Roll No. .....

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GSM/D-23 1131

FUNDAMENTALS OF DATABASE SYSTEM
BCA-235

Time : Three Hours] [Maximum Marks : 80

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

1. Explain the following terms in brief : 8×2=16

   (a) Define data, information and knowledge.

   (b) Who is DBA ? List the responsibilities of DBA.

   (c) What is Database Instance ?

   (d) Differentiate between strong and weak Entity.

   (e) Differentiate between Primary and unique key.

   (f) What do you mean by view ? Why is it created ?

   (g) What is update anomaly ?

   (h) Discuss Degree and Cardinality of a relation.

Unit I

2. Differentiate between Traditional file system and Database management system. Explain the advantages and disadvantages of Database Management system over Traditional file system. 16

3. What do you mean by DBMS ? Discuss the advantages and various components of database management. 16

Unit II

4. (a) Explain three-level architecture of database along with mapping. 8

   (b) Explain Object based data models. 8

5. Why is Data Independence needed in DBMS ? Explain different type of Data Independence. 16

Unit III

6. (a) What do you mean by network data models ? Discuss the advantages and disadvantages of Data Models. 8

   (b) Discuss Client-Server Architecture of DBMS. 8

7. What do you mean by ER diagram ? Outline the different notation/symbols used in drawing an ER diagram. Draw an ER diagram of Company database system. 16

Unit IV

8. What is relational model ? How is a relational model better than hierarchical and network models ? Explain. 16

9. (a) Explain the concept of referential integrity constraints with example. 8

(b) Differentiate between the following : 4×2=8

(i) Primary and secondary key

(ii) Degree and Cardinality

(iii) Domain and Tuple Uniqueness Constraint

(iv) Extension and Intension.