(T)   Roll No. ....

PAPER ID—14533

B.C.A. EXAMINATION, 2023

(Third Semester)

INTRODUCTION TO DATABASE SYSTEM

Code : BCA-203

Time : 3 Hours   Maximum Marks : 80

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

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

1. (a) Define Record and File.   2

   (b) What is inconsistency and how is it managed ?   2

   (c) Define mapping in DBMS architecture.   2

   (d) Differentiate Schema and Instance.   2

   (e) What do you mean by degree of a relationship ?   2

   (f) Define 'Super key' in a relation.   2

   (g) Define 'Relation Algebra'.   2

   (h) What is recovery and why is it done ?   2

Unit I

2. (a) Who is DBA ? Discuss the responsibilities of DBA.   8

   (b) Explain the DBMS users.   8

3. (a) Explain the limitations of File based approach.   8

   (b) Discuss the components of DBMS environment.   8

Unit II

4. What is data independence ? Explain its types.

             16

5. Describe DBMS Architecture with proper examples.   16

Unit III

6. Design ER diagram of Banking System. Assume suitable entity and attributes.   16

7. Describe domain constraints and referential integrity constraint with examples.   16

Unit IV

8. Explain the following Normal forms with examples :   16

    (a)   BCNF

    (b)   5NF.

9. (a)   Discuss the security threats in Database system.   8

    (b)   Explain the problems in concurrent transactions.   8