PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc(SS) DEGREE EXAMINATION MAY 2024
(Third Semester)

Branch – **SOFTWARE SYSTEMS (5 years Integrated course)**

DATABASE MANAGEMENT SYSTEM CONCEPTS

Time: Three Hours   Maximum: 50 Marks

SECTION-A (5 Marks)
Answer **ALL** questions
ALL questions carry EQUAL marks   (5 x 1 = 5)

1.   Which of the following gives a logical structure of the database graphically?
     (i)   Entity-relationship diagram   (ii) Entity diagram
     (iii) Database diagram   (iv) Architectural representation

2.   Which of the following constitutes a basic set of operations for manipulating relational data?
     (i)   Predicate calculus   (ii) Relational algebra
     (iii) Relational calculus   (iv) Operational algebra

3.   What is the RDBMS terminology for a row?
     (i) Tuple   (ii) Relation
     (iii) Attribute   (iv) Domain

4.   Which one of the following statements about normal forms is FALSE?
     (i)   BCNF is stricter than 3 NF
     (ii) Lossless, dependency -preserving decomposition into 3 NF is always possible
     (iii) Loss less, dependency – preserving decomposition into BCNF is always possible
     (iv) Any relation with two attributes is BCNF

5.   The "All-Or-None" property is commonly referred_____.
     (i) Isolation   (ii) Durability
     (iii) Atomicity   (iv) Concurrent

SECTION - B (15 Marks)
Answer **ALL** Questions
ALL Questions Carry EQUAL Marks   (5 x 3 = 15)

6. a   Differentiate between data and information.
                        OR
   b   What is meant by relationship?

7. a   What is meant by tuple relational calculus?
                        OR
   b   What is known as inverted file organization?

8. a   What is DCL?
                        OR
   b   Write down the syntax for group by clause. Give example.

9. a   Define 1NF.
                        OR
   b   What is known as multi valued dependency?

10. a   What are the actions necessary for recovery from deadlock?

OR

   b   What are the advantages of concurrent execution?

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks   (5 x 6 = 30)

11.a   Discuss about various data models.

OR

   b   Write about the graphical notations used in ER Diagram.

12.a   Describe the working of indexed sequential organization.

OR

   b   Explain the hierarchical data model with example.

13.a   Discuss the advantages of view.

OR

   b   What are the set operators? Explain with example.

14.a   Write down the purpose of normalization.

OR

   b   Elaborate the concept of 3NF with example.

15.a   Identify the data operations of a transaction model.

OR

   b   Discuss the modes for locking data item.

Z-Z-Z   END