FIFTH SEMESTER B.A./B.Sc./B.Com./B.B.A. DEGREE EXAMINATION NOVEMBER 2016

(CUCBCSS—UG)

Open Course

BCS 5D 03—INTRODUCTION TO PROBLEM SOLVING AND C PROGRAMMING

Time : Two Hours   Maximum : 40 Marks

Section A

Answer all questions.

1. The directives for the pre-processors begin with

   (a) &.   (b) //.

   (c) #.   (d) <.

2. A declaration float a,b; accupies ———————— of memory ?

   (a) 1 bytes.   (b) 4 bytes.

   (c) 8 bytes.   (d) 16 bytes.

3. The operators « and » are :

   (a) assignment operator.   (b) relational operator.

   (c) logical operator.   (d) bitwise shift operator.

4. What is the output of the following code.

   int n = 0, m ;

   for (m = 1 ; m < = n + 1 ; m++)

   printf("%d", m) ;

   (a) 2.   (b) 1.

   (c) 0.   (d) 6.

5. Symbolic constants can be defined using ———————— keyword.

6. If the two strings are identical, then strcmp() function returns ————————.

7. By default a function returns a value of type ————————.

8. A static variable by default gets initialized to ————————.

9. Consider the following statements ——————.

    $x = 5$;

    $y = x > 3 ? 10 : 20$;

    After executing the above two statements, what is the value of y ?

10. The built-in function that allocates requested size of bytes and returns a pointer to the first byte of the allocated space is ——————.

                                                                    (10 × 1 = 10 marks)

Section B

Answer all questions.
Each question carries 2 marks.

11. What is an operator ? Describe several different types of operators included in C.

12. Distinguish between getchar and scanf functions available in C.

13. What is the purpose of do-while statement ? How does it differ from the while statement ?

14. What is function prototyping ? Why it is necessary ?

15. Describe with example, the different ways of assigning initial values to structure members.

                                                                    (5 × 2 = 10 marks)

Section C

Answer any five of the following.

16. What are constants ? Explain the four basic types of constants with suitable examples.

17. Write a program to read two integer values m and n and to decide and print whether m is a multiple of n.

18. What is meant by type conversion ? What are explicit and implicit type conversion rules ? Explain with suitable examples.

19. What are the three principal components of a function definition? Write a function definition to calculate the factorial of a number.

20. Write a program to add 10 numbers of an array and also find the greatest of these 10 numbers.

21. Describe with examples, the different ways of assigning values to structure members. Also state the rules for initializing structures.

22. Write a program to check whether a string is palindrome or not.

23. Write short notes on :

    (a) Storage classes available in C.

    (b) Bit-fields.

                                                                    (5 × 4 = 20 marks)