What do you mean by a key to the relation ? Explain the differences between super key, candidate key and primary key.

The context of databases and relational database management systems (RDBMS), a “key” in a relation refers to a set of one or more attributes (columns) that can uniquely identify a tuple (row) in that relation. Keys play a crucial role in maintaining the integrity and structure of a relational database.

Difference between Super key, Candidate key and Primary key:

Feature	Super Key	Candidate Key	Primary Key
Definition	An attribute or set of attributes that uniquely identifies all attributes in a relation.	A minimal set of super key.	A minimal set of attributes that uniquely identifies rows in a relation.
All are Super Keys	Yes	Yes	No
Null Values	Can be null	Can be null	Cannot be null
Number of Keys	Any number of super keys can exist.	Number of candidate keys is less than super keys.	Number of primary keys is less than candidate keys.
Example (from Fig. 1.23.1)	(Registration), (Vehicle_id), (Registration, Vehicle_id), (Registration, Vehicle_id, Make), etc.	(Registration, Vehicle_id)	(Registration)

Diagram:

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9. What are data models ? Briefly explain different types of data models.
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16. Construct an ER diagram for University system.
17. Construct an ER diagram for the registrar’s office
18. Explain the primary key, super key, foreign key and candidate key with example. OR Define key. Explain various types of keys.
19. Explain generalization, specialization and aggregation. OR Compare generalization, specialization and aggregation with suitable examples.
20. What is Unified Modeling Language ? Explain different types of UML.
21. What is relational model ? Explain with example.
22. Explain constraints and its types.
23. Consider the following relations:
24. What are the additional operations in relational algebra ?
25. Explain integrity constraints.
26. Explain the following constraints : i. Entity integrity constraint. ii. Referential integrity constraint. iii. Domain constraint.
27. Describe mapping constraints with its types.
28. Explain how a database is modified in SQL. OR Explain database modification.
29. Discuss join and types with suitable example. Define join. Explain different types of join.

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30. Describe the SQL set operations

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