Practical Examination – November 2018 M.C.A (PART-II)
[Lab I-Advanced Web Technology and Data Mining and Business Intelligence]

Page No :1 & 11 & 21

Q1. A) 1. Create table weather with field's month, year, avgtemp. 10

2. Insert 10 records in it.

3. Use the rank function to display the information of weather in order to hottest month to coolest month.

4. Use rank function to find hottest month of every year.

```
SQL> select * from weather;

MONTH                     YEAR    AVGTEMP
------------------- ---------- ----------
April                     2015         80
Sept                      2013         45
October                   2015         25
March                     2013         75
January                   2015         40
December                  2013         20
Feburary                  2014         35
August                    2014         20
November                  2014         40
May                       2014         75

10 rows selected.

SQL> select month, year,avgtemp,row_number() over (order by avgtemp desc) as temp f
rom weather;

MONTH                     YEAR    AVGTEMP       TEMP
------------------- ---------- ---------- ----------
April                     2015         80          1
May                       2014         75          2
March                     2013         75          3
Sept                      2013         45          4
January                   2015         40          5
November                  2014         40          6
Feburary                  2014         35          7
October                   2015         25          8
August                    2014         20          9
December                  2013         20         10

10 rows selected.

SQL> select month,year,avgtemp,row_number() over (partition by year order by avgtem
p desc) as temp from weather;

MONTH                     YEAR    AVGTEMP       TEMP
------------------- ---------- ---------- ----------
March                     2013         75          1
Sept                      2013         45          2
December                  2013         20          3
May                       2014         75          1
November                  2014         40          2
Feburary                  2014         35          3
August                    2014         20          4
April                     2015         80          1
January                   2015         40          2
October                   2015         25          3

10 rows selected.

SQL>
```

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Practical Examination – November 2018 M.C.A (PART-II)
[Lab I-Advanced Web Technology and Data Mining and Business Intelligence]

Page No :2

Q1. A) 1.Create Book table by grouping the information Bookno, Title, Author.

2. Create table Purchase with Pid, book_type, date, amount.

3. Insert five records in Purchase Table.

4. List Books whose Author is 'Richard' having amount >1000. 10

```
SQL> select * from book;

    BOOKNO TITLE                AUTHOR
---------- -------------------- --------------------
         1 Harry Potter         J.K.Rowlings
         2 GOT                  Daivd
         3 MCA                  Richard

SQL> select * from purchase;

       PID BOOK_TYPE            P_DATE        AMOUNT        BID
---------- -------------------- --------- ---------- ----------
         1 Fantasy              24-APR-19        800          2
         2 Adventure            23-JAN-19        300          1
         3 AWT                  23-FEB-19       1300          3
         4 Mining               24-FEB-19        900          3
         5 Magic                15-JUN-19       1200          2

SQL> select book.title,book.author,purchase.book_type,purchase.amount from book
  2  inner join purchase
  3  on book.bookno=purchase.bid
  4  where amount>1000 and author='Richard';

TITLE                AUTHOR               BOOK_TYPE                AMOUNT
-------------------- -------------------- -------------------- ----------
MCA                  Richard              AWT                        1300

SQL>
```

Practical Examination – November 2018 M.C.A (PART-II)
[Lab I-Advanced Web Technology and Data Mining and Business Intelligence]

Page No:3

B)Create table sales(sale_id, product_id ,year, quantity) and find out the number of products sold in each year? 5

```
SQL> select * from sales;

   SALE_ID PRODUCT_ID                 YEAR   QUANTITY
---------- -------------------- ---------- ----------
         1 Cam-001                    2014        200
         2 Cam-002                    2014        100
         3 Mic-001                    2014        150
         4 Mic-001                    2015        200
         5 Cam-001                    2015        150
         6 Mic-001                    2014        250
         7 Cam-001                    2014        100
         8 Cam-001                    2015        200
         9 Mic-001                    2015        250
        10 Cam-002                    2015        300

10 rows selected.

SQL> select product_id,year,sum(quantity) over (partition by year,product_id) as so
ld from sales;

PRODUCT_ID                 YEAR       SOLD
-------------------- ---------- ----------
Cam-001                    2014        300
Cam-001                    2014        300
Cam-002                    2014        100
Mic-001                    2014        400
Mic-001                    2014        400
Cam-001                    2015        350
Cam-001                    2015        350
Cam-002                    2015        300
Mic-001                    2015        450
Mic-001                    2015        450

10 rows selected.

SQL>
```

