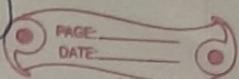


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DBMS:



## Assignment - I

MCQ :-

- 1) A) Entity.
- 2) A) Record.
- 3) B) Program.
- 4) C) Both of them.
- 5) c) Foreign key.
- 6) c) Candidate.
- 7) c) Update S set city = Kanpur where  
 $Sno = S1$ .
- 8) a) Oval: An oval with an underlined  
attribute.
- 9) B) Composite attribute.
- 10) D) None of the mentioned

\* fill ups:-

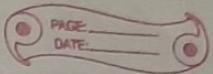
- 1) Constraints.
- 2) tuple (rows)
- 3) Relation.
- 4) Referential integrity constraints.
- 5) Mapping Cardinality.
- 6) Database.
- 7) Data Isolation
- 8) Data.
- 9) Metadata.
- 10) Physical data independence.

\* Short Questions:

Q.1) Define E-R Data Model:

A. ER model stands for an Entity Relationship Model. It is a high level data model. This model is used to define the data elements & relationship for specified system. It develops a conceptual design for database.

Q.2) Define Primary Key.



A. The minimal set of attributes (columns) in a Table that uniquely identifies tuples (rows) in table.

(Q.3) Define Weak Entity Set :-

A. The Entity sets which do not have sufficient attributes to form a primary key are known as weak Entity sets.

(Q.4) What is Generalization?

A. Generalization is bottom up approach in which two lower level entities combine to form higher level Entity. The higher level Entity can also combine with lower level Entities to make further higher level Entity.

(Q.5) What is Constraints?

A. Constraints enforce the limit to the data or Type of data that can be inserted, updated, deleted from table. Purpose of constraints is to maintain data Integrity.

during update/insert/delete in Table

Q.6) What is mapping Cardinality?

A. It is express the number of entities to which another entity can be associated via a relationship set.

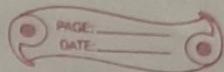
Q.7) What is data abstraction?

A. The process of hiding irrelevant details from user is called data abstraction.

Q.8) Define Native Users (End Users)?

A. Native Users are Unsophisticated users who have no knowledge of database. These users are like a layman, which has little bit of knowledge of database. They are end users of database who work through the menu driven applications.

Q.9) Define SQL?



A. Structured Query language is a programming nomenclature used to do set operation (like union, intersect, join) to organise & retrieve information in relational database based on set theory & relational algebra.

Q.10) What is Information?

A. Information refers to ~~as~~ data that has been organised, interpreted and contextualised by a human or machine so that it possess relevance & purpose.

\* Long Questions -

Q.1) Explain different types of attributes.

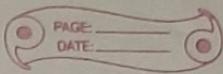
A. a) Simple attributes : An attribute which cannot be further subdivided into components is a simple attribute.

b) Composite attributes : An attribute which can be splitted into components is a composite attribute.

- c) Single valued attribute :- The attribute which takes up only a single value for each entity instance is single valued attribute.
- d) Multi-valued attribute :- The attribute which takes up more than a single value for each entity instance is multivalued attribute.
- e) Derived attribute :- An attribute that can be derived attribute.

Q.2) Explain Extended E-R features - generalization, specialization & aggregation.

A. Generalisation :- It is process of extracting common properties from a set of entities to create a generalized entity from it. It is a bottom up approach in which 2 or more entities can be generalized to higher level entity if they have common attributes.



