

Seat No. : 21212

**MO-108**

**December-2016**

**B.C.A., Sem.-I**

**CC-102 : Problem Solving and C Programming**

**Time : 3 Hours]**

**[Max. Marks : 70**

1. (a) Write difference between Assembly Language and Machine Language. Explain Machine language in depth with all its advantages and disadvantages. 7

**OR**

- (1) Differentiate High Level Language and Assembly Language. 4  
(2) Differentiate Procedural Language and Non-procedural Language. 3  
(b) (1) Write an algorithm to generate series : 3, 6, 9, 12, 15. 4  
(2) Draw flowchart to find maximum number from three numbers. 3

**OR**

- (1) Draw flowchart to find :  $1^2 + 2^2 + 3^2 + 4^2 + 5^2$ .  
(2) Write an algorithm to read a number and find that the number is positive, negative or zero.

2. (a) (1) Explain structure of C program. 4  
(2) Write rules for defining variables. 3

**OR**

- (1) Explain terms : Keywords, Comments, Variable, Token.  
(2) Explain type casting.

(b) (1) Write output of the following code : 4

```
void main ( )  
{  
    int ans =2;  
    int m=10;  
    int k;  
    k=!((ans<2) && (m>2));  
    printf("\n %d", k);  
}
```

(2) Differentiate prefix ++ and postfix ++ operators. 3

**OR**

(1) Explain getchar ( ) and putchar ( ) functions. 4

(2) Explain #define. 3

3. (a) Explain Switch case statement in depth. Write difference between switch case and if statement. 7

**OR**

(1) Explain nested if statement. 4

(2) Find output of following program : 3

```
main()  
{  
    Int i=1;  
    loop:  
        printf("%d", i++);  
    if(i==5) goto out;  
    goto loop;  
    out:  
}
```

(b) Explain while loop in depth. Write difference between while and do while. 7

**OR**

(1) Explain nested loop. 4

(2) Explain 'continue'. 3

4. (a) Define Array. What is the relation between array name and an element number ?  
How elements are referred using base address ? 7

**OR**

✓ Explain different types of initialization for one dimensional and two dimensional array.

- (b) Explain string functions to compare and copy two string from string.h file. 7

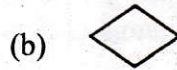
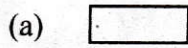
**OR**

Explain strlen() and strcat() functions with its prototype.

5. Attempt following : 14

(1) \_\_\_\_\_ is graphical representation of an algorithm.

(2) In flow chart for process \_\_\_\_\_ symbol is used.



(d) None of the above

(3) Linker is used in \_\_\_\_\_.

(a) Assembly language

(b) Higher level language

(c) Machine level language

(d) None of the above language

(4) Which format specifier is used to print the value of float type variable ?

(a) %d

(b) %ld

(c) %u

(d) %f

(5) Expression  $x=++a$  is equivalent to \_\_\_\_\_.

(a)  $a++$

(b)  $++a$

(c)  $a+2$

(d)  $a+1$

(6) In C, size of is a \_\_\_\_\_.

(a) variable

(b) operator

(c) keyword

(d) None of the above

(7) Which of the following is not a bitwise operator ?

(a)  $\&\&$

(b)  $\ll$

(c)  $\sim$

(d)  $\gg$

- (8) Minimum number of times the do...while loop will be executed ?  
(a) 0 (b) 1  
(c) Cannot be predicated (d) None of the above
- (9) State true or false : We cannot write do... while loop within for loop.
- (10) State true or false : In group of nested loop the outer loop is executed most number of times.
- (11) Null character is represented by  
(a) \n (b) \0  
(c) \t (d) \e
- (12) A string is a \_\_\_\_\_.  
(a) List of characters  
(b) Collection of characters  
(c) Array of characters  
(d) None
- (13) Two dimensional array a[3] [4] has \_\_\_\_\_.  
(a) 3 rows and 4 columns (b) 12 rows and 12 columns  
(c) 4 rows and 3 columns (d) 7 rows and 7 columns
- (14) The size of array can be defined by \_\_\_\_\_.  
(a) [] (b) ()  
(c) {} (d) <>