
(d) +
Answer: (d) +
Explanation: The '+' operator performs arithmetic addition.

Q3. int a = printf("one"); int b = printf("two"); int c = a || b; printf("%d", c);

(a) onetwo1
(b) onetwo0
(c) one0two
(d) one1two
Answer: (a) onetwo1
Explanation: Both printf return non-zero; logical OR returns 1 after printing 'onetwo'.

Q4. What will be the result of 10 / 4 in C?

(a) 2.5
(b) 2
(c) 3
(d) 0
Answer: (b) 2
Explanation: Integer division truncates the decimal part, so 10/4 = 2.

Q5. int x = printf("") || printf(""); printf("%d", x);

(a) 0
(b) 1
(c) Garbage Value
(d) Compilation Error
Answer: (a) 0
Explanation: Both printf return 0; logical OR 0||0 = 0.

Q6. Which operator is used for comparison?

(a) =
(b) ==
(c) +=
(d) &&
Answer: (b) ==
Explanation: '==' checks equality; '=' is assignment.

Q7. int a = printf("A"); int b = printf("B"); int c = a && b; printf("%d", c);

(a) AB0

(b) AB1
(c) A0B
(d) 0AB
Answer: (b) AB1
Explanation: Both printf return 1; logical AND 1&&1 = 1.

Q8. What is the output of printf("%d", 7 % 3);?

(a) 2
(b) 1
(c) 3
(d) 0
Answer: (a) 2
Explanation: 7 modulo 3 leaves remainder 2.

Q9. int a = printf("") && printf("java"); printf("%d", a);

(a) java0
(b) java1
(c) 0java
(d) 0
Answer: (d) 0
Explanation: First printf returns 0; logical AND short-circuits, so second printf not executed.

Q10. Which operator has the highest precedence?

(a) *
(b) ()
(c) =
(d) &&
Answer: (b) ()
Explanation: Parentheses have highest precedence.

Q11. What does a += 3; mean?

(a) a = a + 3
(b) a = 3
(c) a = 3 + 3
(d) Error
Answer: (a) a = a + 3
Explanation: It adds 3 to the current value of a.

Q12. What is the output of printf("%d", 5 > 3);?

(a) 1
(b) 0
(c) error
(d) true
Answer: (a) 1
Explanation: 5>3 is true, logical true represented by 1 in C.

Q13. int a = printf("") || printf("firstbit"); printf("%d", a);

(a) firstbit1
(b) firstbit0
(c) 0firstbit
(d) 1firstbit
Answer: (a) firstbit1
Explanation: First printf returns 0, so second executed; returns 1 because non-zero.

Q14. What is the type of operator &&?

(a) Arithmetic
(b) Relational

(c) Logical
(d) Assignment
Answer: (c) Logical
Explanation: && is the logical AND operator.

Q15. int a = printf("abc"); a = printf("xyz"); printf("%d", a);

(a) abcxyz3
(b) xyzabc3
(c) abcxyz0
(d) abcxyz6
Answer: (a) abcxyz3
Explanation: Second printf returns 3; first output printed earlier.

Q16. What is the result of 3 > 2 && 4 < 5?

(a) 1
(b) 0
(c) true
(d) false
Answer: (a) 1
Explanation: Both conditions true, so AND = 1.

Q17. What is the meaning of a = b++;?

(a) a is assigned b, then b is incremented
(b) a is assigned b+1
(c) a and b both incremented
(d) Error
Answer: (a) a is assigned b, then b is incremented
Explanation: Post-increment assigns current value first, then increments.

Q18. In x = y = 5, which assignment happens first?

(a) x = y
(b) y = 5
(c) x = 5
(d) Both simultaneously
Answer: (b) y = 5
Explanation: Right to left assignment: y=5 first, then x=y.

Q19. What will be the output of printf("%d", 5 < 3 || 4 < 10);?

(a) 0
(b) 1
(c) true
(d) false
Answer: (b) 1
Explanation: 5<3 false, 4<10 true; OR = 1.

Q20. int a = 3; printf("%d", a++ + ++a);

(a) 6
(b) 7
(c) Undefined Behaviour
(d) 8
Answer: (c) Undefined Behaviour
Explanation: Mix of post-increment and pre-increment on same variable is undefined in C.

Q21. int x = 5; printf("%d", x != 5);

(a) 1
(b) 0
(c) 5

(d) error
Answer: (b) 0
Explanation: x !=5 is false → 0.

Q22. int a = 2, b = 3; printf("%d", a * b + b);

(a) 9
(b) 11
(c) 7
(d) 5
Answer: (a) 9
Explanation: 2*3 + 3 = 6+3=9.

Q23. printf("%d", printf("%d", 123));

(a) 1233
(b) 123
(c) 1232
(d) 1231
Answer: (d) 1231
Explanation: Inner printf prints 123 (3 chars); outer printf prints 3 (number of chars).

Q24. int a = 2; a = a++ * 2; printf("%d", a);

(a) 4
(b) 6
(c) 2
(d) Undefined Behaviour
Answer: (d) Undefined Behaviour
Explanation: Using post-increment and assignment on same variable is undefined.

Q25. int a = 0; printf("%d", a || a++); printf("%d", a);

(a) 01
(b) 00
(c) 10
(d) 11
Answer: (a) 01
Explanation: a || a++: first a=0 false, second executed, prints 1; a becomes 1.

Q26. Which of the following expressions is valid in printf() and returns 2?

(a) printf("%d", 1 + 1);
(b) printf("%d", 2);
(c) printf("%d", 5 - 3);
(d) All of the above
Answer: (d) All of the above
Explanation: All expressions print 2 and return number of chars printed.

Q27. int x = 0; x = x++ + x++ + x++; printf("%d", x);

(a) 3
(b) 6
(c) 2
(d) Undefined Behaviour
Answer: (d) Undefined Behaviour
Explanation: Multiple post-increments on same variable in same statement is undefined.

Q28. int a = 10; int b = printf("%d", a = a--); printf(" %d %d",a,b);

(a) 10 10 2
(b) 10 9 0
(c) Undefined
(d) Compilation Error

Answer: (c) Undefined

Explanation: Assignment and post-decrement in same expression is undefined.

Q29. printf("%d", printf("%d", printf("A")));

(a) A12
(b) A11
(c) A21
(d) A1

Answer: (a) A12

Explanation: Innermost printf prints A, returns 1; middle printf prints 1, returns 2; outer prints 2.

Q30. int c = printf("%c", 'A' + 1); printf(" %d",c);

(a) 66 2
(b) A+1
(c) B 1
(d) Compilation Error

Answer: (c) B 1

Explanation: 'A'+1 = 'B'; printf prints B, returns 1.