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G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.

UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2024.

(For those admitted in June 2023 and later)



PROGRAMME AND BRANCH: B.COM., BUSINESS ANALYTICS

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
III	PART - III	ELECTIVE GENERIC - 3	U23BA3A3	DATABASE MANAGEMENT SYSTEM

Date & Session: 14.11.2024 / AN

Time : 3 hours

Maximum: 75 Marks

Course Outcome	Bloom's K-level	Q. No.	SECTION - A (10 X 1 = 10 Marks) Answer ALL Questions.
CO1	K1	1.	In the relational modes, cardinality is termed as _____. a) Number of tuples. b) Number of attributes. c) Number of tables. d) Number of constraints
CO1	K2	2.	Architecture of the database can be viewed as _____. a) two levels. b) four levels. c) three levels. d) one level
CO2	K1	3.	The view of total database content is _____. a) Conceptual view. b) Internal view. c) External view. d) Physical View
CO2	K2	4.	In an E-R diagram attributes are represented by _____. a) rectangle b) square c) ellipse d) triangle
CO3	K1	5.	Count function in SQL returns the number of _____. a) values b) distinct values c) groups d) columns
CO3	K2	6.	The full form of DDL is _____. a) Dynamic Data Language b) Detailed Data Language c) Data Definition Language d) Data Derivation Language
CO4	K1	7.	Which of the following is a primary responsibility of a Database Administrator (DBA)? a) Developing front-end applications b) Managing database security, backup, and recovery c) Writing user manuals for software applications d) Designing websites for e-commerce platforms
CO4	K2	8.	In the context of ACID properties, which property ensures that a transaction is either fully completed or not done at all? a) Consistency b) Isolation c) Atomicity d) Durability
CO5	K1	9.	Which of the following is a column-oriented database often used for distributed storage? a) MongoDB b) MySQL c) HBase d) PostgreSQL
CO5	K2	10.	In Memcached and Redis, which data model is primarily used for storage? a) Relational model b) Document model c) Key/Value model d) Graph model
Course Outcome	Bloom's K-level	Q. No.	SECTION - B (5 X 5 = 25 Marks) Answer ALL Questions choosing either (a) or (b)
CO1	K3	11a.	Explain the characteristics of the database approach. (OR)
CO1	K3	11b.	Discuss the advantages of using a DBMS. In what situations it not be appropriate to use a DBMS?

CO2	K3	12a.	What are the key differences between logical and physical database design ? (OR)
CO2	K3	12b.	Discuss the different types of keys in a database and their roles in maintaining database integrity.
CO3	K4	13a.	What are Data Definition Language (DDL) constraints, and how do they enforce data integrity in a database? Provide examples. (OR)
CO3	K4	13b.	Describe the function of COMMIT and ROLLBACK in Transaction Control Language (TCL). How do these commands ensure database consistency?
CO4	K4	14a.	What are the key benefits and challenges of using cloud databases compared to traditional on-premise databases? (OR)
CO4	K4	14b.	Write a note on E-Commerce and M-Commerce.
CO5	K5	15a.	Describe the distributed storage architecture of HBase. (OR)
CO5	K5	15b.	Write a note on performing CRUD operations in Mongo DB.

Course Outcome	Bloom's K-level	Q. No.	SECTION – C (5 X 8 = 40 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)
CO1	K3	16a.	Describe the three-tier DBMS architecture and explain the purpose of each level. (OR)
CO1	K3	16b.	Describe the different categories of data models.
CO2	K4	17a.	Explain the process of normalization and denormalization in database design. What are the advantages and potential drawbacks of each approach? (OR)
CO2	K4	17b.	Describe the steps involved in setting up a relational database management system (RDBMS) environment. How do these steps contribute to data quality and integration?
CO3	K4	18a.	Describe the different types of JOIN operations in SQL. Provide examples of each and explain how they differ. (OR)
CO3	K4	18b.	How does the SELECT statement work with ORDER BY to sort query results? Provide an example of a query that retrieves employee names in alphabetical order.
CO4	K5	19a.	Explain the ACID properties and how they ensure the reliability of database transactions. (OR)
CO4	K5	19b.	How does big data impact storage and retrieval mechanisms in modern databases? Discuss technologies used to manage big data.
CO5	K5	20a.	What are the key differences between column-oriented databases and row-oriented databases in terms of performance and use cases? (OR)
CO5	K5	20b.	What are some common strategies for ensuring eventual consistency in distributed databases? Provide examples.