

# DJ-106

December-2017

B.C.A., Sem.-I

## CC-102 : Introduction to Programming Language Using C

Time : 3 Hours]

[Max. Marks : 70

1. (A) Differentiate machine language and assembly language and write advantages of machine language. 7  

**OR**

  - (1) Write an algorithm to find maximum number from three numbers. 3
  - (2) Draw a flow chart to generate Fibonacci series : 0, 1, 1, 2, 3, 5. 4
- (B) (1) Define terms: keyword, variable, constant. 3  
(2) Explain basic structure of C program. 4  

**OR**

  - (1) Write an algorithm to find x!. 3
  - (2) Write note on 'Type casting'. 4
2. (A) (1) Explain conditional operator. 3  
(2) Explain logical operators. 4  

**OR**

  - (1) Explain unary operators. 3
  - (2) Explain getchar() and putchar() functions. 4
- (B) Which are different types of if..else statements. Explain any two in depth. 7  

**OR**

Explain switch case statement in depth.
3. (A) Differentiate while and do..while loop and explain while loop in depth. 7  

**OR**

Define : loop and nested loop. Explain for loop in depth.
- (B) What is an array ? Which are different types of array ? How arrays can be initialized ? 7  

**OR**

  - (1) Explain 'break'. 3
  - (2) Explain 'goto' 4
4. (A) Explain strlen() and strcmp() string handling functions. 7  

**OR**

Explain elements of user defined function.
- (B) Which are different categories of user defined functions ? Explain any two in depth. 7  

**OR**

  - (1) Explain recursion. 3
  - (2) Explain nested function. 4

5. Attempt following :

14

- (1) \_\_\_\_\_ is single line comment.  
(a) // (b) \\  
(c) /\* (d) /\* \*/
- (2) Which language is a symbolic language ?  
(a) Machine language (b) Assembly language  
(c) High level language (d) None of the above
- (3) Which of the following is not a character constant ?  
(a) 'A' (b) 'a'  
(c) "A" (d) ''
- (4) Identify the valid name of variable.  
(a) Surname.name (b) No#1  
(c) N1 (d) Int
- (5) \_\_\_\_\_ is the first function that is called up when the program is executed.  
(a) main() (b) printf()  
(c) scanf() (d) clrscr()
- (6) What is the result of 5%10 ?  
(a) 5 (b) 2  
(c) 1 (d) 0
- (7) The while loop is also referred as \_\_\_\_\_.  
(a) entry controlled loop (b) exit controlled loop  
(c) execution controlled loop (d) None of the above
- (8) To take input \_\_\_\_\_ can be used.  
(a) scanf() (b) getch()  
(c) Both of the above (d) None of the above
- (9) What is wrong ? for (k=2, k<=12, ++k)  
(a) The increment should always be k++.  
(b) The variable must always be the letter i when using a for loop.  
(c) There should be a semicolon at the end of the statement.  
(d) The commas should be semicolon.
- (10) The continue statement is used to  
(a) continue the next iteration of the loop statement.  
(b) skip the block of loop statement.  
(c) exit from the outermost block even it is used in the innermost block.  
(d) continue execution of the program even error occurs.
- (11) int a[3][4] = {11,12,13,14,15,16,17,18,19,20,21,22};  
What value does a[3][3] in the sample code above contain ?  
(a) 21 (b) 19  
(c) 22 (d) 18
- (12) Which of the following is used as a string termination character ?  
(a) 0 (b) /0  
(c) \0 (d) None of the above
- (13) Which header file is essential for using strcat() function ?  
(a) string.h (b) text.h  
(c) strings.h (d) strcat.h
- (14) Which variable retains its value in between function calls ?  
(a) Auto (b) Static  
(c) Register (d) Extern

**DJ-106**

December-2017

**B.C.A., Sem.-I****CC-102 : Problem Solving and C Programming  
(Old Course)****Time : 3 Hours]****[Max. Marks : 70**

1. (A) Write difference between high level language and machine level language.  
Explain working of high level language in depth. 7  
**OR**  
Explain assembly language with all its features and compare it with high level language.
- (B) (1) Write an algorithm to generate series :  $1^2 + 3^2 + 5^2 + 7^2$ . 3  
(2) Draw a flowchart to generate prime numbers up to 100. 4  
**OR**  
(1) Write an algorithm to generate series : 3, 6, 9, 12, 15. 3  
(2) Draw a flowchart to find maximum number from 10 numbers. 4
2. (A) (1) Define terms: variable, Identifier, keyword. 3  
(2) Write rules for identifiers. 4  
**OR**  
(1) Explain typecasting. 3  
(2) Explain Basic structure of C program. 4
- (B) (1) Write an output of following code : 3  

```


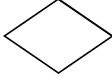

void main( )
{
    int a=3;
    a= 2+2*a++;
    printf("%d", a);
}

```
- (2) Explain logical operators. 4  
**OR**  
(1) What will be the value of b after execution of the following program ? 3  

```

void main( )
{
    int b,k=7;
    b = (k++ - k++ + k++);
}

```
- (2) Explain relational operators. 4
3. (A) Explain different kind of if else statements. 7  
**OR**  
Explain switch case statement in depth with all its limitations.

- (B) Differentiate entry controlled loop and exit controlled loop and explain any one entry controlled loop in depth. 7
- OR**
- (1) Differentiate break and continue. 3
- (2) Explain goto keyword in depth. 4
4. (A) (1) Write different options to initialize one dimensional array. 3
- (2) Write difference between integer array and character array. 4
- OR**
- Write steps in C language to create array of 10 integer elements and arrange it in descending order. 7
- (B) Explain strlen() and strcmp() functions with prototype from string.h file. 7
- OR**
- Explain strcat() and strcpy () functions with prototype from string.h file.
5. Attempt following : 14
- (1) Graphical representation of algorithm is called \_\_\_\_\_.  
 (a) Flowchart (b) Program (c) Picture (d) Graph
- (2) C is \_\_\_\_\_ language.  
 (a) Procedural (b) Non-procedural  
 (c) Both of the above (d) None of the above
- (3) In flowchart for decision making \_\_\_\_\_ symbol is used.  
 (a)  (b)  (c)  (d) None of the above
- (4) Precedence of operators determines operator \_\_\_\_\_.  
 (a) is important (b) is used first  
 (c) operates on largest numbers (d) execute fast
- (5) sizeof is \_\_\_\_\_.  
 (a) variable (b) operator (c) keyword (d) None of the above
- (6) What is result of 10 && 2 ?  
 (a) 0 (b) 2 (c) 1 (d) 5
- (7) \_\_\_\_\_ is the first function that is called up when the program is executed.  
 (a) main() (b) printf() (c) scanf() (d) clrscr()
- (8) The extension of header file is \_\_\_\_\_.  
 (a) .f (b) .h (c) .c (d) .p
- (9) One if can have \_\_\_\_\_ else clause.  
 (a) one (b) many  
 (c) Both of the above (d) None of the above
- (10) In switch case each case label can have only one statement. [True/ False]
- (11) A program stops its execution when a break statement is encountered. [True/False]
- (12) The length of null string is \_\_\_\_\_.  
 (a) 0 (b) 1 (c) 2 (d) 3
- (13) int a[5]={0,1,2,3,4};  
 What does a[l] in the sample code above contain ?  
 (a) 0 (b) 1 (c) 4 (d) 2
- (14) An array that use more than two subscript is referred as \_\_\_\_\_ array.  
 (a) one dimensional (b) two dimensional  
 (c) multidimensional (d) None of the above