AC-235615

M.Sc. (Semester-III)
Examination, Dec.-Jan. (2025-26)

COMPUTER SCIENCE

(RDBMS)

Time Allowed : Three Hours

Maximum Marks : 70

Note : This question paper is divided into four sections. Attempt questions of all four sections as per direction. Distribution of marks is given in each section.

SECTION-A

(Objective Type Questions)

Note : Attempt **any ten** questions. Each question carries **1** mark. [10×1=10]

1. (i) Which of the following is a database model?

   (a) Relational model

   (b) Hierarchical model

(c)   Network model

(d)   All of the above

(ii)   Which of the following is a disadvantage of normalization?

    (a)   Increased complexity

    (b)   Improved data performance

    (c)   Reduced data redundancy

    (d)   Improved data security

(iii)   What is data integrity in DBMS?

    (a)   Security and privacy of data

    (b)   Accuracy and consistency of data

    (c)   Back and Recovery

    (d)   Performance of data

(iv)   Which of the following is an Entity in ER model?

    (a)   Table

    (b)   Relationship

(c)   Person

(d)   Attribute

(v)   Which SQL command is used to modify existing data?

    (a)   INSERT

    (b)   UPDATE

    (c)   DELETE

    (d)   SELECT

(vi)   Which SQL clause is used to group data?

    (a)   GROUP BY

    (b)   HAVING

    (c)   ORDER BY

    (d)   WHERE

(vii)   What is the purpose of SUBQUERY in SQL?

    (a)   to retrieve data from multiple tables

    (b)   to modify existing data

(c) to filter data based on conditions

(d) to improve database performance

(viii) Which of the following is a basic operation in Relational Algebra?

(a) SELECT

(b) PROJECT

(c) UNION

(d) All of the above

(ix) Which normal form eliminates partial dependency?

(a) 1 NF

(b) 2 NF

(c) 3 NF

(d) BCNF

(x) DBA stands for

(a) Database Access

(b) Database Authority

(c) Database Administrator

(d) None of these

(xi) What is De-normalization?

(a) Process of normalizing tables

(b) Process of optimizing database performance

(c) Process of intentionality violating normalization rules

(d) Process of improving data security

SECTION-B

(Very Short Answer Type Questions)

Note : Attempt **any five** questions. Each question carries **02** marks. (Word limit 25-30 words) [5×2=10]

2. (i) Data Abstraction three levels.

(ii) What is database independence?

(iii) Write difference between strong and weak entity.

(iv) Write various Join Operations.

(v) What is primary key?

(vi) What is Attributes?

SECTION-C

(Short Answer Type Questions)

Note : Attempt **any five** questions. Each question carries **04** marks. (Word limit 250 words)   [4×5=20]

3. (i) Explain various database language in DBMS.

   (ii) Write various types of data model.

   (iii) What is functional dependencies and multivalued dependency?

   (iv) Explain various types of keys with example.

   (v) Write about SQL Structure.

   (vi) Explain about generalization.

SECTION-D

(Long Answer Type Questions)

Note : Attempt **any three** questions. Each question carries **10** marks. (Word limit 500 words)   [3×10=30]

4. (i) Explain two layer and three layer architecture of DBMS.

   (ii) What do you mean by E-R diagram? Explain with example.

   (iii) Explain various operations of Relational Algebra with example.

   (iv) What is Normalization? Explain various phases of Normalization.

   (v) Explain various SQL Commands.

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