

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

Department of Computer Science

RDBMS- Section-II

Question Bank

- i) Define relation, attributes, tuples and domain.
- ii) Write a short note on σ and Π algebra operations.
- iii) Write a short note on normalization form in which an attribute cannot contain multiple values.
- iv) Write a store function which will accept height and base as input parameters and return area of triangle.
- v) Explain views in MySQL
- vi) Write a note on Stored Procedure in MySQL.
- vii) Write a note on Stored Function in MySQL.
- viii) Discuss parameters with examples: in, out and inout
- ix) Write a note on Armstrong's axioms.
- x) Define closure set of Functional Dependencies with example.
- xi) Write stored function in MySQL which accepts two numbers as upper limit and lower limit and returns count of even numbers between given limits.
- xii) Write a note on Relational Model Notations.
- xiii) Define terms: Determinant, Determined.
- xiv) Explain referential integrity with example.
- xv) Write a note on update anomaly in un-normalized database.
- xvi) Write a short note on stored function in MySQL.
- xvii) Write a short note on relational model notations.
- xviii) Explain referential integrity constraint with example.
- xix) Explain θ joins.
- xx) Write a short note on single valued and multivalued functional dependency.
- xxi) Write stored procedures will accept any number and return square.
(Use inout parameter type)
- xxii) Define relational constraint. Create relational tables which will demonstrate the use of primary key, foreign key, unique key and not null constraints.
- xxiii) Define functional dependency. Explain its types with examples.
- xxiv) Define normalization. Explain 2NF and 3NF.

- xxv) Define joins in DBMS. Explain cross join and natural join and apply both on following tables (dept, emp) and justify answers with SQL queries.

DEPTNO	DNAME	LOC
10	INVENTORY	HYBD
20	FINANCE	BGLR
30	HR	MUMBAI

EMPNO	ENAME	JOB	MGR	DEPTNO
111	saketh	analyst	444	10
222	sudha	clerk	333	20
333	jagan	manager	111	10
444	madhu	engineer	222	40

- xxvi) Define Closure Set of Function Dependencies (FD+). Find FD+ of given functional dependencies of relation R (A, B, C, D, E).

FD= (A→B, CD→E, A→C, B→D, E→A)

- xxvii) Consider Bank database with following tables and given relationships:

Customer(C_id(PK), C_name, C_city, C_contact)

Branch (Br_no(PK), Br_name, Br_city)

Account (Acc_no(PK), Acc_type, Acc_balance)

Loan(L_no(PK), L_amt, No_of_years)

Relationships: - Customer: Account- 1: M, Customer: Loan-1: M

Branch: Loan- 1: M, Branch: Account- 1: M

Design E-R model for Bank Database and transform it into relational model.

- xxviii) Design ER model for a hospital which consists of many patients where patients may be out or in patients. If in-patients they are admitted in rooms. Patients are provided with all facilities like lab tests and medicines. Hospital runs its own labs and medical stores.

- List all the entities
- List out all the relationships and represent them
- Design ER Model

xxix) Consider following Relations and answer the following and justify the answers.

Relation- Football	
Roll No.	Name
1	Niranjan
2	Harshad
3	Rahul
4	Jatine
5	Sunny
6	Ganesh
7	Nishikant

Relation- Cricket	
Roll No.	Name
1	Niranjan
4	Jatine
6	Ganesh
8	Sagar
9	Manoj
10	Sanjay

- a) $\Pi_{\text{Roll No., Name}}(\text{Football}) \cap \Pi_{\text{Roll No., Name}}(\text{Cricket})$
 b) $\Pi_{\text{Roll No., Name}}(\text{Football}) \cup \Pi_{\text{Roll No., Name}}(\text{Cricket})$
 c) $\Pi_{\text{Roll No., Name}}(\text{Football}) - \Pi_{\text{Roll No., Name}}(\text{Cricket})$

xxx) Consider following Relations and answer the following and justify it.

Relation- Employee	
Eid	Name
1	Rutu
2	Rekha
3	Suvarna
--4	Nanda
7	Sameer

Relation- Salary	
Eid	Salary
1	5000
2	7000
3	5500
4	8900
5	9000
6	5000

- $\Pi_{\text{Eid, Name, Salary}}(\text{Employee} \bowtie \text{Salary})$
 $\Pi_{\text{Eid, Name, Salary}}(\text{Employee} \ltimes \text{Salary})$
 $\Pi_{\text{Eid, Name, Salary}}(\text{Employee} \ltimes \text{Salary})$