

Roll No. _____

25/1181**B.C.A. (First Semester) (Regular/Back/
Improvement) Examination, 2025****Second Paper****(Programming Principles & Algorithm)***Time : Two Hours] [Maximum Marks : 75***Note :** Attempt **all** sections as per instruction.**Section-A****(Very Short Answer Type Questions)**

Note : Attempt all the **five** questions. Each question carries **2** marks. The answer of each question should not exceed **50** words. $5 \times 2 = 10$

1. (a) What is structured programming language?
- (b) What is character set of C language?
- (c) List any four arithmetic operators and their purposes.

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- (d) What is the purpose of the switch statement in C?
- (e) Define "function prototype" with an example.

Section-B**(Short Answer Type Questions)**

Note : Attempt any **five** questions out of total **eight** questions. Each question carries five marks and answer of each question should not exceed **100** words. $5 \times 5 = 25$

2. (a) Differentiate between logical AND (&&) and bitwise AND (&) operators with examples.
- (b) Differentiate between entry-controlled loops and exit controlled loops.
- (c) Explain the importance of algorithms and flowcharts in solving problems.
- (d) Write a program in C language to accept the 3 integer from the user and display the greatest number.
- (e) Differentiate between syntax errors and logical errors.

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- (f) Define "function prototype" with an example.
- (g) Write a program in C to change the value of two given number into each other.
- (h) What is recursion? Give an example.

Section-C

(Long Answer Type Questions)

Note : Attempt any **two** questions out of total **four** questions. Each question carries **20** marks and answer of each question should not exceed **400** words. $2 \times 20 = 40$

3. (a) (i) Define a "decision-making construct" in programming.
- (ii) Differentiate between global and local variables in the context of functions.
- (b) Write a program in C language to solve the following problem:
- Input a number from user and determine whether it is prime or not.

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Provide the algorithm, flowchart and explanation for your solution.

- (c) Define :
 - (i) Parameter passing
 - (ii) getchar () and putchar()
 - (iii) Pseudo code
- (d) Write a note on:
 - (i) Preprocessor directives
 - (ii) Header files
 - (iii) Function call

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