

**SOLUTION OCT 14, 2019 SEM V 75-25 QP CODE 74127**

**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 spreadsheet (True/False) (2)
- (a) Shift key is used to select a non-contiguous range. **F**
  - (b) There are two types of cell references. **F**
  - (c) A pivot table is a dynamic summary of the data. **T**
- (B) Attempt any **two** sub-questions from (d), (e),(f) in MySQL (Multiple Choice) (2)
- (d) To indicate that there should be 5 integers and 2 decimal positions we use \_\_\_\_.  
**i)DECIMAL(7,2)** ii)DECIMAL(5,2) iii)DECIMAL(2,5) iv)DECIMAL(2,7)
  - (e) When one query is written within another query it is termed as a \_\_\_\_.  
i) Mini query ii) Net query **iii) Sub query** iv) Tied query
  - (f) In MySQL, the operator LIKE "%R" finds match for a string \_\_\_\_.  
**i) Ending with R** ii) Starting with R iii) Containing R iv) Containing R%
- (C) Attempt any **six** sub-questions from (g),(h),(i),(j),(k),(l),(m),(n),(o) in Data Communications, Networking and Internet. (True/False). (6)
- (g) The data transmission can take place without a protocol. **F**
  - (h) In client server architecture, all resources are controlled by the server. **T**
  - (i) In ring topology failure of one node will not affect the functioning of the network. **F**
  - (j) Coaxial cable can be used over longer distances than twisted -pair cable. **T**
  - (k) A bridge is a device using which we can segment a larger network into two smaller, more efficient networks. **T**
  - (l) IP addresses are easier to remember. **F**
  - (m) Face book is a search engine. **F**
  - (n) Emails cannot be sent with attachments. **F**
  - (o) Vishing uses VoIP to make a phishing attack. **T**
- (D) Attempt any **five** sub-questions from (p),(q),(r),(s),(t),(u),(v),(w) in Data Communications, Networking and Internet. (Multiple Choice) (5)
- (p) A \_\_\_\_network spans a number of cities and countries.  
i) LAN ii) MAN **iii)WAN** iv) None of these
  - (q) The transmission medium that carries the message is referred to as the\_\_\_\_.  
i) Protocol ii) gateway **iii) Communication channel** iv) Transport
  - (r) In \_\_\_\_\_topology all nodes are connected with a single cable.  
**i)Bus** ii) Ring iii) Star iv) None of these
  - (s) POP stands for \_\_\_\_\_.  
**i) Post Office Protocol** ii) Post Open Protocol  
iii) Post Operate Protocol iv) None of these
  - (t) As the data packet moves from upper layers to lower layers, headers are \_\_\_\_.  
**i) Added** ii) Rearranged iii) Deleted iv) Modified

- (u) The activity of updating a blog is called \_\_\_\_\_.  
**i) Blogging**                  ii) Blogger                  iii) Presenter                  iv) Hacking
- (v) \_\_\_\_\_ is a meta search engine.  
**i) Dogpile**                  ii) Google                  iii) Alta Vista                  iv) Yahoo
- (w) An IP address is made up of \_\_\_\_\_ bits.  
i) 64                  **ii) 32**                  iii) 16                  iv) 8

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

(a) Explain i) MAN ii) WAN networks.  
***Theory. Students can write answers in their own words. Please give marks as long as the content is correct.***

(b) Write a note on Bridge and Router.  
***Theory. Students can write answers in their own words. Please give marks as long as the content is correct.***

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

(c) What is electronic mail? State advantages and importance of e-mail.  
***Theory. Students can write answers in their own words. Please give marks as long as the content is correct.***

(d) Write short notes on sniffing and spoofing.  
***Theory. Students can write answers in their own words. Please give marks as long as the content is correct.***

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

(a) Write MySQL statement to create a table called PAYROLL having the columns Employee Number (ENO, integer, Primary key), Employee Name (ENAME, character with variable width 25 columns, should not be empty), Date of Joining (DOJ, Date) and Salary (SALARY, width of 9 including 2 decimals, default value 18000).

