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1 (Sem-4/FYUGP) COM 41 MN/(B)

2026

COMPUTER SCIENCE

(Minor)

SET-B

Paper : COM4400504MN

(Database Management System)

Full Marks : 45

Time : 2 hours

*The figures in the margin indicate
full marks for the questions.*

SET-B

1. Answer the following questions : $1 \times 5 = 5$

(a) Relations produced from E-R Model will always be in—

- (i) 1NF
- (ii) 2NF
- (iii) 3NF
- (iv) 4NF

(b) Which of the following command is used to delete a table in SQL?

- (i) delete
- (ii) truncate
- (iii) remove
- (iv) drop

(c) In a Hierarchical database, a hashing function is used to locate the—

- (i) Collision
- (ii) Root
- (iii) Foreign key
- (iv) Records

(d) Which type of data can be stored in the database?

- (i) Image oriented data
- (ii) Texts file containing data
- (iii) Data in the form of audio or video
- (iv) All of the above

(e) What does an RDBSM consist of?

- (i) Collection of Records
- (ii) Collection of Keys
- (iii) Collection of Tables
- (iv) Collection of Fields

2. Answer the following questions : **(any five)**

$2 \times 5 = 10$

- (i) What is tuple and attributes?
- (ii) Define DBA.
- (iii) Define multivalued attribute and derived attribute.
- (iv) What is a foreign key?
- (v) What is the use of Group by Clause?

- (vi) Define alternate key.
- (vii) Write the syntax of Update command.
- (viii) What is domain integrity constraints?
- (ix) Define integrity constraint.
- (x) What is data independence?

3. Answer the following questions : **(any four)**
5×4=20

- (a) Explain the functions of DBA.
- (b) Write 5 built-in-functions of the following categories :
 - (i) Aggregate function
 - (ii) String function
- (c) Explain the difference between strong and weak entity.
- (d) Describe the various types of Data Model.
- (e) Explain Data Definition Language (DDL) and Data Manipulation Language (DML) with *three* examples of each.

- (f) Briefly discuss the entity relationship in DBMS.
- (g) Explain the three level architecture of DBMS.
- (h) Write briefly about select, project and join.

4. Answer the following questions : **(any one)**
10

- (a) Explain the need of concurrency control.
- (b) What is functional dependency? Explain the types of functional dependency.
- (c) What is normalization? Explain 1NF, 2NF, 3NF with suitable example.
- (d) Explain the advantages of DBMS.