

1. The control/conditional statements used in C is/are
 - a) 'if-else' statements
 - b) 'switch' statements
 - c) Both (a) and (b)
 - d) None of these

Solution: (c) Both if-else and switch statements are conditional statements in C.

2. What is the other statement that can avoid multiple nested if conditions?
 - a) Functions
 - b) 'switch' statements
 - c) 'if-else' statements with 'break'
 - d) Loop statements

Solution: (b) switch statements are used to avoid multiple nested if conditions.

3. The loop which is executed at least one is
 - a) while
 - b) do-while
 - c) for
 - d) none of the above

Solution: (b) do-while loop is executed at least one even though the condition is false.

4. 'switch' statement cannot use which of the following datatype:
 - a) int
 - b) char
 - c) short
 - d) float

Solution: (d) float is not allowed in switch cases.

5. Which of the following is a C Conditional Operator?
 - a) ?:
 - b) :?
 - c) :<
 - d) <:

Solution: (a)?: is the C ternary operator.

6. What is the output of the following code?

```
#include<stdio.h>
int main()
{
    int x=0;
    x = 3<2 ? printf("5"): printf("3");
    printf("%d", x);
    return 0;
}
```

Solution: 31

The ternary operator checks if $3 < 2$ which is false therefore the second printf statement - printf("3") gets executed printing 3. At the same time, printf("3") returns 1, which becomes the value of x. Therefore, finally 1 gets printed, making the final output as 31.

7. Which of the following statement is correct regarding C 'if-else' statement?

- a) 'else if' is compulsory to use with 'if' statement.
- b) 'else' is compulsory to use with 'if' statement.
- c) 'else' or 'else if' is optional with 'if' statement.
- d) None of the above

Solution: (c) else or else if is optional with if statement. If statement can be used alone without using else/else if statement.

8. What is the output of the following code

```
#include<stdio.h>
int main()
{
    if(1 > 5)
        printf("Swayam\n");
        printf("C Programming");
    return 0;
}
```

- a) Swayam
- b) C Programming
- c) Swayam
C Programming
- d) It won't print anything

Solution: (b) C Programming

The condition '1>5' is false therefore the following printf statement 'printf("Swayam\n")' won't be executed but the next printf statement is not inside the if block; therefore, 'printf("C Programming")' gets executed and 'C Programming' gets printed. In order to put the printf statements inside if block you need to use parenthesis.

9. What will be the value of 'i' after the execution of the following statements?
Assume the initial values as i = 8; j = 5; k = 0.

```
k=(j>5)?(i<5)?i-j:j-i:k-j;
```

```
i-=(k)?(i)?(j):(i):(k);
```

Solution: 3

Given that the values of i, j and k are 8, 5 and 0 respectively. The first statement j>5 is not executed because j=5 and i<5 is also not executed. So the program evaluate k-j, which is, 0-5=-5. So, after execution of first expression the values are 8, 5 and -5 respectively. In the second statement the values of k, i are non-zero. So, it is true for both. So, the values of i, j and k are 3, 5 and -5.

10. What will be the value of a, b, c after the execution of the followings?

```
int a = 5, b = 7, c = 111;
```

```
c /= ++a * b--;
```

- a) a=5, b=6, c=2;
- b) a=6, b=7, c=1;
- c) a=6, b=6, c=2;
- d) a=5, b=7, c=1;

Solution: (c) ++a * b-- is computed as (a=a+1)*(b) => (6)*(7)=42
c/=42 => c=c/42 => c=111/42=2 (as c is integer)

Hence the right answer is a=6, b=6 and c=2