|  |                |
|--|----------------|
| <b>CREATE TABLE PAYROLL</b>                | <b>1 Mark</b>  |
| <b>(ENO SMALLINT PRIMARY KEY,</b>          | <b>2 Marks</b> |
| <b>ENAME VARCHAR(25) NOT NULL,</b>         | <b>2 Marks</b> |
| <b>DOJ DATE,</b>                           | <b>1 Mark</b>  |
| <b>SALARY DECIMAL(9,2) DEFAULT 18000);</b> | <b>2 Marks</b> |

(b) Write MySQL statement to create a table called ABFOUNDATION having columns Donor Identity Number (DNO, Integer, Primary key), Donor Name (DNAME, character with width 20 columns), Donor Email Address (DEmail, character with variable width 15 columns), Amount Donated (DAMT, integer, not negative), Date of Donation (DT, Date).

|                                   |                |
|-----------------------------------|----------------|
| <b>CREATE TABLE ABFOUNDATION</b>  | <b>1 Mark</b>  |
| <b>(DNO SMALLINT PRIMARY KEY,</b> | <b>2 Marks</b> |
| <b>DNAME CHAR(20),</b>            | <b>1 Mark</b>  |
| <b>DEMAIL VARCHAR(15),</b>        | <b>1 Mark</b>  |
| <b>DAMT INT UNSIGNED,</b>         | <b>2 Mark</b>  |
| <b>DT DATE);</b>                  | <b>1 Mark</b>  |

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

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

- 1)UPPER( )      2)LTRIM( )      3) RIGHT( )      4) DATE( )  
5) ROUND( )      6) POW( )      7) MONTHNAME( )

**(Give 1 mark each if definition or syntax or example is correct)**

**1. UPPER(str):** Returns the string str with all alphabets in it converted to upper cases.

Example: Mysql> SELECT UPPER("aditya");      gives ADITYA

**2. LTRIM(str):** Returns the string str with leading blank spaces removed.

Example: mysql> SELECT LTRIM(" Hello");      gives "Hello"

**3. RIGHT( str, n):** Returns the rightmost n characters from the string str. If n is zero or negative then empty string is returned.

Example: mysql> SELECT RIGHT("COMPUTER", 3);      gives "TER"

**4.DATE (expr):**Returns the date part of the date or date time expression expr.

Example: mysql> select date("2017-05-04 12:10:15");      gives 2017-05-04.

**5. ROUND(n,d):** Returns the number n rounded to d decimals. If d is omitted or 0 it returns nearest integer.

Example: mysql> SELECT ROUND(14.328,2);      gives 14.33

**6. POW(x, y ):** Returns the value of  $x^y$ .

Example: mysql> SELECT POW (2, 4);      gives 16.

**7. MONTHNAME ( ):** Returns the name of the month form the date.

SELECT DAYNAME('2014-11-24');      gives NOVEMBER

(d) There exists a table FLIPKART having the columns Customer Number (CNO, integer), Customer Name (CNAME, character), Product Name (PNAME, character), Total Cost (TCOST, integer) and Date of Purchase (PURDT, date).

Write MySQL statements for the following. **1 MARK EACH (Total 7)**

i) Display the structure of the table FLIPKART.

**DESC FLIPKART;**

ii) Enter the following one row of data in this table.

| CNO  | CNAME  | PNAME      | TCOST | PURDT      |
|------|--------|------------|-------|------------|
| 1001 | ADITYA | Realme2Pro | 9000  | 2019-04-10 |

**INSERT INTO FLIPCART**

**VALUES (1001, "ADITYA", "Realme2Pro", 9000, "2019-04-10");**

iii) Delete the row where Customer number is 950.

