DELHI PUBLIC SCHOOL,JAMMU

Assignment for Half Yearly(2018-19)

Subject: Computer Science

Class: XII

Chapter : Database Concepts

Q1. How many types of users work on database systems ?

Q2. What do you understand by Domain ?

Q3. What are the various data models available for database systems ?

Q4. Explain the concept of Database Abstraction with the help of example.

Q5. Define Primary Key, Alternate Key, Foreign Key.

Chapter : Structured Query Language

Q1. What are the features of SQL ?

Q2. Consider the table and answer the following

Table : GAMES

G code	GameName	Type	Number	Prize Schedule	Money Date
101	Carom Board	Indoor	2	5000	23-Jan-2004
102	Badminton	Outdoor	2	12000	12-Dec 2003
103	Table Tennis	Indoor	4	8000	14-Feb-2004
105	Chess	Indoor	2	9000	01-Jan-2004
108	Lawn Tennis	Outdoor	4	25000	19-Mar-2004

Table : PLAYERS

Pcode	**Name**	**G code**
1	Nabi Ahmad	101
2	Ravi Sahai	108
3	Jatin	101
4	Nazneen	103

(b) Write SQL commands for the flowing statements:
(i) To display the name of all GAMES with their G codes
(ii) To display details of those GAMES which are having Prize Money more than 7000.
(iii) To display the content of the GAMES table in ascending order of Schedule Date.
(iv) To display sum of Prize Money for each Type of GAMES

(c) Give the output of the following SQL queries:

(i) SELECT COUNT(DISTINCT Number) FROM GAMES;
(ii) SELECT MAX(ScheduleDate),MIN(ScheduleDate) FROM GAMES;
(iii) SELECT Name, GameName FROM GAMES G, PLAYER P WHERE G.Gcode=P.Gcode AND G.PrizeMoney>10000;
(iv) SELECT DISTINCT Gcode FROM PLAYER;

Chapter : Boolean Algebra

Q1. State and verify Involution law.
Q2. Prove algebraically X . Y +X' . Z + Y . Z = X. Y + X' . Z
Q3. If F (a, b, c, d) = ∑ (0,2,4,5,7,8,10,12,1,15) obtain the simplified form using K-map.
Q4. State and Prove De Morgan's Theorem.
Q5. Minimise AB + A'C' + AB'C (AB + C).
Q6. Reduce X'Y'Z' + X'YZ' + X Y' Z' + X Y Z'.

Chapter : Communication and Network Concepts

Q1. Mumbai Organization has set up its new center at Mangalore for its office and web based activities. It has 4 blocks of buildings

Distance between various

A to B	150 m
B to C	140 m
C to D	125 m
A to D	170 m
B to D	125 m
A to C	90 m

No. of Computers

Block A	95
Block B	70
Block C	185
Block D	100

(i) Suggest a cable layout of connections between the blocks.
(ii) Suggest the most suitable place (i.e. block) to house the server of this organization with a suitable reason.
(iii) Suggest the placement of the following devices with justification Repeater Hub/Switch•
(iv) The organization is planning to link its front office situated in the city in a hilly region where cable connection is not feasible, suggest an economic way to connect it with reasonably high speed?

Chapter: Data Structure

1. Write a function in C++ to perform a PUSH operation in a dynamically allocated stack considering the following:

```
struct Node
{
      int X, Y;
      Node *Link;
};
class STACK
{
      Node *Top;
public:
      STACK() {Top=NULL;}
```

```
        void PUSH();
        void POP() ;
        STACK();
    };
```

2. WAP in C++ to print the sum of all the values which are either divisible by 2 or are divisible by 3 present in a two-dimensional array passed as the argument to the function.