Time: 2½ Hours   Total Marks: 75

Note: 1) All questions carry equal marks and are compulsory.

2) Figures to the right indicate maximum marks for a question.

Q1 (A)   Attempt any *two* sub-questions from (a), (b),(c) in MS-EXCEL   (2)
             (True/False)
      (a)   If a cell displays #### it means that it contains invalid data.
      (b)   The default cell reference is an absolute cell reference.
      (c)   The page numbers can be assigned using Header/Footer option.

    (B)   Attempt any *two* sub-questions from (d), (e),(f) in MySQL   (2)
             (Multiple Choice)
      (d)   In MySQL, the operator LIKE "U%" finds match for a string _____.
             1) Ending with U   2) Starting with U

             3) Containing U   4) Containing U%

      (e)   To make changes in the structure of the existing table we use ____.

             1) Alter   2) Update   3) Set   4) Create

      (f)   Insert command is used with _____ clause.
             1) In   2) Into   3) To   4) From

    (C)   Attempt any *six* sub-questions from (g),(h),(i),(j),(k),(l),(m),(n),(o)   (6)
             in Data Communications, Networking and Internet. (True/False).
      (g)   Fiber optic cables are cheaper than coaxial cables.
      (h)   Terminators are used at the end of the cable in bus topology.
      (i)   Computer network has no disadvantages.
      (j)   Web pages are created by using HTML.
      (k)   A meta search engine creates its own database of information.
      (l)   More than one file can be attached with an email.
      (m)   The different parts of a message will always arrive in order at the
             destination.
      (n)   The domain name abbreviation .com stands for a non-profit
             organization.
      (o)   White hackers break into the security system for non-harmful
             reasons, like to test the security system.

    (D)   Attempt any *five* sub-questions from (p),(q),(r),(s),(t),(u),(v),(w)   (5)
             in Data Communications, Networking and Internet. (Multiple Choice)
      (p)   Encryption and decryption are responsibilities of _____ layer of
             OSI model.
             1) Session   2) Presentation   3) Application   4) Transport

      (q)   The acronym UTP stands for _____.
             1) Uniformly Terminating Port   2) Unshielded To Protect

             3)Unshielded Twisted Pair   4) Unit Transfer Protocol

(r) Direct point to point link between neighboring nodes exist in
_____topology.
1) Bus   2) Ring   3) Star   4) None of these

(s) Which of the following is used to segment a large network into two
smaller networks?
1) Hub   2)Bridge   3) Router   4) Modem

(t) A hyperlink can appear as _____.
1) Only Text   2) Only Image   3) Code   4) Both Text & Image

(u) The first part of a complete URL is the _____ needed to access the
web resource.
1) Protocol   2) Name   3) Location   4) Address

(v) Sniffer in internet working means _____.
1) Hacking   2) Phishing

3) Tracking information & copying it   4) Spying

(w) The full form of SLIP is _____ Line Internet Protocol.
1) Solid   2) Supreme   3) Serial   4) Secure

Q2. (A)   Answer *any one* sub-question from (a), (b) in Data Communications,   (8)
Networking and Internet.

(a) Define the term topology. Write short notes on (i) Ring topology (ii)
Star topology.

(b) What is network structure? Write short notes on (i) Client-Server
Network (ii) Peer-to-Peer Network.

(B)   Answer *any one* sub-question from (c), (d) in Data   (7)
Communications, Networking and Internet.

(c) Write a note on Spoofing with examples.

(d) Write short notes on (i) Blog (ii) Browser.

Q3. (A)   Answer *any one* sub-question from (a) , (b) in MySQL   (8)

(a) Write MySQL statement to create a table called COURSE having the
following columns Course Id (COURSE_ID, integer, Primary Key),
Course Name (CNAME, character with variable width 20 columns),
Semester(SEM, integer, should not be empty) and Year(YEAR, Date),
Building (Building, character with width 8).

(b) Write MySQL statement to create a table called Employee having the
columns Employees Identity Number (E_NO, integer), Employees
Name (ENAME, character with variable width 25 columns), Age (AGE,
integer, Positive) Gender (GEN, Character width 1 column, with default
value as "M"),and Date of Join (JOIN_DT, Date).

(B)   Answer *any one* sub-question from (c) , (d) in MySQL   (7)

(c) Explain the following built-in functions in MySQL.

1)LEFT( )   2)RTRIM( )   3)CURDATE( )   4) DAYNAME( )

5) MOD( )   6) POW( )   7) ABS( )

(d)   There exists a table called SALARY containing the columns Employee Number (ENO, integer, Primary Key), Name (ENAME, character variable width 20), Date of birth (DOB, Date), Gender(gender, character width 1) and salary (SAL, 5 integer and 2 decimal places) Write MySQL statements for the following.
i) Display the structure of the table Salary.
ii) Add a new column date of join (DOJ, Date) at the end of the table SALARY.
iii) Rename the column DOB to DBT.
iv) Change the size of the column SAL to 6 integer and 2 decimal places.
v) Increase the salary of all employees by 1000.
vi) Delete the row where employee number is 48.
vii) Rename the table SALARY as SAL.