**DELETE FROM FLIPKART WHERE CNO=950;**

iv) Add a new column Discount (DISC, integer) at the end of the table FLIPKART

**ALTER TABLE FLIPKART ADD DISC INT;**

v) Change the Product Name to NOKIA for Customer name "Ramesh Shah".

**UPDATE FLIPKART SET PNAME= "NOKIA"**

**WHERE CNAME= "Ramesh Shah";**

vi) Change the size of the column CNAME to 25 columns.

**ALTER TABLE FLIPKART MODIFY CNAME CHAR(25);**

vii) Rename the table FLIPKART as FLIPCART.

**ALTER TABLE FLIPKART RENAME FLIPCART;**

**OR RENAME TABLE FLIPKART TO FLIPCART;**

- Q4. (A) Answer any one sub-question from (a), (b) in MySQL (8)
- (a) There exists a table GOAIR having the columns Flight Number (FNO, integer), Destination Name (DNAME, character), PRN Number (PRN, integer), Fare Amount (FARE, numeric).  
Write MySQL statements for the following.
- i) Display Flight Number, Destination Name and Fare Amount from this table.  
**SELECT FNO, DNAME, PRN, FARE FROM GOAIR; 1 Mark**
- ii) Display Flight Number and Fare Amount for the records where Fare Amount is below the average Fare Amount.  
**SELECT FNO, FARE FROM GOAIR WHERE FARE < (SELECT AVG(FARE) FROM GOAIR); 2 Marks**
- iii) Display PRN Number, Destination Name for the records where Fare Amount is equal to the Highest Fare Amount.  
**SELECT PRN, DNAME FROM GOAIR WHERE FARE = (SELECT MAX(FARE) FROM GOAIR); 2 Marks**
- iv) Display Destination Name, maximum Fare Amount and total Fare Amount from the table for each Destination Name.  
**SELECT DNAME, MAX(FARE), SUM(FARE) FROM GOAIR GROUP BY DNAME; 2 Marks**
- v) Display all the rows from this table in the descending order of Fare Amount.  
**SELECT \* FROM GOAIR ORDER BY FARE DESC; 1 Mark**
- (b) There exists a table ABPCOLLEGE containing columns Roll Number (RNO, integer, primary key), Name (SNAME, character), Class (CLASS, character). There exists another table RESULT containing columns Roll Number (RNO, integer, primary key), Total marks (TOTAL, integer), Percentage (PERCENTAGE, integer) and Grade (GRADE, character).  
Write MySQL statements for the following.
- i) Display Name, Class, Total marks and Grade of a student with Total Marks more than 560 using both the tables.  
**SELECT SNAME, CLASS, TOTAL, GRADE FROM ABPCOLLEGE, RESULT WHERE ABPCOLLEGE.RNO = RESULT.RNO AND TOTAL >560; 2 Marks**
- ii) Display Name, Class and Grade of students getting "O" Grade using both the tables.  
**SELECT SNAME, CLASS, GRADE FROM ABPCOLLEGE, RESULT WHERE ABPCOLLEGE.RNO = RESULT.RNO AND GRADE="O"; 2 Marks**
- iii) Display Roll number and Total marks of students who have scored more than average Total Marks using table RESULT.  
**SELECT RNO, TOTAL FROM RESULT WHERE TOTAL > (SELECT AVG(TOTAL) FROM RESULT); 2 Marks**
- iv) Display Roll Number and Name of students whose Roll Number is divisible by 7 using table ABPCOLLEGE.  
**SELECT RNO, SNAME FROM ABPCOLLEGE WHERE MOD(RNO, 7)=0; 1 Marks**
- v) Display all the records from the table ABPCOLLEGE of the class "T.Y.B.COM."  
**SELECT \* FROM ABPCOLLEGE WHERE CLASS="T.Y.B.COM."; 1 Mark**

