B.Tech. SEM -V (Computer) 2014 Course (CBCS) : WINTER - 2018

SUBJECT-DATABASE MANAGEMENT SYSTEM

Day: Thursday	**W-2018-2392**	Time: 02.30 PM TO 05.30 PM
Date: 29/11/2018		Max. Marks: 60

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat diagrams **WHEREVER** necessary.
4) Assume suitable data, if necessary.

Q.1 **a)** Explain 3- tier architecture of DBMS with suitable example. **(05)**
  b) Distinguish between Physical data independence and Logical data independence. **(05)**

OR

Q.1 Illustrate objectives of DBMS with suitable example. **(10)**

Q.2 Construct an E-R model for recruitment management system & normalize it upto 3NF. **(10)**

OR

Q.2 Consider the relation R (ABCDEF) with the following functional dependencies: **(10)**
$\{A \rightarrow FC,\ C \rightarrow D,\ B \rightarrow E\}$
  i) What are different keys of Relation.
  ii) Normalize the relation upto 3NF.

Q.3 Illustrate following terms with suitable example: **(10)**
  i) Primary key
  ii) Super key
  iii) Foreign key
  iv) Candidate key.

OR

Q.3 **a)** State & explain in detail all aggregate function with suitable example. **(05)**
  b) Consider the following schema: **(05)**
  Orders (ord_no, purch_amt, ord_date, cust_id, salesman_id)
  Customer (cust_id, cust_name, city, grade, salesman_id)
  Salesman (salesman_id, name, city, commission).
  Write SQL query for following:
    i) Find the average purchase amount of all orders.
    ii) Find maximum purchase amount of all the orders.
    iii) Select the highest grade for each of the cities of the customers.
    iv) Count the number of salesmen for whom city is specified. Note that there may be spaces or no spaces in the city column if no city is specified.

Q.4 **a)** State & explain the following with examples: **(05)**
  i) DDL
  ii) DML
  iii) DCL.

P.T.O.

b) What is Subquery & Explain it's type with suitable example. **(05)**

OR

Q.4 Consider the following schema: **(10)**
Movie (mov_id, mov_title, mov_year, mov_time, mov_lang, mov_dt_rel, mov_rel_country)
Actor (act_id, act_fname, act_lname, act_gender)
Reviewer (rev_id, rev_name)
Rating (mov_id, rev_id, rev_stars, num_of_ratings).
Write SQL query for following:
  i)   Find the name & year of the movies.
  ii)   Find the year when the movie American Beauty released.
  iii)   Return the name of all reviewers & name of movies together in a single list.
  iv)   Find the name of all reviewers who have rated 7 or more stars to their ratings.
  v)   Find the ID number for the actor whose first name is 'Woody' & the last name Is 'Allen'.

Q.5 **a)** Explain the concept of Transaction with suitable example. **(05)**
      b) Explain different issues in Query processing. **(05)**

OR

Q.5 Explain in detail: **(10)**
  i)   View Serializability
  ii)   Conflict Serializability

Q.6 **a)** Discuss in detail various components of Data-warehouse with suitable diagram. **(05)**
      b) Write short note on: Geographical Database. **(05)**

OR

Q.6 Discuss in detail difference between structured & unstructured data. Also **(10)** explain different types of NoSQL databases.

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