Time: 2 Hours   Total Marks: 60

Note: 1) All questions carry equal marks and are compulsory.
       2) Figures to the right indicate maximum marks for a question.

Q1 (A)   Answer *any one* sub-question from (a), (b) in Data Communications,   (8)
               Networking and Internet.
       (a)   What is meant by Data Communication? Explain the characteristics and
               Components of Data Communication.

       (b)   Explain i) Bridges ii) Hubs.

    (B)   Answer *any one* sub-question from (c), (d) in Data Communications,   (7)
               Networking and Internet.
       (c)   Explain any four layers of OSI model

       (d)   Explain i) IP address ii) Search Engines

Q2 (A)   Answer *any two* sub-question from (a) , (b), (c) in MySQL

       (a)   Write a MySQL statement to create a table named DEPT containing   (5)
               information of the employees with the following columns, Employee
               Number (ENO, integer, primary key), Employee Name (ENO,
               character with variable width of 20 columns), Salary (ESAL, 6
               integers and 2 decimal places, should not be negative) and date of
               birth (DOB, date).

       (b)   There exists a table called SALARY containing columns Employee   (5)
               Number (EN, primary key), Employee's First Name (FNAME),
               Employee's Last Name (LNAME), Salary (SALARY,decimal (10,2)).
               Write MySQL statements for the following.
               i) Display the structure of the table.
               ii) Change the name of the column EN to ENO.
               iii) Increase the salary of all the employees by 1000.
               iv) Add a column BONUS with 4 integer and 2 decimal places to this
               table.
               v) Rename the table SALARY to ESAL.

       (c)   There exists a table STUDENT containing the columns student's roll   (5)
               number   (RNO, integer), student's name (SNAME, character) and
               Date of birth (DOB, date). There exists another table EXAM
               containing the columns roll number (RNO, integer), class (CLASS,
               character), total marks (TOT, integer).
               Write MySQL queries for the following.
               i)) Display all the rows from the table STUDENT.
               ii) Display the name and total marks of all the students.
               iii) Display the name, date of birth and total marks of all the students
               whose total marks are 400 or more.

TURN OVER

Q2 (B)   Answer *any one* sub-question from (d), (e) in MS-EXCEL

(d)   Explain the following built in functions in MS-EXCEL   (5)

1. IPMT( )   2. SQRT( )   3. PV( )

4. MIN( )   5. CEILING( )

(e)   Answer the following using MS-EXCEL, given the worksheet.   (5)

	A	B	C	D
1	ITEM NAME	JANUARY	FEBRUARY	MARCH
2	DOVE	4000	4200	4500
3	LIRIL	3500	4500	4800
4	HAMAM	5000	5500	6000
5	SURF	10000	12000	16000
6	LUX	5500	7000	9000
7	TOTAL			
8	AVERAGE			
9	LOWEST			

Write the steps to obtain the Total, Average and Lowest for the month of January, February and March in columns B, C and D respectively.

Q3 (A)   Answer *any two* sub-questions from (a), (b), (c) in MySQL.

(a)   Explain the following built-in functions in MySQL.   (5)

1) LOWER( )   2)LTRIM( )   3) RIGHT()

4) CONCAT( )   5) MONTH( )

(b)   There exists a table DEPOSIT containing the columns Account Number   (5)
(ACNO, primary key), Customer Name (CNAME), Amount Deposited
(DAMT), Date of Deposit (DDATE), Period of Deposit (PDEP).
Write MySQL queries for the following.

i) Display the first 5 rows from this table.

ii) Display the maximum amount deposited.

iii) Display the data in the ascending order of date of deposit.

iv) Display all the customer names which begin with 'B'.

v) Delete the table DEPOSIT.

(c)   There exists a table CUSTOMER containing the columns Customer   (5)
number (CNO, integer), Customer Name (CNAME, character), Balance
due (BALANCE, with 5 integer and 2 decimal places) and date of
transaction (DOT, date).
Write MySQL queries for the following.

i) Display all the rows where date of transaction is before March 15,
2017.

ii) Display the customer number, maximum and minimum balance
due grouped by customer number.

iii) Display the customer number, number of balances due and
average of balances due grouped by customer number.

