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:B.Tech
Semester: III
Name of the Paper: Object Oriented Programming with C++
Paper Code: TCS 307
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 Different features of Object-oriented paradigm using proper C++ code   CO1
                                      OR
b. Implement a C++ program to input a paragraph (multiple lines) and display: CO1
   • total number of characters,
   • total number of words, and
   • total number of sentences.

Q2.   (10 Marks)
a. Explain the role of this pointer in C++. Implement a C++ program to return an object using this pointer
   only.   CO2

                                      OR
b. Implement a C++ program to input an array of n integers and: CO1
   • Find the maximum element
   • Find the minimum element
   • Display the difference between maximum and minimum element.

Q3.   (10 Marks)
a. With respect to C++ justify the statement "Friendship is granted not taken" in your own words with
   proper examples.   CO2
                                      OR
b. Implement a C++ program by creating a class BankAccount with   CO1, CO2
      Private Data Members:
   •   int accNo
   •   string name
   •   float balance
   Private Member Function:
   •   float interest() → returns 5% interest on current balance.
   Public Member Functions:
   •   Constructor to initialize account details.
   •   display() : shows account details with balance after adding interest.
   In main(), create an array of 5 accounts and display their final balances.

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Q4. (10 Marks)

a. Create a class MyString with: CO2

- **Private Data Member:**
  - char str[50]
- **Public Member Functions:**
  - Constructor to initialize string.
  - display() :prints the string.
  - Overload operators:
    - + : to concatenate two strings.
    - == : to compare two strings.

In main(), create two strings and demonstrate concatenation and comparison.

OR

b. Implement a C++ program to Overload binary - operator using the concept of operator overloading CO2

Q5. (10 Marks)

a. With the help of C++ Program overload post increment operator -- using friend function only CO2

OR

b. Classify different types of constructors in C++ . Implement a proper c++ program to demonstrate the working of copy constructor. CO2