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

Term Evaluation Theory (Odd)-(Late/Lateral Admission) Exam Nov. 2025

Roll no.............................

Name of the Course: MCA AIDS
Semester: 1st
Name of the Paper: Advance Database Management System
Paper Code: TMD 104
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. Define DBMS. Write a detailed note on types of DBMS.   CO1
                          OR
b. List and Explain various components of a typical DBMS.   CO1

Q2.   (10 Marks)
a. Explain the use of ER Diagram? Draw an ER Diagram of a Banking System. Assume
   Customer , Branch , Account etc. Show Proper attributes. Also convert it into tables &
   Show sample values in tables.   CO1
                          OR
b. What is relational algebra? Explain Its Various operations using examples. CO1

Q3.   (10 Marks)
a. Define Normalization. Illustrate 2NF using proper example.   CO2
                          OR
b. Explain the process of Query evaluation in Detail.   CO2

Q4.   (10 Marks)
a. How we can calculate closure X+ of any attribute X. What is the use of Closure?
   Explain using examples.   CO2
                          OR
b. List and Explain the use of Armstrong Axioms / Inference rules using examples. CO2

Q5.   (10 Marks)
a. Explain the need of a database key. Write SQL examples of creating / removing
   primary key also write various properties of primary key.   CO3
                          OR
b. List and Explain various DDL commands using SQL Example of each. CO3