

Roll No.

(05/25)

14381

B.A./B.Sc. EXAMINATION

(For Batch 2021 to 2023 Only)

(Second Semester)

PROGRAMMING IN C

CS-21

Time : Three Hours Max. Marks : $\begin{cases} \text{B.Sc. : 40} \\ \text{B.A. : 20} \end{cases}$

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory. All questions carry equal marks.

(Compulsory Question)

1. Answer the following parts (1 mark each for BSc and $\frac{1}{2}$ mark each for BA) : $1 \times 8 = 8$ ($\frac{1}{2} \times 8 = 4$)
- (a) Explain the significance of using the main() function in a C program.

(3-26/1) B-14381

P.T.O.

- (b) Explain any *two* types of errors encountered during C program compilation.
- (c) Differentiate recursion and iteration with an example.
- (d) Explain the purpose of the static storage class.
- (e) Differentiate between row-major and column-major array representation.
- (f) Explain, how pointers pass values by reference to functions ?
- (g) How is a structure different from an array ?
- (h) Illustrate the use of strlen() and strcpy() functions.

Unit I

2. Explain the following concepts with illustrations : $2 \times 4 = 8(1 \times 4 = 4)$
- (a) Planning the computer program
 - (b) Problem definition

B-14381

2

(c) Program design

(d) Compilation and execution of a C program.

3. Explain the concept of structured programming. Discuss, how these concepts are supported in C ? 8(4)

Unit II

4. Write and explain a C program that uses if, else if, and else statements to determine whether a number is positive, negative, or zero. 8(4)
5. Explain the concept and use of different storage classes available in C with examples. 8(4)

Unit III

6. Write and explain a C program that accepts 10 integers (between -100 and 100) from the user, stores them in a 1D array, and finds their sum. 8(4)

(3-26/2) B-14381

3

P.T.O.

7. Discuss the advantages and disadvantages of pointers in C. Illustrate their use in dynamic memory allocation. 8(4)

Unit IV

8. Write a program in C to read a string from the user and count the number of vowels and consonants. 8(4)

9. Define a structure for a student record with roll number, name and marks of a class of 20 students. Write a program to input and display the details, apart from finding the average marks of the class. 8(4)

