

1. In C program ‘&’ is used in ‘scanf’ statement to indicate
  - a) AND operation
  - b) Memory location
  - c) Value of the variable
  - d) Value at the memory location.

Solution: (b) ‘&’ is used to indicate the memory location where the value of the variable will be stored after taking input from standard input device.

2. 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.

3. switch statement accepts
  - a) int
  - b) char
  - c) long
  - d) All of the above

Solution: (d) Integer, character and long constants are accepted in switch statements.

4. 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 if the condition is false.

5. What is the output of the following C code?

```
#include <stdio.h>
int main()
{
    int x = 1;
    if (x == 0)
        if (x >= 0)
            printf("true\n");
        else
            printf("false\n");
    return 0;
}
```

- a) true
- b) false
- c) Depends on computer
- d) No print statements

Solution: (d) x is initialize with 1 and the if statement compares it with 0, thus the if condition is false and the nested if statements do not get executed. Hence, the program does not prints anything.

6. Compute the printed value of i of the C program given below

```
#include<stdio.h>
int main()
{
    int i=2;
    i=++i + ++i;
    printf("%d",i);
    return 0;
}
```

Solution: 8 ++ is pre-increment operator. It increments the value of i by one and then assignment is done. Thus the value of i is incremented two time before addition and the result is 8.

7. If multiple conditions are used in a single if statement then the testing of those conditions are done
- From Right to Left
  - From Left to right
  - Randomly
  - None

Solution: (b) Multiple conditions are tested from Left to right

8. What is the output of the following C code?

```
#include <stdio.h>
int main()
{
    int a = 1;
    if (a--)
        printf("Hello\n");
    if (++a)
        printf("Hi\n");
    return 0;
}
```

- Hello
- Hi
- Both 'Hello' and 'Hi'
- Compilation error

Solution: (c) 'a--' post-increment the value of a. Thus, the if statement is executed as the value of a is considered as 1 which is true. '++a' pre-increment the value of a. Thus, the decremented value of a (which is 0) is incremented first and then assigned. So, both the if statements are executed and correspondingly both Hello and Hi will be printed.

9. What is the output of the following program?

```
#include <stdio.h>
int main()
{
    int k = 2;
    for (k)
    {
        printf("Hello");
    }
}
```

```

        k--;
    }
    return 0;
}

```

- a) Hello
- b) Nothing
- c) Hello Hello
- d) Compilation error

Solution: (d) The correct syntax of for loop is not written, thus the compiler will return error.

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  $(a=a+1)*(b) \rightarrow (6)*(7)=42$   
 $c/=42 \rightarrow c=c/42 \rightarrow c=111/42=2$  (as c is integer)

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

11. How many times “Hello” will be printed when the following code is executed?

```

#include<stdio.h>
int main()
{
    int i=6;
    while(--i>0)
        printf("Hello\t");
    return 0;
}

```

- a) 5
- b) 6
- c) 7
- d) Nothing will be printed

Solution: (a)

We have declared and initialize the variable  $i = 6$ , the condition is  $(--i > 0)$ . Here  $i$  is pre-decremented one by one until 1. It will be 5, 4, 3, 2 and 1 for each iteration.

12. While(1) is used in a program to create

- a) False statement
- b) Infinite loop
- c) Terminating the loop
- d) Never executed loop

Solution: (b) while(1) is used to create infinite loop.

13. What will be the output of the following program?

```
#include <stdio.h>
int main()
{
    int x = 1;
    switch (x)
    {
        case 1: printf("Choice is 1 \n");
        default: printf("Choice other than 1 \n");
    }
    return 0;
}
```

- a) Choice is 1
- b) Choice other than 1
- c) Both (a) and (b)
- d) Syntax error

Solution: (c)

Since “break;” statement is not used after print statement, it will execute the default instruction as well.

14. What will be the output?

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

    int a = 10;
    do {
        printf("%d ", a++);
        ++a;
    }while( a >= 20 );
    printf("%d ", a);
    return 0;
}
```

- a) 11 12
- b) 10 11 12 ... 20 20
- c) 10 12 14 ... 20 20
- d) 10 12

Solution: (d)

The loop body is executed once due to false conditional checking. Hence, 10 is printed within the loop. While exiting the loop the value of a is incremented to 12 due to one post and pre increment. So, after the loop 12 will be printed.

15. What will be printed when the following code is executed?

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

```
int i;  
for(i=0;i<5;++i);  
    printf("%d ",i);  
return 0;  
}
```

- a) 0 1 2 3 4 5
- b) 0 1 2 3 4
- c) 5
- d) 0

Solution: (c)

“printf” is a separate instruction as it is not included within the loop. There is a semicolon “;” after the for loop. After the execution of loop printf statement prints the value of i (as updated in the loop) i.e. 5.