

**SECOND SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2018****(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. What is IDE ?
2. What are identifiers ?
3. What are operators ?
4. Write the precedence of arithmetic operators.
5. Write the syntax of if-else statement.
6. What are jumps in loop ?
7. Define an array. How one dimensional array can be initialized ?
8. Define Recursion.
9. What are pointers ?
10. How a data file can be opened ?

**(10 × 1 = 10 marks)****Part B***Answer all questions.**Each question carries 3 marks.*

11. What are #define and #include directives ? Give examples.
12. Explain the different types of special operators.
13. Write a program to find whether the inputting number is odd or even.
14. Explain the need for user defined functions.
15. Differentiate between structure and union with suitable examples.

**(5 × 3 = 15 marks)****Turn over**

**Part C**

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

16. Explain the basic datatypes in C.
17. Write a program to find the biggest and second biggest of  $n$  numbers.
18. What are prototypes ? Explain the various categories of functions.
19. Explain the syntax and execution of 'for' loop with suitable example.
20. What are strings ? Explain any two string handling functions.
21. Write a program to find the sum of digits of a given number into a single digit.
22. Write a program using pointers to determine the length of a character string.
23. Explain dynamic memory allocation.

(5 × 5 = 25 marks)

**Part D**

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

24. What are constants ? Explain the basic types of constants. Give suitable examples.
25. Explain various loop control statements available in C with suitable examples.
26. Write a function using pointers to add two matrices and return the resultant matrix to the calling functions.
27. Write a program to merge two sorted arrays into a single sorted array in ascending order.
28. Write notes on (a) One dimensional array ; (b) Two dimensional array ; (c) Multidimensional array with suitable examples.

(3 × 10 = 30 marks)