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DBMS Unitwise important questions

B.Sc IIIyr (DBMS)

Unit-I

Short questions:

1. What is a database,dbms,metadata? (*)
2. Explain why DB design is important.
3. What are DB systems?
4. Explain different types of databases?
5. What are the advantages of DBMS?(**)
6. What are keys?
7. List out codd's relational DB rules (*)
8. Distinguish between simple and composite attributes
9. Explain DB system environment
10. Explain DB basic building blocks (*)
11. Write about tables and their characteristics
12. What is logical independence? (*)
13. List the limitations of DBMS?(*)

Essay questions:

1. Discuss about historical roots of a database?
2. What are the problems with file system data management?(*)
3. Explain about data redundancy?
4. List and explain the functions and capabilities of DBMS? (*)
5. Describe about data modeling and data models? (*)
6. Explain in detail why database is important?
7. What are business rules?discuss in detail? (**)
8. Explain the evolution of data models? (*)
9. Explain the disadvantages of data models? (*)
10. Explain in brief about the degree of data abstraction? (****)

2

11. Write about the logical view of data in relational database model.
12. Define a relation?and explain the characteristics of relational table. (*)
13. What is a relationship?discuss about relationships within the relational database.
14. Define the terms data dictionary and system catalog? (**)
15. What is an index?explain? (*)
16. Discuss in detail about integrity rule in relational data model. (**)
17. Explain in detail the components of DB system environment? (*)
18. Explain with example the relational set operators. (**)

Unit-II

Short questions:

1. What is an entity,entity type,entity instance and domain? (**)
2. What is a relationship, relationship type and relationship instance.
3. Define data redundancy?
4. What is denormalization?
5. What is a surrogate key?
6. Define ER model? (*)
7. Define functional dependency?
8. What is an entity?explain different types of entities? (*)
9. What is an attribute?explain different types of attributes? (***)
10. Explain recursive relationship with example? (**)
11. Explain Degree of relationship? (*)

Essay questions:

1. What is entity relationship model ?explain with example?
2. What are the basic constructs of ER model.
3. Discuss about the challenges of DB design conflicting goals.
4. Explain with example how to develop an ER diagram
5. What is normalization?explain about DB tables and normalization(*)

6. Explain 1st, 2nd and 3rd normal forms(**)
7. Explain in detail about higher normal forms.
8. Explain BCNF and 4th normal form with example. (*)
9. Explain how to improve the DB's ability to provide information and to enhance its operational characteristics (Improving Design).
10. What is a Surrogate Key? What are its advantages and disadvantages?
11. What is an EER Model and how to represent Supertype and Subtype relationships? (*)
12. Explain Inheritance and Subtype discriminator with examples. (***)
13. Describe in brief about specialization and generalization. (**)
14. What is entity clustering? Explain the use of entity clusters in ERD. (**)
15. What is a Primary Key? Explain some desirable Primary Key characteristics(guidelines). (*)
16. Explain Learning Flexible DB Design Cases. (*)
17. Explain the usage of composite primary key with an example. (*)
18. Explain with example the disadvantages of storing derived attributes. (*)

Unit -III

Short questions:

1. Explain select query in sql
2. Explain how to create table with syntax in sql
3. What are views and indexes? (*)
4. What is a cursor, stored procedures? (*)
5. What are the several parts of sql
6. Explain various data types used in sql and pl/sql (**)
7. What is the syntax to create sequences in oracle?
8. Explain column constraint in sql (*)
9. What is physical security? (*)
10. Define trigger? (**)

Essay questions:

1. List and explain various DML, DDL commands in sql? (*)

4

2. List out some important sql functions? (**)
3. Explain arithmetic functions? (*)
4. What is a join?discuss about various joins used in sql? (**)
5. Explain order by,group by and having clauses with example?
6. List and explain sql relational set operators (***)
7. List and explain sql logical operators
8. Explain special operators?
9. Explain in brief about subqueries and correlated queries? (**)
10. Discuss in brief about procedural sql?
11. What is SDLC?explain various steps used in SDLC? (**)
12. What is DBLC?what are the steps involved in DBLC? (**)
13. Discuss in detail about the strategies of DB design
14. Distinguish two different design philosophies in DB design(centralized & decentralized).
15. What is a trigger?explain?
16. Explain various types of cursors?
17. What is exceptional handling with example? (*)

Unit-IV

Short questions:

1. What is concurrency control?
2. Write about distributed transparency
3. What is a transaction?and what is transaction log? (*)
4. What is DDBMS?
5. List the main categories of concurrency control mechanism?
6. Explain the advantages and disadvantages of DDBMS? (*)
7. Explain DDBMS components? (*)
8. What is data fragmentation? (*)
9. Write about transaction ACID rules/transaction properties? (**)
10. Explain deifferent locks?explain binary lock? (**)

11. Explain deadlock? (*)
12. Explain commit and rollback commands?
13. What is scheduler? (*)

Essay questions:

1. What is concurrency control? explain the 3 main problems associated with it? (*)
2. Explain about the concurrency control with locking methods? (*)
3. Describe in detail about time-stamp based concurrency control method? (**)
4. Describe in detail about optimistic cc method?
5. What are the 3 types of DB critical events that can trigger the DB recovery process? give some examples for each one
6. Explain in detail the need for DB recovery management? (*)
7. Describe the evolution of DDBMS from centralized DBMS to distributed DBMS?
8. What is data replication? explain 3 replicated strategies? (*)
9. Explain the difference between distributed processing and distributed DB?
10. Explain the characteristics of DDBMS. (**)
11. Discuss in brief about levels of data and process distribution? (*)
12. Explain the distributed database transparency features?
13. Explain the transaction transparency?
14. Explain in detail two phase commit protocol? (**)
15. Explain performance transparency and query optimization?
16. Explain data fragmentation, replication and allocation? (distributed DB design) (**)
17. Explain the difference between distributed DB and client/server architecture
18. Explain how to ensure serializability using two-phase locking? (*)

Unit-V

Short questions:

1. Define OLAP?
2. Define MOLAP?
3. List out the components of star schema (*)

4. What is data mining?
5. What is decision support system?
6. What is data warehouse? (***)
7. List out the benefits of decision support system?
8. List out the advantages of c/s applications?
9. Define data administrator, facts? (*)
10. Data as a corporate asset justify? (*)
11. Describe 12 rules to define data warehouse? (*)
12. Define slice and dice techniques? (*)

Essay questions:

1. Explain in detail the need for data analysis?
2. What are decision support systems and what role do they play in the business environment?
3. What are the main characteristics of datawarehouse?also state its advantages and disadvantages?and characteristics of operational db data.(*)
4. What is OLAP?what are its main characteristics?
5. What is OLAP?explain OLAP architecture?(**)
6. Explain what is ROLAP and why you would recommend its use in the relational DB environment?
7. Discuss the different phases in data-mining process?(**)
8. Write in detail about SQL extension for OLAP
9. Explain the need for and role of DB in an organization.(*)
10. Describe the evolution of DB in an organization.(*)
11. Explain the various types of data dictionary.explain their features?and case tools.(**)
12. Discuss in brief about managerial and technical roles of DBA's.(**)
13. Compare and contrast the activities and characteristics of data administrator and DBA.(*)
14. Explain with a diagram the tools of business intelligence?(*)
15. Explain the components of business intelligence with a diagram?(*)