- Q4. (B) Answer any one sub-question from (c) , (d) in MySQL (7)
- (c) There exist a table called BATAS containing columns Employee Name (ENAME, character), Department Name (DEPT, character), Date of Joining (DOJ, date), Salary (SALARY, numeric) and Age (AGE, integer).  
Write MySQL statements for the following:-
- i) Display Department Name, total salary and average Salary for each Department. **2 Marks**  
**SELECT DEPT, SUM(SALARY), AVG(SALARY) FROM BATAS  
GROUP BY DEPT;**
- ii) Display Date of Joining, minimum and maximum of the Salary of each date of Joining. **2 Marks**  
**SELECT DOJ, MIN(SALARY), MAX(SALARY) FROM BATAS  
GROUP BY DOJ;**
- iii) Display all the rows where the Salary is equal to maximum Salary. **2 Marks**  
**SELECT \* FROM BATAS  
WHERE SALARY =(SELECT MAX(SALARY) FROM BATAS);**
- iv) Display Employee Name, Department Name and Salary where Age is more than 55. **1 Mark**  
**SELECT ENAME, DEPT, SALARY FROM BATAS WHERE AGE > 55;**
- (d) There exists a table TAX having the columns Permanent Account Number (PAN, integer), Name (NAME, character), City (CITY, character), Taxable Income (INC, integer) and Income Tax (ITAX, integer).  
Write MySQL queries for the following. **1 MARK EACH (Total 7)**
- i) Display all the rows from this table where the first letter in the Name is 'U'.  
**SELECT \* FROM TAX WHERE NAME LIKE "U%";**
- ii) Display all the rows from this table in the descending order of Taxable Income.  
**SELECT \* FROM TAX ORDER BY INC DESC;**
- iii) Display the columns Permanent Account number, Name and Income Tax from this table.  
**SELECT PAN, NAME, ITAX FROM TAX;**
- iv) Display Permanent Account number, Name and Taxable Income from this table where Income Tax is more than 200000.  
**SELECT PAN, NAME, INC FROM TAX WHERE ITAX > 200000;**
- v) Display all the rows from this table.  
**SELECT \* FROM TAX;**
- vi) Display the total Income Tax collected from this table and label it as TOTAL TAX.  
**SELECT SUM(ITAX) AS "TOTAL TAX" FROM TAX;**
- vii) Display Name, City and Taxable Income of the Employee whose name is "Kalpesh Joshi".  
**SELECT NAME, CITY, INC FROM TAX WHERE NAME= "Kalpesh Joshi";**

- 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      |
|----|---------|--------|------------|--------|--------|
| 1  | F NAME  | Gender | DEPARTMENT | CITY   | SALARY |
| 2  | NIHAL   | M      | EXPORT     | PUNE   | 50000  |
| 3  | GAYATRI | F      | ADMIN      | MUMBAI | 80000  |
| 4  | RAMYA   | F      | IT         | NASIK  | 98000  |
| 5  | SMITH   | M      | IT         | NASIK  | 70000  |
| 6  | ALAN    | M      | EXPORT     | PUNE   | 35000  |
| 7  | SRUSHTI | F      | ADMIN      | PUNE   | 74000  |
| 8  | POOJA   | F      | EXPORT     | MUMBAI | 65000  |
| 9  | SAIF    | M      | ADMIN      | PUNE   | 63000  |
| 10 | PRANAV  | M      | ADMIN      | MUMBAI | 78000  |

Write the steps to create a Pivot table showing the average salary and maximum salary department wise in column G.

**PIVOT TABLE**

1. Select the data A1:E10
2. From the Insert Tab select Pivot Table.
3. In the option select table or range, type A1:E10 (or accept pre-selected range)
4. In the option where you want the Pivot table report, select existing table and type the location as G1.
5. Drag Department to the row area.
6. Drag Salary to the data area. It becomes Sum of Salary.
7. Click on Sum of Salary, select value field settings, select Average and click on Ok. Average Salary is obtained.
8. Again Drag Salary to the data area. It becomes Sum of Salary.
9. Click on Sum of Salary, select value field settings, select maximum and click on Ok. Maximum Salary is obtained.

