

**PSG COLLEGE OF ARTS & SCIENCE**  
(AUTONOMOUS)  
**BSc DEGREE EXAMINATION DECEMBER 2024**  
(Third Semester)

Branch - **COMPUTER SCIENCE**

**DATABASE MANAGEMENT SYSTEMS**

Time: Three Hours

Maximum: 75 Marks

**SECTION-A (10 Marks)**

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(10 × 1 = 10)

| Question No. | Question                                                                                                                                                                                                                                                | K Level | CO  |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----|
| 1            | The performance of a DBMS is measured by its ____<br>a) data                      b) size<br>c) response time          d) privacy                                                                                                                       | K1      | CO1 |
| 2            | An attribute of one table matching the primary key of another table is called ____<br>a) key                      b) relation<br>c) unique key              d) foreign key                                                                              | K2      | CO1 |
| 3            | ____ is a Single Row function.<br>a) AVG()                  b) UPPER()<br>c) MAX()                  d) COUNT()                                                                                                                                          | K1      | CO1 |
| 4            | A ____ is a series of one or more logically related SQL statements you define to accomplish some task.<br>a) function                b) transaction<br>c) view                      d) statement                                                        | K2      | CO1 |
| 5            | ____ usually have two parts, a specification and a body.<br>a) Function                b) Procedure<br>c) Packages                d) Triggers                                                                                                           | K1      | CO1 |
| 6            | Which of the following is raised when a SELECT INTO statement returns no rows?<br>a) CASE_NOT_FOUND<br>b) NOT_LOGGED_ON<br>c) NO_DATA_FOUND<br>d) ACCESS_INTO_NULL                                                                                      | K2      | CO1 |
| 7            | Document-based NoSQL databases have which characteristic?<br>a) It supports transactions and joins.<br>b) It is best suited for handling structured data.<br>c) It stores data in a tabular format.<br>d) It uses a hierarchical, JSON-like data model. | K1      | CO1 |
| 8            | Which of the following are the simplest NoSQL databases?<br>a) Key-value                b) Wide-column<br>c) Document                d) SQL SERVER                                                                                                      | K2      | CO1 |
| 9            | Which of the following data type is depreciated?<br>a) Double                  b) String<br>c) Object                    d) Undefined                                                                                                                   | K1      | CO1 |
| 10           | In the mongo shell, the creation time of the ObjectId, retrieved by using the ____ method.<br>a) getTime()<br>b) getTimestamp()<br>c) Timestamp()<br>d) IdTime()                                                                                        | K2      | CO1 |

Cont...

**SECTION - B (35 Marks)**Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

| Question No. | Question                                                        | K Level | CO  |
|--------------|-----------------------------------------------------------------|---------|-----|
| 11.a.        | Identify the advantages and disadvantages of DBMS.              | K3      | CO2 |
|              | (OR)                                                            |         |     |
| 11.b.        | Write about the structure of a relational model.                |         |     |
| 12.a.        | Inspect various group functions in SQL.                         | K4      | CO3 |
|              | (OR)                                                            |         |     |
| 12.b.        | Construct the different types of constraints in SQL.            |         |     |
| 13.a.        | Explain the PL/SQL structure.                                   | K4      | CO3 |
|              | (OR)                                                            |         |     |
| 13.b.        | Examine triggers in PL/SQL.                                     |         |     |
| 14.a.        | Explain the types of NoSQL databases.                           | K5      | CO2 |
|              | (OR)                                                            |         |     |
| 14.b.        | Compare SQL vs NoSQL.                                           |         |     |
| 15.a.        | Inspect the terms in RDBMS and MangoDB.                         | K4      | CO5 |
|              | (OR)                                                            |         |     |
| 15.b.        | Examine how to create and delete nodes in graph based database. |         |     |

**SECTION -C (30 Marks)**Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks (3 × 10 = 30)

| Question No. | Question                                               | K Level | CO  |
|--------------|--------------------------------------------------------|---------|-----|
| 16           | Explain the different types of normal forms.           | K5      | CO4 |
| 17           | Discuss about ORACLE DML statements.                   | K5      | CO4 |
| 18           | Discuss about implicit and explicit cursors in ORACLE. | K5      | CO5 |
| 19           | What are the different orientations of NoSQL? Explain. | K4      | CO4 |
| 20           | Examine the CURD operations of MangoDB.                | K4      | CO4 |