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Avinashilingam Institute for Home Science and Higher Education for Women
Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD (now MoE)
Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC
Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination – November 2025
V Semester

Class: III UG
Major: Computer Applications

Time: 3 Hours
Max. Marks: 100

23BCAC09 Relational Database Management Systems

Course Outcomes:

- CO1: Become familiar with the database management systems.
CO2: Describe the functional dependencies and design of the relational database.
CO3: Master the basics of SQL and construct queries using SQL.
CO4: Design a relational database schema using SQL for a given problem-domain.
CO5: Recognize the concept of concurrency control of database processing.

Part A

10 x 1 = 10

Choose the Correct Answer

- In the three-level database architecture, _____ level is closest to the end user. CO1 K1
 - Internal Level
 - Conceptual Level
 - External Level
 - Physical Level
- The schema that describes the logical structure of the whole database is called _____. CO1 K2
 - External schema
 - Internal schema
 - Conceptual schema
 - Physical schema
- Boyce-Codd Normal Form (BCNF) is a stronger version of _____. CO2 K1
 - 1NF
 - 2NF
 - 3NF
 - 4NF
- The _____ is a common concurrency control technique. CO2 K2
 - Indexing
 - Locking
 - Denormalization
 - Partitioning
- The _____ SQL statement is used to retrieve data from a database. CO3 K1
 - GET
 - SELECT
 - FETCH
 - OPEN
- The _____ SQL statement is used to modify existing data in a table. CO3 K2
 - INSERT
 - UPDATE
 - MODIFY
 - ALTER
- The _____ is the default value of a declared PL/SQL variable if not initialized. CO4 K1
 - 0
 - NULL
 - Undefined
 - False
- The _____ statement is used to exit a loop prematurely in PL/SQL. CO4 K2
 - RETURN
 - STOP
 - EXIT
 - BREAK
- The _____ keyword is used to exit a procedure prematurely. CO5 K1
 - RETURN
 - EXIT
 - BREAK
 - STOP
- The _____ section of a stored procedure contains exception handling. CO5 K2
 - DECLARE
 - BEGIN
 - EXCEPTION
 - END

Part B
Answer ALL Questions

5 x 6 = 30

Each answer should not exceed 400 words or two pages

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|--|--------|
| 11. a. Explain the different types of data models.
(or) | CO1 K1 |
| 11.b. Enumerate and explain the structural constraints. | CO1 K2 |
| 12. a. State what functional dependencies are in the context of RDBMS.
(or) | CO2 K1 |
| 12.b. Describe the timestamp ordering protocol. | CO2 K2 |
| 13. a. Examine the key features of SQL.
(or) | CO3 K1 |
| 13.b. Discuss the role of aggregate functions. | CO3 K2 |
| 14. a. Discover the key features and components of PL/SQL.
(or) | CO4 K1 |
| 14.b. Distinguish between the FOR loop and the WHILE loop in PL/SQL. | CO4 K2 |
| 15. a. Observe the structure and purpose of stored procedures.
(or) | CO5 K1 |
| 15.b. Classify the different types of predefined exceptions in handling. | CO5 K2 |

Part C

Answer ALL questions

5 x 12 = 60

Each answer should not exceed 800 words or four pages

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|---|--------|
| 16. a. Summarize the components of a database system environment.
(or) | CO1 K1 |
| 16.b. Create a set of naming conventions and describe key design considerations for building a well-structured relational database. | CO1 K2 |
| 17. a. Evaluate the importance of primary keys in achieving various normal forms.
(or) | CO2 K1 |
| 17.b. Justify the need for concurrency control techniques. | CO2 K2 |
| 18. a. Illustrate the role of Data Definition Language (DDL).
(or) | CO3 K1 |
| 18.b. Prioritize the key functions of Data Control Language (DCL). | CO3 K2 |
| 19. a. Discriminate between different elements of the PL/SQL character set.
(or) | CO4 K1 |
| 19.b. Compose a PL/SQL block that demonstrates the use of an explicit cursor to retrieve and process multiple rows from a database table. | CO4 K2 |
| 20. a. Sketch the interaction between the procedure and the function.
(or) | CO5 K1 |
| 20.b. How triggers can enhance data integrity and automate business rules in an RDBMS environment. | CO5 K2 |
