Seat No. _____

00064

F8Y-003-3021002

P. G. D. C. A. (Sem. I) (CBCS)
(W.E.F. 2022) Examination

December - 2022

CS - 02 : Database Management System

Faculty Code : 003

Subject Code : 3021002

Time : $2\frac{1}{2}$ Hours / Total Marks : **70**

1 (a) Fill in the blanks : **4**

(1) _____ is distinct piece of information.

(2) A _____ is a collection of logically related fields or data items.

(3) Processed data is called _____.

(4) The data about the data is called _____

(b) Answer in brief : (any **one**) **2**

(1) Explain Schema.

(2) Explain Instance.

(c) Answer in detail : (any **one**) **3**

(1) Explain three-level ANSI SPARC Database Architecture.

(2) Explain Data Dictionary.

(d) Write a note : (any **one**) **5**

(1) Differentiate : File Oriented System Vs. Database System.

(2) Explain Advantages of Three-tier Architecture.

2 (a) Fill in the blanks : 4

(1) E-R stands for _____.

(2) The _____ data model is represented by an upside-down tree.

(3) RDBMS stands for _____.

(4) _____ data model is a logical data model that captures the semantics of objects.

(b) Answer in brief : (any **one**) 2

(1) Explain Single-User DBMS.

(2) Explain Multi-User DBMS.

(c) Answer in detail : (any **one**) 3

(1) Explain Physical Data Models.

(2) Explain Relation Data Model.

(d) Write a note : (any **one**) 5

(1) Explain Centralized Database System.

(2) Explain Distributed Database System.

3 (a) Fill in the blanks : 4

(1) In E-R diagram, _____ are underlined.

(2) An association between two entity types is called _____.

(3) Only ONE entity set participating in a relationship is called _____ relationship.

(4) _____ is the process to eliminate data redundancy and enhance data integrity.

(b) Answer in brief : (any **one**) 2

(1) Explain Entities.

(2) Explain Attributes.

(c) Answer in detail : (any **one**) 3

(1) Explain E – R diagram symbols.

(2) Explain Relationship.

(d) Write a note : (any **one**) 5

(1) Differentiate : Specialization Vs. Generalization.

(2) Explain 1 NF, 2 NF, 3 NF and BCNF

4 (a) Fill in the Blanks : 4

(1) DDL stands for _____.

(2) DML stands for _____.

(3) DCL stands for _____.

(4) TCL stands for _____.

(b) Answer in brief : (any **one**) 2

(1) Explain "INSERT" statement.

(2) Explain "DELETE" statement.

(c) Answer in detail : (any **one**) 3

(1) Explain "DESCRIBE" and "ALTER" commands in DBMS.

(2) Explain Restricting and Sorting Data in DBMS.

(d) Calculate following binary operations : (any **one**) 5

(1) Explain Restricting and Sorting Data using OPERATORS in DBMS.

(2) Explain COMMIT and ROLLBACK statements in DBMS.

5 (a) Fill in the blanks : 4

(1) INNER join is also known as _____ join.

(2) _____ function calculates the average of the set of values.

(3) _____ function returns the count of rows.

(4) _____ function calculates the arithmetic sum of the set of numeric values.

(b) Answer in brief : (any **one**) 2

(1) Explain Left-Outer Join.

(2) Explain Right-Outer Join.

(c) Answer in detail : (any **one**) 3

(1) Explain "GROUP BY" clause.

(2) Explain "HAVING" clause.

(d) Write a note : (any **one**) 5

(1) Explain Pairwise and Non-pairwise Comparison.

(2) Explain Update and Delete Rows Using Correlated Subqueries.