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

2026

COMPUTER SCIENCE

(Minor)

SET-A

Paper : COM4400504MN

(Database Management System)

Full Marks : 45

Time : 2 hours

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

SET-A

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

(a) RDBMS stands for—

- (i) Relation Database Management System
- (ii) Related Database Management System
- (iii) Relational Database Management System
- (iv) Relational Data Management System

(b) Which SQL command is used to remove one record from a table?

- (i) Remove
- (ii) Delete
- (iii) Drop
- (iv) Cancel

(c) Which of the following is used uniquely identify a row in a table?

- (i) Foreign key
- (ii) Candidate key

(iii) Primary key

(iv) User view

(d) A view in a DBMS is :

- (i) A physical view
- (ii) A virtual table
- (iii) A datatype
- (iv) A conceptual view

(e) Which of the following is a DML command?

- (i) CREATE
- (ii) DROP
- (iii) INSERT
- (iv) ALTER

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

$2 \times 5 = 10$

(a) What is degree and cardinality?

- (b) What is data independence ?
- (c) What is the role of DBA ?
- (d) Define Metadata.
- (e) Define DBMS.
- (f) What is schema and instance ?
- (g) Define attribute and entity.
- (h) Write the syntax of CREATE TABLE command.
- (i) What is dead lock ?
- (j) Define Database Architecture.

3. Answer the following questions : **(any four)**

5×4=20

- (a) What is normalization ? Explain 1NF, 2NF, 3NF.

- (b) Explain the importance of DBMS.
- (c) Briefly explain the ACID properties of transaction.
- (d) Elaborate three level/scheme architecture of database system.
- (e) Explain the database languages used in DBMS with *two* examples of each.
- (f) Briefly explain the concept of consistency and non-redundancy.
- (g) Explain different types of keys in DBMS.
- (h) Given the following table :
Student (S_Roll No, S_Name, S_Class, S_Marks)
- (i) Write the command to create the table.

(ii) Display the details of all students.

1

(iii) Display the name and marks of Roll No-5.

1

(iv) Display the details of that student who got highest mark.

1

(v) Display the name and mark whose name start with 'S'.

1

4. Answer the following questions : (any one)

10×1=10

(a) What is an Entity-Relationship (ER) Model? Explain the basic notation or symbol of ER diagrams.

(b) What is DBMS? Explain the advantages and disadvantages of DBMS over traditional file approach.

(c) What is functional dependency? Explain various types of functional dependency with example.

(d) Briefly explain object-based model and physical data model.