TURN OVER

Q3 (B)   Answer *any one* sub-question from (d) , (e) in MS-EXCEL

(d)   The following data has been entered in a worksheet.   (5)

	A	B	C	D	E
1	NAME	BASIC	HRA	DA	TOTAL
2	GEET	43000			
3	ADITYA	67000			
4	PREM	33000			
5	PRIYA	55000			
6	HARSH	64000			

Write the steps to obtain

i) HRA as 40% of the Basic or 20,000 whichever is less in column C.

ii) DA as 135% of the Basic in column D.

iv) TOTAL as BASIC + HRA + DA column E.

(e)   For the following spreadsheet obtain the Pivot table showing total   (5)
sales and average sales City wise in column F1.

	A	B	C	E
1	NAME	AGE	CITY	SALES
2	SURESH	30	HYDERABAD	58000
3	PREMA	29	BANGALORE	44000
4	VASANTI	40	BANGALORE	78000
5	PRATIBHA	27	HYDERABAD	49000
6	SHOBHA	25	BANGALORE	33000
7	SUNITA	34	HYDERABAD	65000

Q4 (A)   Attempt *any two*   sub-questions from (a), (b),(c) in MS-EXCEL   (2)
(True/False)

(a)   A worksheet cannot be renamed.

(b)   A function can have another function as its argument.

(c)   Data can be sorted only on one column.

(B)   Attempt *any four* sub-questions from (d), (e),(f), (g),(h),(i) in MySQL   (4)
(Multiple Choice)

(d)   A Database contains one or more -----------.

1) Tables.   2) Databases.

3) Columns.   4) Rows.

(e)   To view the names of databases the statement is-----------.

1) show tables   2) show database

3) show databases   4) view databases

(f)   The function which gives the square root of X is ---------------

1) MOD(X,Y)   2) ABS(X)   3) SQRT(X)   4) EXP(X,Y)

TURN OVER

(g) In the alter table statement to change the name of the column, we use
-------------- Clause.
    1) Modify   2) Change   3) Add   4) Drop

(h) ------------ Clause is used to filter grouped data
    1) Limit   2) Group by   3) Order by   4) Having

(i) The function used to join the words is --------------.
    1) Merge   2) Join   3) Combine   4) Concat

(C)   Attempt *any four* sub-questions from (j), (k),(l),(m),(n),(o) in Data   (4)
Communications, Networking and Internet. (True/False).

(j) The data transmission can take place without a protocol.

(k) It is very difficult to add nodes in bus topology.

(l) The data transfer speed is very high in WAN compare to MAN

(m) The lowest layer in the OSI model is Application layer.

(n) An IP address contains a set of 4 numbers separated by dots.

(o) Web pages are created using HTML

(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) The exchange of information between computers is governed by a set of
rules called----------------.

    1) Media   2) Protocol   3) Sender   4) Channel

(q) ------------ Layers are used in OSI model.
    1) 5   2) 9   3) 6   4) 7

(r) ------------ is not a wire based media.
    1) Microwave   2) Fiber Optic   3) Co-axial cable   4) Twisted pair

(s) If a packet is missing or arrives out of order, ----------layer in OSI model
handles the situation.
    1) Transport   2) Session   3) Network   4) Physical

(t) POP stands for ------------------.
    1) Post Office Protocol   2) Post Open Protocol

    3) Post Operate Protocol   4) None of these

(u) Protocol to download email and store in your computer is -----------.

    1) POP   2) NNTP   3) FTP   4) HTTP

(v) -------allows the user to search simultaneously on several search engines.
    1) Server   2) Boolean search

    3) Meta Search Engine   4) None of these

(w) The domain name ----------- is used for educational institutions.
    1) .in   2) .edu   3) .com   4) .org

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