Duration: 2 Hours   **Total Marks: 50**

Instructions: 1) All questions are compulsory
                         2) figures to the right indicate full marks.
                         3) Write your seat number in the space provided.

Q.1 A) Define the following in one or two sentences   5*1=5 mks
      a) data cleansing
      b) locks
      c) transaction
      d) ODBC
      e) Fuzzy lookup

B) Select the appropriate answer   5*1=5 mks

1. When data is stored in multiple files and files are in different formats, data   retrieval is
   difficult. This is referred to as _____
      a) Data isolation
      b) Data scattering
      c) Data ordering
      d) Data maintenance

2. _____ is the set of attributes that distinguishes among all the entities of a weak entity set.
      a) superkey
      b) discriminator
      c) candidate key
      d) weak key

3. In _____ lower-level entity set inherits all the attributes and relationship participation of
   the higher-level entity set to which it is linked.
      a) Attribute encapsulation
      b) Attribute inheritance
      c) relationship inheritance
      d) all of the above

4. In _____ we have to ensure that a value which appears in one relation for an attribute
   also appears in a certain attribute in another relation.
      a) referential integrity constraint
       b) domain constraint
      c) assertion
      d) authorization

5. _____ are termed as unsophisticated users of the database.
   a) naive
   b) DBA
   c) Specialized
   d) application programmers

Q.2 Answer the following
a) Explain Data mining.   2 mks
b) List any three functions of a DBA.   3 mks
c) What is a distributed database?Explain homogeneous and heterogeneous distributed database in detail.   5 mks

Q.3 Answer the following
a) Explain the concept of aggregation in an ER diagram.   2 mks
b) Briefly explain the mapping cardinalities in an ER diagram .   3 mks
c) Model an E-R diagram for a railway management system. Make assumptions wherever necessary.   5 mks

Q.4 Answer the following
a) Explain good and bad decompositions in normalization.   2 mks
b) Explain any three advantages of normalization.   3 mks
c) Define 3NF and Decompose the following relation into 3NF   5 mks

Employee(**Eno**,e_name,b_date,address,d_no,dept_location,mgr_no)

FD1

FD2
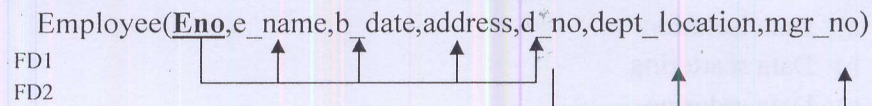
Q.5 Answer the following
a) Explain the different lock modes.   2 mks
b) Briefly explain the ACID properties of a transaction.   3 mks
c) What is a Multimedia database?Explain its features in details.   5 mks

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