OR

```
SQL> select product_id,year,
  2  sum(quantity) as sold from sales
  3  group by(year,product_id) order by(year);

PRODUCT_ID                 YEAR       SOLD
-------------------- ---------- ----------
Cam-001                    2014        300
Cam-002                    2014        100
Mic-001                    2014        400
Cam-001                    2015        350
Cam-002                    2015        300
Mic-001                    2015        450

6 rows selected.
```

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Practical Examination – November 2018 M.C.A (PART-II)
[Lab I-Advanced Web Technology and Data Mining and Business Intelligence]

Page No:5 &18

B) CREATE TABLE emp (empno ,ename ,sal, deptno) and find average salary for each department.

```
SQL> select empno,ename,deptno,sal from emp1;

     EMPNO ENAME                     DEPTNO        SAL
---------- -------------------- ---------- ----------
         1 Harry                         1      25000
         2 Hermione                      2      50000
         3 Ron                           3      10000
         4 Dumbledore                    1      15000
         5 McConnical                    1       8000
         6 Jinny                         3       7000
         7 Jorge                         3       5000
         8 Fred                          3       5000
         9 Voldermort                    2      18000
        10 Victor                        2       8000

10 rows selected.

SQL> select empno,ename,deptno,sal,avg(sal) over (partition by deptno) as avg from
emp1;

     EMPNO ENAME                     DEPTNO        SAL        AVG
---------- -------------------- ---------- ---------- ----------
         1 Harry                         1      25000      16000
         5 McConnical                    1       8000      16000
         4 Dumbledore                    1      15000      16000
         9 Voldermort                    2      18000 25333.3333
        10 Victor                        2       8000 25333.3333
         2 Hermione                      2      50000 25333.3333
         6 Jinny                         3       7000       6750
         7 Jorge                         3       5000       6750
         8 Fred                          3       5000       6750
         3 Ron                           3      10000       6750

10 rows selected.

SQL> _
```

OR

```
SQL> select deptno,avg(sal) from emp1 group by (deptno);

    DEPTNO   AVG(SAL)
---------- ----------
         1      16000
         2 25333.3333
         3       6750
```

