

**SECOND SEMESTER B.A./B.Sc. DEGREE EXAMINATION, MAY 2019**

(CUCBCSS—UG)

Computer Science

BCS 2B 02—PROBLEM SOLVING USING C

(2017 Admissions)

Time : Three Hours

Maximum : 80 Marks

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

1. Define C program structure.
2. Which are the basic data types in C ?
3. What are logical operators ?
4. What is the output of the following program ?  
main()  
{ int x=100, y = 200 ;  
printf("%d", (x>y)?x:y) ;  
}
5. Describe how a character is read from keyboard and write to the screen ?
6. What is the use of break statement ?
7. What is meant by modularization ?
8. Define register storage class.
9. Draw the flowchart of simple if control.
10. Name the function to read a character from a file.

(10 × 1 = 10 marks)

**Part B***Answer all five questions.**Each question carries 3 marks.*

11. Explain the basic types of constants in C.
12. Which are the different types of special operators ?

**Turn over**

13. Explain type conversions in expressions.
14. Write a program to find the sum of  $n$  numbers using for loop.
15. Explain the opening of a file.

(5 × 3 = 15 marks)

### Part C

*Answer any five questions.  
Each question carries 5 marks.*

16. Write a program to display number of days corresponding to given month and year.
17. Write a program for generating prime numbers between two ranges.
18. Discuss about type conversions in C.
19. Explain switch statement with an example.
20. Differentiate between call by value and call by reference.
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 × 5 = 25 marks)

### Part D

*Answer any three questions.  
Each question carries 10 marks.*

24. What are strings ? Explain various string manipulation functions with suitable examples.
25. (a) Write a C program to generate Fibonacci series using recursion.  
(b) Write a program to find the product of diagonal elements of a matrix
26. What is a user defined function ? What advantages it offers in programming ? Write a program to check whether the given matrix is symmetric or not ?
27. Explain with an example how pointers are used with functions and structures ?
28. Write a program that compares two files and returns 0 if they are equal and 1 if they are not.

(3 × 10 = 30 marks)