

23/3/2018



DOON UNIVERSITY, DEHRADUN
Mid Semester Examination, Even Semester, 2018
Academic Year 2017-18 (Even Semester)
School of Physical Sciences (Computer Science)
Integrated M.Sc. (Computer Science), II semester
CSC-151: Programming in C

Time Allowed 2.00 Hours

Maximum Marks: 30

SECTION : A

(Total Marks: 6 × 1 = 6)

Multiple choice questions:

Q.1) In what sequence the initialization, testing and execution of body is done in a do-while loop

- (a) Initialization, execution of body, testing
- (b) Execution of body, initialization, testing
- (c) Initialization, testing, execution of body
- (d) None of the above

Q.2) The **break** statement is used to exit from:

- (a) an **if** statement
- (b) **for** loop
- (c) a program
- (d) the **main()** function

Q.3) What is the difference between the 5's in these two expressions?

`int num[5] ; num[5] = 11 ;`

- (a) first is particular element, second is type
- (b) first is array size, second is particular element
- (c) first is particular element, second is array size
- (d) both specify array size

Q.4) A C variable cannot start with

- (a) An alphabet
- (b) A number
- (c) A special symbol other than underscore
- (d) Both (2) & (3) above

Q.5) The statement `char ch = 'Z'` would store in `ch`

- (a) The character Z
- (b) ASCII value of Z
- (c) Z along with the single inverted commas
- (d) Both (1) and (2)

Q.6) An array is a collection of

- (a) different data types scattered throughout memory
- (b) the same data type scattered throughout memory
- (c) the same data type placed next to each other in memory
- (d) different data types placed next to each other in memory

SECTION : B (Answer any four)

(Total Marks: 4 × 3 = 12)

Q.7) What would be the output of the following program:

```
main( )
{
    int x = 4, y = 0, z ;
    while ( x >= 0 )
    {
        if ( x == y )
            break ;
        else
            printf ( "\n%d %d", x, y ) ;
        x-- ;
        y++ ;
    }
}
```

Q.8) Determine the header file for each of the library function:

- a) clrscr(); b) getch(); c) strcmp();

Q.9) Evaluate the following expressions :

- (a) $s = 1 / 3 * a / 4 - 6 / 2 + 2 / 3 * 6 / g$; (a = 4, g = 3, assume s to be an int)
(b) $g = big / 2 + big * 4 / big - big + abc / 3$; (abc = 2.5, big = 2, assume g to be a float)

Q.10) How gets() function differ from scanf() function? Elaborate by taking suitable example.

Q.11) What would be the output of the following program:

```
main( )
{
    int a[5] = { 5, 1, 15, 20, 25 } ;
    int i, j, k = 1, m ;
    i = ++a[1] ;
    j = a[1]++ ;
    m = a[i++] ;
    printf ( "\n%d %d %d", i, j, m ) ;
}
```

SECTION : C (Answer any three)

(Total Marks: 3 × 4 = 12)

Q.12) Write a program to add first seven terms of the following series using a **for** loop:

$$\frac{1}{1!} + \frac{2}{2!} + \frac{3}{3!} + \dots$$

Q.13) Write a program to read a four digit integer and print the sum of its digits.

Hint: Use of / and % operators.

Q.14) Write a program to reverse a string.

Q.15) Write a program to calculate the sum of right and left diagonal of a matrix.