## Instructions:

- Please check that this question paper contains 4 printed pages.
- Please check that this question paper contains 7 questions.
- Please write down the Serial Number of the question before attempting it.
- All questions are compulsory.
- Answer the questions after carefully reading the text.

1. a) Write two disadvantages of twisted pair cables. 2
b) Explain in brief networking goals and needs.
c) Explain the difference between domain name and URL with the help of appropriate 2 example of each.
d) Compare Free and Open Source Software.
e) What is MAC address? How many bytes does a MAC address consume?
2. a) Write four points of difference between HTML and XML.
b) Write HTML code to:
i) create a link wild.html for the text "Wild Life in park".
ii) draw a horizontal line that covers half the browser window
c) Differentiate between password field and text field.
d) Write the purpose of void keyword in method definition.
e) Given below is a code.
```
<message>
                <text>Hello, world!</text>
                </message>
```

Which language is used to write the above code? What are <message>, </message>,
<text> and </text>?

OR
Given below is HTML code. Rewrite the correct code underlining all the corrections done. <ol type="A" start="D">
<li>Bake in oven for an hour
<li>Remove from oven
<li>Serve
f) Write any two properties of a Constructor function.
3. a) What does consistency property imply?
b) Neha is not able to enter the details of students born after '30-Mar-2007'. Which constraint she might have specified when the table was created?

OR
Rakesh wrongly dropped a table named as STUDENT. Can he recover this table? Justify your answer.
c) What is the purpose of the following query:
d) A table Employee in a database has 4 columns and 2 rows in it. What will be the cardinality and degree if 3 more columns are added in the table?
e) What is the role of DEFAULT constraint? Explain using suitable examples.

OR
What is the relationship between SQL and MySQL?
f) What is the significance of wild card characters in SQL queries?

g) | Activity Name | ParticipantNo |
| :--- | :--- |
| Relay |  |

| Relay 100X 4 | 16 |
| :--- | :--- |
| High Jump | 10 |
| Shot Put | 12 |
| Long Jump | 12 |
| Discus Throw | 10 |

Based on the information given in ACTIVITY table, find the output of following queries.
a) SELECT COUNT( DISTINCT ParticipantNo) FROM ACTIVITY;
b) SELECT ActivityName FROM ACTIVITY WHERE ActivityName LIKE '\% ${ }^{\prime}$ ';

4 a) Rewrite the following program code using for loop.
int $\mathrm{i}=1$, sum=0;
while ( $\mathrm{i}<15$ ) $\{$
sum +=i;
$i+=2 ;\}$
OR
Rewrite the following code using 'while' loop:

```
int \(\mathrm{i}, \mathrm{j}=2\);
for (i=1; i<=6; )
            i++;
            j+=2;
```

System.out.println("i=" + i + " $\mathrm{j}="$ + j );
b) Rewrite the corrected following code by underlining the corrected area

```
int i,c,a=5,b=0;
for(i=0,i<20,i++){
            if b=0 then
            break;
            else
            c=a/b;
            system.out.show("Quotient"+c);
```

c) Rewrite the following code using if ..else.
switch(ch) \{
case 10: a++
case 20:
case 30: c++;
case 40: ++v;
default: ++w;
\}
d) What will be the output after executing the following code?
int fun(int $n$ )
\{ int $r=(n \% 2==0)$ ?1:0;

> return r;
\}
int t=5,p;
do
\{ $\mathrm{p}=$ fun( t$)$;
if( $p==1$ )
System.out.println(t+p);
else
System.out.print(t+p);
\}while(++t<10);
5. Blue Valley Public School has computerized its registration for class XI students. Given below is the data entry form for same. Answer the following questions:
(i) On clicking the initial button jTextField1 and jTextField2 should be set as uneditable.
(ii) On clicking the Calculate button the Total Fee is calculated on the basis of the following criteria:

| Stream | Fee(Rs.) |
| :--- | :---: |
| Commerce | 2500 |
| Arts | 2000 |
| Medical | 2900 |
| Non-Medical | 2800 |

The Total Fee should be displayed in jTextField3.
(iii) If the student has opted for Computers Rs. 200 will be added to the total fee. The modified Total Fee should be displayed in jTextField3.
(iv) On Clicking the End button the application will be closed.

6. Create table Event based on the structure given below:

Event

| Field | Data Type | Constraint |
| :--- | :--- | :--- |
| EventID | Integer | Prinary Key |
| Event | Varchar(50) |  |
| DateEvent | Date |  |
| NumPerformers | Integer |  |

7. Answer the questions give below:

Table: Workshop

| WorkshopId | Title | NumSpeakers | MeantFor | Fee |
| :--- | :--- | :--- | :--- | :--- |
| 551 | Time <br> Management | 3 | Senior Manager | 7000 |
| 553 | App <br> Development | 1 | Computer Programmer | 9000 |
| 554 | Planning | 2 | Senior Manager | 8000 |
| 556 | Marketing <br> Strategies | 2 | Junior Manager | 9000 |

Table: Participant

| ParticipantId | Name | WorkshopId |
| :--- | :--- | :---: |
| 100 | Prabhu Shankar | 551 |
| 101 | Dev Sen | 554 |
| 102 | Fauzia Khan | 551 |
| 103 | Tom Winters | 553 |

a) Workshop '552' is missing in the table Workshop. Is there any discrepancy? Workshop '551' is present twice in the table Participant. Is there any discrepancy? Give reasons for your answer.
b) To display names of Participants along with workshop titles for only those workshops those have more than 2 speakers.
c) To display Participantld, Participant's name, Workshopld for workshops meant for Senior Managers and Junior Managers.
d) Decrease the fee of all speakers by $10 \%$ if it is more than 9000 .
e) List the report displaying ID, title and Concession(10\% of fee) for all workshops.
f) Add a new column DOW (Dateof Workshop) as date into workshop table.
g) List the details of workshops held in 2017.
h) Show details of participants whose name has ' $a$ ' as $2^{\text {nd }}$ as well as $3^{\text {rd }}$ last character.
i) Show details of managers whose fee is in the range 7000-8000 (including both values)
j) Find the difference between highest and lowest fee.
k) Count different categories of speakers.
I) Write the O/P of:
i) SELECT POW(INSTR('Coordination ','o'),3) as ABC from dual;
ii) Select Title, Name from workshop, participant where workshop.workshopid= participant.workshopid;
iii) Select Avg(Fee) from workshop;
$\mathrm{m})$ Find error(s), if any, and rewrite the corrected code:
i) Delete all from participant;
ii) Select Name as Participant Name from participant;
iii) Select workshop.* from workshop where fee>4000 and <5000;
n) What output will you get, when an equi join query is executed to get the name of participants from Participant table and corresponding fee from Workshop table?
8. a) Define e-governance
b) How can online retailers usually offer customers a wider range of products at prices that are lesser than those of traditional stores?
c) What is m-commerce?
d) How does E-business help organizations to provide better customer services?

