Graphic Era HILL UNIVERSITY
Established by an Act of the State Legislature of Uttarakhand (Adhiniyam Sankhya 12 of 2011)
University under section 2(f) of UGC Act, 1956

Term Evaluation (Odd) Semester Examination September 2025

Roll no.....

Name of the Course: BCA
Semester: 1
Name of the Paper: *Foundations of Computer Programming*
Paper Code: **TBC 102 / TBI 102**
Time: 1.5 hour **Maximum Marks: 50**

Note:
(i) Answer all the questions by choosing any one of the sub-questions
(ii) Each question carries 10 marks.

Q1. (10 Marks)

a. Explain the evolution and generation of computers. Provide one example for each generation. (CO1)

OR

b. Describe the computer system memory hierarchy. Differentiate between RAM and ROM with examples. (CO1)

Q2. (10 Marks)

a. i. Draw a flowchart to find the largest of three numbers using conditional statements.
ii. Explain the following: keywords and constant. (CO2)

OR

b. What is a computer network? Explain its types and main advantages. (CO1)

Q3. (10 Marks)

a. i. What is a variable? Why are variables needed in programming? Explain the rules for naming a variable.
ii. Explain the difference between declaration and definition of a variable with examples. (CO1)

OR

b. List the data types in C along with their sizes and give atleast 3 examples of type conversion. (CO2)

Q4. (10 Marks)

a. Explain the following operators with examples:
   i. Pre and post increment/decrement
   ii. Equality vs. assignment operator
   iii. Logical operators
   iv. Ternary operator (CO2)

OR

b. Explain the different stages in the life cycle of a C program. (CO1)

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Q5. (10 Marks)

a. i. Write a C program to read a character from the user and display it using getchar() and putchar().
ii. Draw a flowchart to calculate the sum of the first n natural numbers. (CO3)

OR

b. Given two integers a = 12 and b = 5, calculate the result of the following using bitwise operators: a & b, a | b, a ^ b, ~a, a << 2, b >> 1.

Show all steps of calculation and write the answers in both binary and decimal forms. (assuming 8-bit representation) (CO2)