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# 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.

 $(10 \times 1 = 10 \text{ marks})$ 

## 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?

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- 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.

 $(5 \times 3 = 15 \text{ marks})$ 

### 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.

 $(5 \times 5 = 25 \text{ marks})$ 

#### 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.

 $(3 \times 10 = 30 \text{ marks})$