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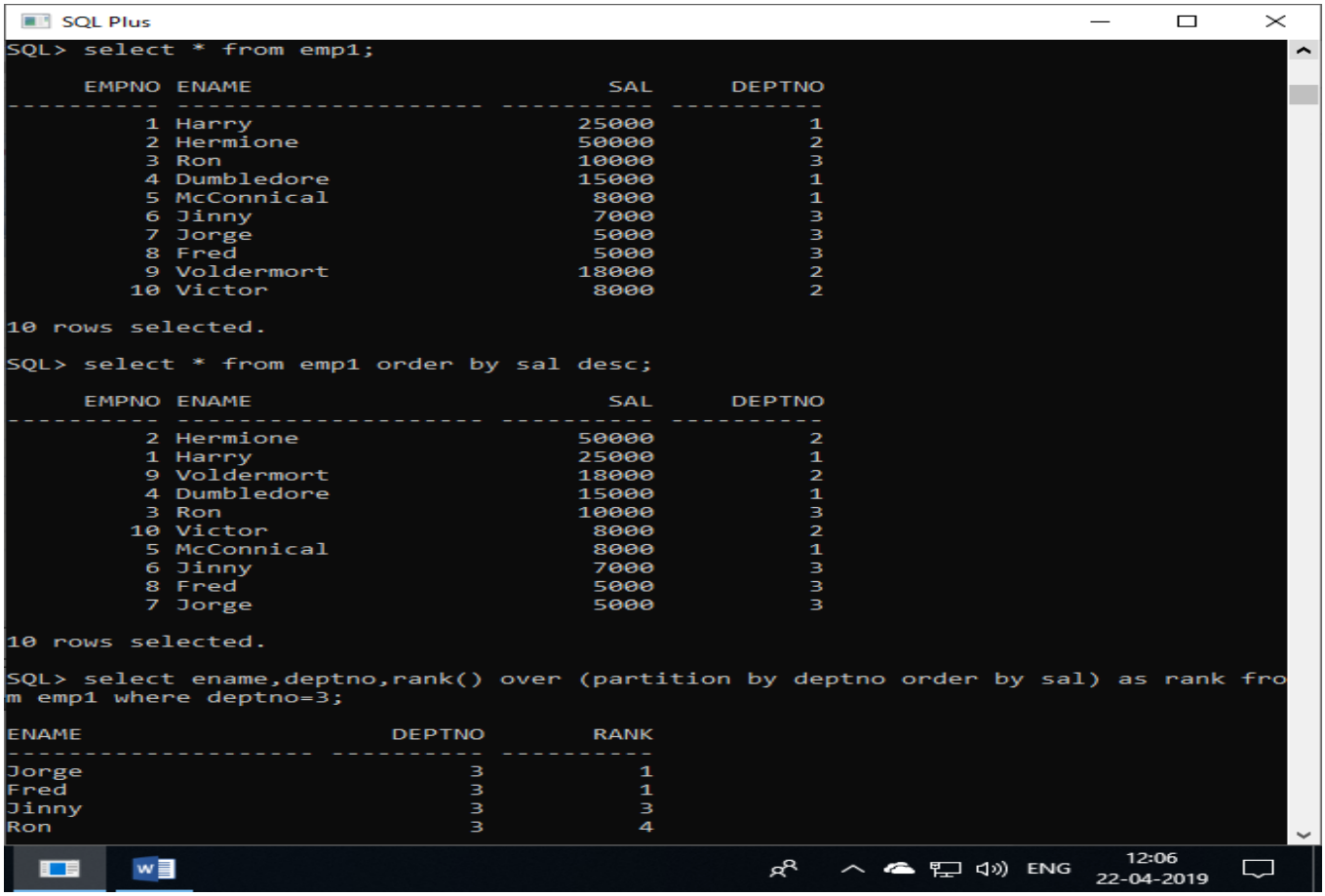
Practical Examination – November 2018 M.C.A (PART-II)
[Lab I-Advanced Web Technology and Data Mining and Business Intelligence]

Page No:8 & 20

B) 1. Use emp table and display empno, ename, salary in the descending order of Commission.

2. Display the information of employee's rank only employees working as a salesman.

3. Display details of employee and rank the employees of dept 30



```
SQL Plus
SQL> select * from emp1;

     EMPNO ENAME                          SAL     DEPTNO
---------- -------------------- ---------- ----------
         1 Harry                     25000          1
         2 Hermione                  50000          2
         3 Ron                       10000          3
         4 Dumbledore                15000          1
         5 McConnical                 8000          1
         6 Jinny                      7000          3
         7 Jorge                      5000          3
         8 Fred                       5000          3
         9 Voldermort                18000          2
        10 Victor                     8000          2

10 rows selected.

SQL> select * from emp1 order by sal desc;

     EMPNO ENAME                          SAL     DEPTNO
---------- -------------------- ---------- ----------
         2 Hermione                  50000          2
         1 Harry                     25000          1
         9 Voldermort                18000          2
         4 Dumbledore                15000          1
         3 Ron                       10000          3
        10 Victor                     8000          2
         5 McConnical                 8000          1
         6 Jinny                      7000          3
         8 Fred                       5000          3
         7 Jorge                      5000          3

10 rows selected.

SQL> select ename,deptno,rank() over (partition by deptno order by sal) as rank fro
m emp1 where deptno=3;

ENAME                    DEPTNO       RANK
-------------------- ---------- ----------
Jorge                         3          1
Fred                          3          1
Jinny                         3          3
Ron                           3          4
```


Question 2 is same as Question 3

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Practical Examination – November 2018 M.C.A (PART-II)
[Lab I-Advanced Web Technology and Data Mining and Business Intelligence]

Page No : 9

Q1. A) 1. Use emp table and write a query to display the information of those employee who hired first in every department (using first)

