

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2017

(CUCBCSS—UG)

Computer Science

BCS 1B 01—PROBLEM SOLVING USING C

(2014—2016 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A*Answer all questions.**Each question carries 1 mark.*

1. Every line in a C program should end with a semicolon (TRUE/ FALSE).
2. In C language lower case letters are significant (TRUE/ FALSE)
3. What would be the value of x after execution of the following statements ?

```
int x, y = 10;  
char z = 'a';  
x = y + z;
```
4. A global variable is also known as _____ variable.
5. The _____ statement is used to skip a part of the statements in a loop.
6. What would be the output of the following code segment ?

```
count = 5;  
while (count -- > 0)  
printf(count)
```
7. C functions are classified into _____ and _____.
8. The variables declared in a structure definition are called its _____.
9. The _____ operator returns the value of the variable to which its Operand points.
10. The mode _____ is used for opening a file for updating.

(10 × 1 = 10 marks)

Part B*Answer all five questions.**Each question carries 2 marks.*

11. What are the steps involved in executing a C program ?
12. Which are the different types of special operators ?

Turn over

13. Draw the flowchart of simple if statement.
14. Explain the need for user defined functions.
15. Explain how a file can be opened.

(5 × 2 = 10 marks)

Part C

*Answer any five questions.
Each question carries 4 marks.*

16. Explain *else if ladder* with an example.
17. Write a program to evaluate the roots of a quadratic equation.
18. Write a program to compute and print multiplication table for numbers 1 to 5.
19. Explain function definition and its elements.
20. Write a program to evaluate factorial of a number n using recursion.
21. Write a program using pointers to determine the length of a character string.
22. Explain macro substitution.
23. Explain random access to files.

(5 × 4 = 20 marks)

Part D

*Answer any five questions.
Each question carries 8 marks.*

24. What is a constant ? Explain different types of constants supported by C.
25. What are decision-making statements in C ? Explain any two with suitable examples.
26. Write a program to compute and display the sum of all integers that are divisible by 6 but not divisible by 4 and lie between 0 and 100. The program should also count and display the number of such values.
27. Write a program to multiply two matrices.
28. What are pointers? What are the benefits of pointers ? Explain pointer expressions.
29. Write a C program to print all the prime numbers between 0 and n .
30. Explain with an example how pointers are used with functions and structures ?
31. Write a program that compares two files and returns 0 if they are equal and 1 if they are not.

(5 × 8 = 40 marks)