- (b) In the following worksheet the cost of machinery is entered in cell B2, number of years is entered in B3 and rate of depreciation is entered in cell B4 (8)

|   | A     | B       | C | D     | E   | F   |
|---|-------|---------|---|-------|-----|-----|
| 1 |       |         |   | YEARS | DEP | WDV |
| 2 | COST  | 1000000 |   | 1     |     |     |
| 3 | YEARS | 6       |   | 2     |     |     |
| 4 | RATE  | 12%     |   | 3     |     |     |
| 5 |       |         |   | 4     |     |     |
| 6 |       |         |   | 5     |     |     |
| 7 |       |         |   | 6     |     |     |

Write the steps to obtain the year wise depreciation DEP and written down value WDV in columns E and F respectively where depreciation is computed using reducing balance method.

**Solution:**

1. Select E2 and type =B\$2\*B\$4 and press enter.
2. Select F2 and type =B\$2-E2 and press enter.
3. Select E3 and type =F2\*B\$4 and press enter.
4. Select F3 and type =F2-E3 and press enter.
5. Select E3 and F3 and drag the fill handle till F7.

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                |
|---|------------------|-------|------------|-----------------------|------------------|
| 1 | Name of Salesman | Sales | Commission | Additional Commission | Total Commission |
| 2 | Shantanu         | 58000 |            |                       |                  |
| 3 | Vijay            | 23800 |            |                       |                  |
| 4 | Bhavana          | 56000 |            |                       |                  |
| 5 | Karan            | 72300 |            |                       |                  |
| 6 | Shiv             | 64200 |            |                       |                  |
| 7 | Poornima         | 28000 |            |                       |                  |

Write the steps to calculate

i) Commission at the rate of 15%

ii) Additional Commission at the rate of 20% or Rs.5000 whichever is maximum.

iii) Total Commission = Commission +Additional Commission

**COMMISSION**

**2 Marks**

1. Select C2 and type = B2\*15% and press enter.

2. Select C2 and drag the fill handle to C7.

**ADDITIONAL COMMISSION:**

**3 Marks**

1. Select D2 and type =MAX (B2\*20%, 5000) and press enter.

2. Select D2 and drag the fill handle to D7.

**TOTAL COMMISSION:**

**2 Marks**

1. Select E2 and type = C2 +D2 and press enter

2. Select E2 and drag the fill handle to E7.

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

1. PV ( )

2. NPER ( )

3. PPMT ( )

4. SUM ( )

5. MIN ( )

6. ABS ( )

7. ROUNDDOWN ( )

**(Give 1 mark each if definition or syntax or example is correct)**

**1. PV()** : Gives the present value of an investment based on periodic constant payments at a constant interest rate. .

Syntax: PV(rate, nper, pmt, pv, type)

**2. NPER()**:Returns the number of periods for an investment based on periodic, constant payments and a constant interest rate.

Syntax : NPER(rate, pmt, pv, fv, type)

**3.PPMT()**: returns the payment on the principal for a given period for an investment based on constant payments and a constant interest rate.

Syntax: PPMT(rate,per,nper,pv,fv,type)

**4. SUM(number1,number2,...)**: Add all the numbers in a range of cells.

e.g. =SUM(2,3) gives 5

e.g. =SUM(A2:A10) gives the total of all numbers in this range of cells.

**5. MIN(number1,number2,number3,..)**: Returns the smallest value from a set of values. Ignores logical values and text. e.g. MIN(2,5,7) gives 2.

**6. ABS(number)**: Returns the absolute value of a number. The absolute value of a number is the number without its sign.

e.g. =ABS(-5) gives 5, while =ABS(5) gives 5

**7. ROUNDDOWN(*number, number of digits*):** rounds the number down, towards zero.

e.g. =ROUNDDOWN(7.9,0) gives 7 (zero decimals)

e.g. =ROUNDDOWN(3.4516,3) gives 3.451 (3 decimals)