Q4. (A)   Answer *any one* sub-question from (a) , (b) in MySQL   (8)

(a)   There exists a table OFFICE containing columns Employee Number (ENO, Integer), Name (NAME, character), Department (DEPT, character), Salary (SAL, numeric) and Provident fund amount (PF, numeric).
Write MySQL queries for the following.
i) Display Employee Number, Name, Department and Provident fund amount from this table.
ii) Display Employee Number, Name and Provident fund amount where Provident fund amount is below the average Provident fund amount.
iii) Display Department, maximum and minimum Provident fund amount grouped as per Department.
iv) Display Employee Number, Name and Provident fund amount in the ascending order of Provident fund amount.
v) Display all the rows from this table where Employee Number is divisible by 5.

(b)   There exists a table STUDENT containing columns Roll no.(RNO, integer, Primary key) and Name (SNAME, character), Class(Class, character). There exists another table MARKS containing columns Roll no (RNO, integer, Primary key), marks in Test 1(T1, integer) and marks in Test 2 (T2, integer).
Write MySQL queries to perform the following:
i) Display roll no., name and marks in 2 tests using both the tables.
ii) Display roll no., name and marks in first test where marks in the first test is less than 40 using both the tables.
iii) Display roll no, marks in test2 from the table marks for those students where the mark obtained is equal to the highest marks obtained.
iv) Display roll no, name, class in the descending order of name from the table student.
v) Display all the rows from the table MARKS where student roll number is less than 100.

Q4. (B)   Answer *any one* sub-question from (c) , (d) in MySQL   (7)

(c)   There exists a table SALES containing columns Salesman's Number (SNo, integer), Name (SNAME, character), City (CITY, Character), Sales made by salesman (SALE, numeric) and commission (COM, numeric). Write MySQL queries for the following.

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i) Display city, maximum and minimum sales grouped as per City.
ii) Display city, total and average sales grouped as per city.
iii) Display salesman's number and name whose sales is below the average sale.
iv) Display all the rows from this table where the salesman's name starts with 'M'.

(d)   There exists a table TOUR containing columns Travellers Number (TNO, integer), Name (TNAME, character), Age (Age, integer), destination city (DCity, Character 10) date of travel (DOT, date) and Fare (FARE, decimal (6,2)).
Write MySQL queries for the following.
i) Display all the rows from this table where date of travel is after 25th December 2017.
ii) Display first ten rows from this table.
iii) Display the total fare collected from this table and label it as TFARE.
iv) Display travellers number and name where destination city is "Shimla" from this table.
v) Display all the rows from this table.
vi) Display all the rows from this table in the descending order of age.
vii) Display travellers no, name, age, destination city of the traveller whose name is "BHARGAV".

Q5.   (A)   Answer *any one* sub-question from (a), (b) in MS-EXCEL   (8)
    (a)   The following data has been entered in a worksheet.

	A	B	C	D	E	F
1	NAME	BASIC	DA	HRA	TOTAL PAY	TAX
2	RAMESH	100000				
3	POOJA	75000				
4	ANJALI	67000				
5	AJAY	120000				
6	KAJOL	80000				
7	KAYA	90000				

Write the steps to obtain
i) DA as 130% of the Basic or 40,000 whichever is more in column C .
ii) HRA as 18% of the Basic or 20,000 whichever is less in column D.
iii) TOTAL PAY as BASIC + DA + HRA in column E.
iv) TAX as 25% of TOTAL PAY in column F.

(b)   For the following spreadsheet obtain the Pivot table showing total profit & maximum profit city wise in column E.

	A	B	C
1	NAME	CITY	PROFIT
2	RAHIL	BANGALORE	55000
3	JAI	MUMBAI	70000
4	RUSHIT	NASIK	59000
5	FARHAN	BANGALORE	64000
6	VAIBHAV	NASIK	55000
7	ALI	MUMBAI	74000
8	HUSSAIN	BANGALORE	85000

Q5. (B) Answer *any one* sub-question from (c) , (d) in MS-EXCEL (7)

(c) The following data has been entered in a worksheet.

	A	B	C	D	E	F	G	H
1	NAME	IT	OC	BC	EVS	SP	TOTAL	AVERAGE
2	SURESH	60	56	65	44	45		
3	ANEESH	70	70	66	54	56		
4	ROHINI	72	70	70	64	66		
5	RAVI	80	72	75	71	76		
6	ADITYA	87	78	82	78	76		
7	HIGHEST							

Write the steps to obtain
i) TOTAL marks in column G.
ii) AVERAGE marks in column H.
iii) HIGHEST subject wise in cells B7, C7, D7, E7 and F7 respectively.
iv) Average Highest marks in cell H7.

(d) Explain the following built in functions in MS-EXCEL

1. IPMT( )   2. ROUND( )   3. PV( )   4. MIN( )

5. FLOOR( )   6. PMT( )   7. SQRT( )

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