

Roll No.

Total Pages : 03

GSM/D-24
FUNDAMENTALS OF DATABASE
SYSTEM
BCA-235

1066

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt *Five* questions in all, selecting *one* question each from Unit I to Unit IV. Q. No. 1 is compulsory.

(Compulsory Question)

1. (a) Define data, information and tuple.
- (b) Who are database designers and application developers ?
- (c) What is the role of mapping in database system architecture ?
- (d) Differentiate between physical and logical data independence.
- (e) What are strong and weak entity ? Write the symbolic representation.
- (f) Differentiate between entity type and entity sets.
- (g) What are the properties of a relation ?
- (h) Write a note on view.

8×2=16

Unit I

2. Define database management system. Differentiate between database systems and file system. Write the advantages and disadvantages of DBMS. 16
3. (a) Write the properties of database management system. Explain responsibilities of database administrator. 16
(b) Explain the functions and components of database management system. 8+8=16

Unit II

4. Define database instance, database schema and sub-schema. Outline and explain the architecture of Database Management System as proposed by ANSI-SPARC. 16
5. Elaborate the different classifications of database management system. Outline and explain client-server architecture of DBMS. 16

Unit III

6. What are data models ? Write the advantages and disadvantages of record based, objectbased and physical data models. 16
7. (a) What are attributes ? Discuss different types of attribute. State example along with notation. 8

- (b) What is relationship role name and recursive relationships ? Write the cardinality ratios of relationship.

8

Unit IV

8. What is network and hierarchical data model ? Discuss the advantages and disadvantages of data model proposed by DBTG in CODASYL.

16

9. (a) What do you mean by Keys ? Explain different types of keys.

8

- (b) What are relational constraints ? Discuss different types of constraints with examples.

8