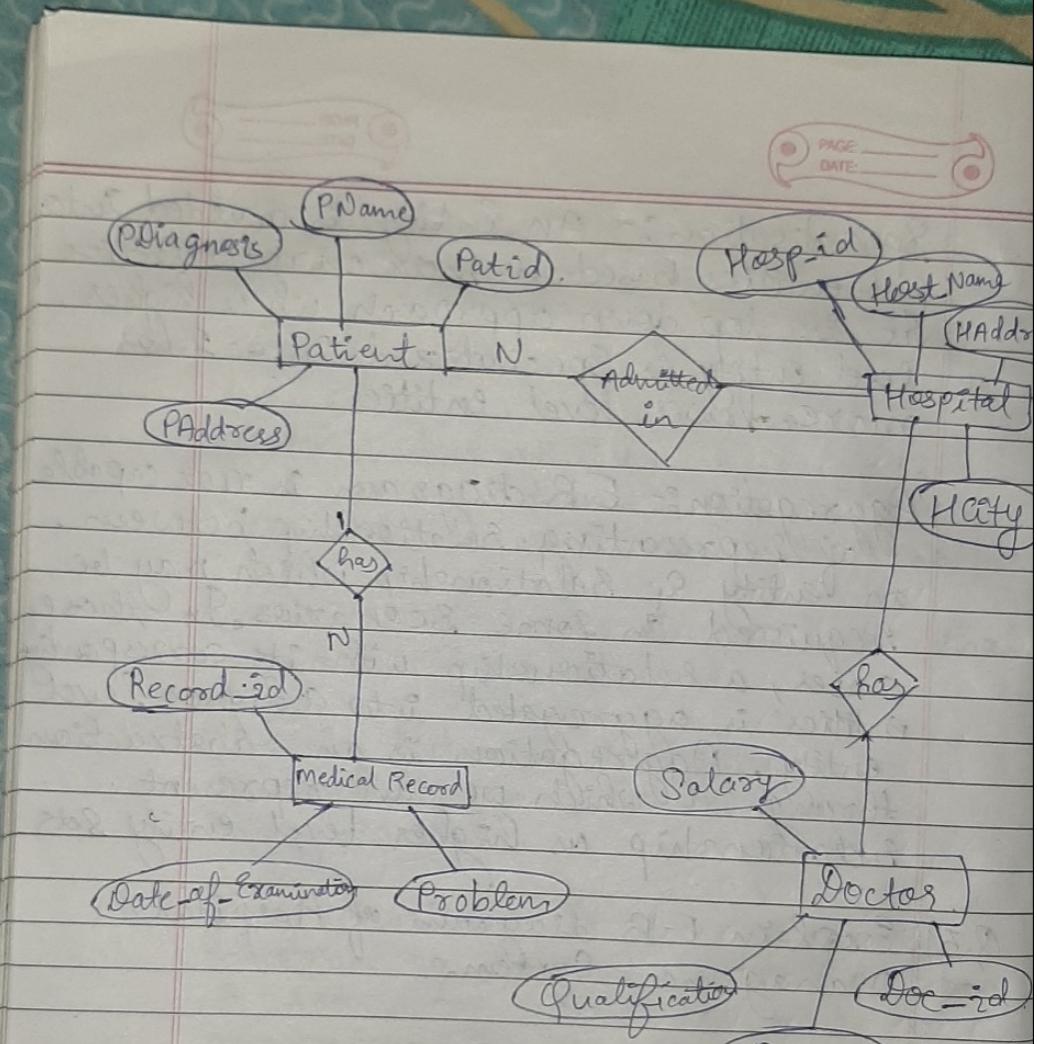
Specialisation:- An Entity is divided into sub-entities based on their characteristics. It is top down approach where higher level entity is specialized into 2 or more lower level entities.

Aggregation:- ER diagram is not capable of representing relationship between an entity & relationship which may be required in some scenarios. In those cases, a relationship with its corresponding entities is aggregated into a higher level entity. Aggregation is an abstraction through which we can represent relationship as higher level entity sets.

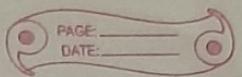
Q.3) Explain E-R diagram of Hospital Management Systems.

A. (Ans)

Ans (Ans) Explain E-R diagram of Hospital Management Systems (P. 8)



Q.4) Explain advantages of DBMS over files management system



- 1) Data Redundancy & Inconsistency.
- 2) Data Sharing: file system does not allow sharing of data or sharing is too complex whereas DBMS, data can be shared easily due to centralised system.
- 3) Data Concurrency: file system does not provide any procedure to stop anomalies whereas DBMS provides locking system to stop anomalies to occur.
- 4) Data Searching: On file system, a different application program has to be written while DBMS provides inbuilt searching operation.
- 5) Data Integrity: file system does not provide procedure to check these constraint automatically whereas DBMS maintain data integrity by enforcing user defined constraints on data by itself.
- 6) System Crashing      7) Data Security

Q.5) Explain Role of DBA (Database Administrator).

A. DBA is individual or person responsible for controlling, maintenance, coordinating & operation of database management system. Managing, securing & taking care of database system is prime responsibility. They are responsible and in charge for authorizing access to database, coordinating, capacity, planning, installation and monitoring user for acquiring & gathering software & hardware resources as & when needed. Their role also varies from configuration, database design, migration, security, troubleshooting, backup, and data recovery. Database administration is major & key function in any firm or organization that is relying on one or more databases.