

C 15773

(Pages 3)

Name.....

Reg. No.....

**SECOND SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2011**

Computer Science—Complementary Course

CMCA 02—PROGRAMMING IN C

Time : Three Hours

Maximum : 30 Weightage

**Section A**

*Answer all questions.*

1. Local variable which exists and retains its value even after the control is transferred to the calling function belongs to \_\_\_\_\_ storage class.
2. The range of values that can be represented by a variable of type char is \_\_\_\_\_.
3. The \_\_\_\_\_ is a compile time operator and, when used when an operand, it returns the number of bytes the operand occupies.
4. What is the value of  $y$ , given  $x = 6$  and  $y = (x > 10 ? (2 * x + 5) : (3 * x / 2))$ .
5. The \_\_\_\_\_ statement is used to skip a part of the statements in a loop.
6. The following statement block :

```
sum = 0 ;  
i = 1 ;  
for ( ; i <= 10 ) ;  
    {sum += i ;  
    i++ ;}
```

- (a) is valid and find the sum  $1 + 2 + \dots + 10$ .
  - (b) will result in endless loop.
  - (c) The for loop is incorrect.
7. Which of the following declaration is wrong ?
    - (a) `int x [ ] [2] = {1, 2, 3, 4}.`
    - (b) `int x [2] [2] = {1, 2, 3, 4}.`
    - (c) `int x [2] [2] = {(1, 2), (3, 4)}.`
    - (d) `int x [ ] [2] = {(1, 2), (3, 4)}.`
  8. The process of combining two strings together is called \_\_\_\_\_.
  9. Pick incorrect statement for the following \_\_\_\_\_.
    - (a) C supports recursion.
    - (b) A function returns float value by default.
    - (c) One a function is defined, it can be called anywhere.

**Turn over**

10. In \_\_\_\_\_ values of actual parameters are copied to the variables.
11. The \_\_\_\_\_ allocates a block of memory of requested size and returns a pointer to the first byte of the block.
12. The function \_\_\_\_\_ returns the current position of the file pointer. (12 × ¼ = 3 weightage)

### Section B

*Answer all questions.*

13. List the logical operators in C.
14. What is a library function ?
15. Give the syntax of 'do while' and 'while'.
16. Give any *two* rules to be observed when we write nested for loops.
17. Write any *four* string functions.
18. Define structure.
19. Give any *two* advantages of user defined functions.
20. What is a Pointer ?
21. What is a data file ?

(9 × 1 = 9 weightage)

### Section C

*Answer any five questions.*

22. Write a C program to read values of  $u$ ,  $v$  and  $w$  and print the results of the expression :

$$\frac{\sqrt{(u+v)^2}}{w(u-v)}$$

23. Write a program to print the following using for loops :—

```

1
1 2 1
1 2 3 2 1
1 2 3 4 3 2 1

```

24. With suitable example, explain switch statement.
25. Write a function to reverse and print a given string.
26. Write a program to read a square matrix and print its transpose.

27. With suitable example(s) explain formal and actual parameters.
28. Write note on dynamic memory allocation.

(5 × 2 = 10 weightage)

### Section D

*Answer any two questions.*

29. With suitable examples, explain : (i) if statements ; (ii) file handling function.
30. Write a program to read a list of  $n$  integers into a one dimensional array and print the sum of all even numbers. Use pointers to access array elements.
31. Give a detailed account of "structure" and "union".

(2 × 4 = 8 weightage)