

DATABASE CONCEPTS

SHORT ANSWER TYPE QUESTIONS (2 marks each)

1. **What is data redundancy? What are the problems associated with it?**
2. How do database management system overcome the problems associated with data redundancy ?
3. What is the solution to redundancy?
4. What are the three levels of data abstraction?
5. Define the following terms :
 - a. Relation
 - b. Tuple
 - c. Attribute
 - d. Domain
 - e. Primary key
 - f. Candidate key
 - g. Degree & Cardinality
6. What do you mean by relational database?
7. Define Alternate Key.
8. What is the importance of a primary key in a table ? what are the properties of a primary key?
9. What do you understand by the terms Candidate Key? Show an example.
10. What is the function of select and project operation? Explain with examples.
11. What is the Cartesian product? Explain with an example.
12. What does union operation do? What are the conditions to carry out union

operation?

13. What are the set difference and set intersection operations?

Application Based Short Questions

14. Observe the following table and answer the parts(i) and(ii)and (iii) accordingly

Table:Product

Id	Name	Qty	PurchaseDate
101	Pen	102	12-12-2011
102	Pencil	201	21-02-2013
103	Eraser	90	09-08-2010
109	Sharpener	90	31-08-2012
113	Clips	900	12-12-2011

- (i) Write the names of most appropriate columns, which can be considered as candidate keys.
- (ii) What is the degree and cardinality of the above table?
- (iii) If you add 2 new rows and delete the PurchaseDate column then how the degree and cardinality of the Product relation will be affected?

Changing your Tomorrow ▲

15. Observe the following tables VIDEO and MEMBER carefully and write the name of the RDBMS operation out of (i) SELECTION (ii) PROJECTION (iii) UNION (iv) CARTESIAN PRODUCT, which has been used to produce the output as shown below, also, find the Degree and Cardinality of the final result.

Table: VIDEO

VNO	VNAME	TYPE
F101	The Last Battle	Fiction
C101	Angels and Devils	Comedy
A102	Daredevils	Adventure

Table: MEMBER

MNO	MNAME
M101	Namish Gupta
M102	Sana Sheikh
M103	Lara James

FINAL RESULT

VNO	VNAME	TYPE	MNO	MNAME
F101	The Last Battle	Fiction	M101	Namish Gupta
F101	The Last Battle	Fiction	M102	Sana Sheikh
F101	The Last Battle	Fiction	M103	Lara James
C101	Angels and Devils	Comedy	M101	Namish Gupta
C101	Angels and Devils	Comedy	M102	Sana Sheikh
C101	Angels and Devils	Comedy	M103	Lara James
A102	Daredevils	Adventure	M101	Namish Gupta
A102	Daredevils	Adventure	M102	Sana Sheikh
A102	Daredevils	Adventure	M103	Lara James

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16. Define the following terms.

- a. Data
- b. Database
- c. Database system
- d. DBMS

17. Name some DBMS softwares.
