Unit 1: Introduction to Database Systems.

Short Questions (1 to 4 Marks)

1. What is Data Independence? Explain Logical & Physical Data Independence
2. Define Data Dictionary.
3. What you mean by Disjoint & Overlapping Constraints?
4. Write a note on Relational Model
5. Define Entity & Entity Set
6. Explain the concept of Aggregation.
7. Define Database
8. Give difference between Total & Partial Participation in a relationship
9. Differentiate between Schema & Instance or What is Instances & Schema? What are types of Schema?
10. What is tuple?
11. What is Weak Entity Set?
12. Name any four Database Management System
13. Explain relationship between Entity,Entity Class & Entity Instance
14. Name some DBMS Applications & its working.
15. List the requirement of DBMS
16. State the purpose of Data Models. Explain Physical Data Model
17. Define DBMS
18. What fact does mapping cardinality indicates?

Long Questions (5 to 10 Marks)

1. Define Relationship & Relationship Set. Explain Mapping cardinality with example.
2. Differentiate between Generalization & Specialization with an example.
3. Define DBMS. Explain different level of Data Abstraction. Or Explain structural Architecture of DBMS.
4. Differentiate between strong & weak Entity Set
5. What are the advantages & limitations of DBMS/ Distributed DBMS
6. Explain Object oriented Model
7. Explain types of relationship set with an E-R Diagram
8. Explain the concept of Generalization, Specialization & Aggregation. Explain with example.
9. Explain Entity set & types of attributes in detail.
10. Discuss disadvantages of File Processing System.

11. What are difference between File Processing System & DBMS
12. Short Note: Record Based Data Model
13. Difference between Network & Relational Data Model
14. Write a note on Data Independence / Compare Physical & Logical Data Independence
15. Write a note on Relational Model
16. Compare following (i) File base system & DBMS (II) Logical & physical level of DBMS
17. Design a Generalization & Specialization Hierarchy for different Accounts of Banks
18. Explain Relational, Network & Hierarchical Model

Unit 2: Concepts of DBMS.

Short Questions (1 to 4 Marks)

1. Define DDL, DCL,DML & TCL commands.
2. What is difference between Drop table & Truncate table command?
3. What is difference between Full FD & Partial FD?
4. What do you mean by closure of a set of FD?
5. What is Data Manager? List responsibilities of Data Manager.
6. What is difference between Trivial & Non-Trivial Dependency?
7. Explain Prime & Non-Prime attributes.
8. What is the purpose of Storage Manager?
9. Give the general Form of Query. Or What is Query?
10. Define Functional Dependency.
11. State difference between Delete & Drop
12. What is SQL? Why is it important?
13. What is Data Manipulation?
19. List the functions of File Manager.
14. What is System R?
15. What is Default Value Constraint? How to define it?
16. What is Query Processor?
17. What is Transitive FD?
18. What is difference between ALTER & UPDATE command?
19. What is difference between Table level & Column level constraints?
20. List out rules derived from Armstrong's Axioms.
21. Is it possible to change the structure of existing View?if yes then how?
22. Give List of Various types of Join
23. What is difference between IN & = operator

24. Explain sum() function with an example
25. Explain like operator in SQL
26. What is Multi-valued Dependency?

Long Questions (5 to 10 Marks)

1. What is FD? Explain types of FD with an example
2. Explain DDL & DML. Explain all the commands of these two categories.
3. List and explain Armstrong's Axioms
4. What is DBA? Explain responsibilities of DBA
5. Explain the components of DBMS
6. List the responsibilities/ Functions of Data Manager
7. Explain types of Database Users
8. What is DBA? How DBA can hide various levels & kinds of complexity from Database users?
9. Explain Trivial & Non-Trivial dependency with example
10. What is Data Dependency & Fuynctional Dependency? Describe their difference and functionality.
11. Short Note: (i) Data Consistency (II) Data Integrity & Security
12. Explain TCL
13. What is DDL? How it is different from DML? Briefly explain guidelines for creation of table.
14. Explain Data Manager
15. What is JOIN? Explain various types of Join with an example
16. What are Nested Queries? Explain with example.
17. E-R Diagram : School Management System
18. E-R Diagram : Library Management System / Online Library Management System
19. E-R Diagram : Online Ticket Booking System
20. E-R Diagram : Online Banking System
21. E-R Diagram : Departmental Store Management System
22. E-R Diagram : Sports Team Management System
23. E-R Diagram : Shopping Cart System
24. E-R Diagram : Hospital Management System

Unit 3:Types of Keys & Data Integrity

Short Questions (1 to 4 Marks)

1. What is Referential Integrity? How can we achieve it?
2. What do you mean by candidate key?
3. Define Domain
4. Difference between Partial Key & Primary key
5. What is Domain Integrity?
6. What is usage of Foreign key? Explain with example
7. How Data Integrity can be maintained?
8. Difference between Candidate Key & Primary key

Long Questions (5 to 10 Marks)

1. Write a note on various Integrity Constraints. Or Explain Database Integrity & its Types
2. List and explain all the keys & their significance.
3. Explain Referential Integrity Constraint. Explain Unique key constraint. Is Unique+Not Null is same as primary key or not? Justify
4. Explain Super key, Candidate key, Primary key and Composite Key with an example.

Unit 4:Normalization

Short Questions (1 to 4 Marks)

1. Define Data Redundancy
2. Define Boyce Codd Normal Form
3. In which condition you need to De-normalize the database?
4. What is the use of Canonical Cover during Normalization?
5. How redundancy can be reduced?
6. What is Inconsistent value problem? Include an example not used in text.
7. What is Normalization?
8. What is FD? Which FD is achieved in 2nd Normal Form?
9. Give example of decomposition which is loss less but not dependency preserving

Long Questions (5 to 10 Marks)

1. What is the significance/purpose of Decomposition/Normalization? Explain BCNF in detail.

2. What is Decomposition? What are the characteristics/Properties of Decomposition? Explain Lossless Decomposition by giving proper example.
3. What is Normalization? Explain upto 3rd Normal Form.
4. What is Normalization? Explain BCNF and compare how it is better than 3rd NF
5. What is Decomposition? What are criteria for good Decomposition? Give example of Decomposition that is lossless but not dependency preserving
6. "Not Every BCNF Decompostion is Dependency Preserving" Justify.
7. Consider the following Relation.
   Teacher(course,professor,room,roomcapacity,enroll_limit)
   FD={course->room,professor,roomcapacity,enroll_limit
   Room-> roomcapacity,enroll_limit}
   Normalize it upto 3rd NF
8. Write a note on Anomalies in Database durin Insertion, Updation & Deletion.
9. Using the tables described below:
   Itemmaster(itcode,itdesc,rate)
   Customermaster(custno,custname)
   Order(orderno,orddt,custno)
   OrderItem(ordno,itcode,qtyordered)
   Describe FDs. Also explain in which Normal Form the tables are & why?
10. Explain Lossless Join Decomposition
11. How to achieve BCNF? Explain the process of achieving.
12. Discuss the process of Normalization
13. How the dependency can be prevented?
14. Justify " Any relation which is in BCNF is also in 3rd NF but converse is not true"

Unit 5:Open Office Base

Short Questions (1 to 4 Marks)

1. What do you understand by datatype MEMO(MS Access)
2. What is Null value?
3. What are different Field Properties?
4. What are the Datatypes in MS Access?
5. How to create Relationship among tables?

Long Questions (5 to 10 Marks)

1. How to set relationship between tables in MS Access? What is Cascade Update & Cascade Delete?