2. Wire a query to returns salary of next row. Also calculate the difference between salary of current row and following row. 10

```
SQL> select empno,ename,first_value(ename) over (partition by deptno) as first,dept
no,sal from emp1;

     EMPNO ENAME                FIRST                    DEPTNO        SAL
---------- -------------------- -------------------- ---------- ----------
         1 Harry                Harry                         1      25000
         5 McConnical           Harry                         1       8000
         4 Dumbledore           Harry                         1      15000
         9 Voldermort           Voldermort                    2      18000
        10 Victor               Voldermort                    2       8000
         2 Hermione             Voldermort                    2      50000
         6 Jinny                Jinny                         3       7000
         7 Jorge                Jinny                         3       5000
         8 Fred                 Jinny                         3       5000
         3 Ron                  Jinny                         3      10000

10 rows selected.

SQL> select empno,ename,sal, lead(sal,1,0) over (order by empno) as nextsal,sal-lea
d(sal,1,0) over(order by empno) as dif from emp1;

     EMPNO ENAME                      SAL    NEXTSAL        DIF
---------- -------------------- ---------- ---------- ----------
         1 Harry                     25000      50000     -25000
         2 Hermione                  50000      10000      40000
         3 Ron                       10000      15000      -5000
         4 Dumbledore                15000       8000       7000
         5 McConnical                 8000       7000       1000
         6 Jinny                      7000       5000       2000
         7 Jorge                      5000       5000          0
         8 Fred                       5000      18000     -13000
         9 Voldermort                18000       8000      10000
        10 Victor                     8000          0       8000

10 rows selected.
```

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Practical Examination – November 2018 M.C.A (PART-II)
[Lab I-Advanced Web Technology and Data Mining and Business Intelligence]

Page No:10 & 14

B) 1. Use emp table and display details of employee from department 10 using dense rank on salary.

2. Display first five records of employee in descending order of their salary.

3. Display records of all analyst in descending order and rank them in ascending order.

```
SQL> select empno,ename,deptno,sal,dense_rank() over (partition by sal order by dep
tno) as rank from emp1 where deptno=2;

     EMPNO ENAME                     DEPTNO        SAL       RANK
---------- -------------------- ---------- ---------- ----------
        10 Victor                        2       8000          1
         9 Voldermort                    2      18000          1
         2 Hermione                      2      50000          1

SQL> select * from emp1 where ROWNUM<=5 order by sal desc;

     EMPNO ENAME                       SAL     DEPTNO
---------- -------------------- ---------- ----------
         2 Hermione                  50000          2
         1 Harry                     25000          1
         4 Dumbledore                15000          1
         3 Ron                       10000          3
         5 McConnical                 8000          1

SQL> select empno,ename,sal,deptno,rank() over(order by sal) as rank from emp1 orde
r by empno desc;

     EMPNO ENAME                       SAL     DEPTNO       RANK
---------- -------------------- ---------- ---------- ----------
        10 Victor                     8000          2          4
         9 Voldermort                18000          2          8
         8 Fred                       5000          3          1
         7 Jorge                      5000          3          1
         6 Jinny                      7000          3          3
         5 McConnical                 8000          1          4
         4 Dumbledore                15000          1          7
         3 Ron                       10000          3          6
         2 Hermione                  50000          2         10
         1 Harry                     25000          1          9

10 rows selected.

SQL>
```


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Page No:12

Q1. A) 1. Use EMPLOYEE table and display deptno, job, sum of salaries according to deptno and within deptno according to jobs.

2. Using same table Display deptno, jobs, sum of the salaries and number of employees working in every department . 10

```
SQL> select deptno,job,sum(salary) as total
  2  from emp2
  3  group by (deptno,job) order by deptno,job;

    DEPTNO JOB                  TOTAL
---------- -------------------- ----------
         1 1                    25000
         1 2                     5000
         1 3                     8000
         2 1                    50000
         2 2                     4000
         3 1                    20000
         3 2                     6000

7 rows selected.

SQL> select deptno,job,sum(salary) as total,count(*) as count
  2  from emp2
  3  group by (deptno,job) order by deptno,job;

    DEPTNO JOB                  TOTAL      COUNT
---------- -------------------- ---------- ----------
         1 1                    25000          1
         1 2                     5000          1
         1 3                     8000          2
         2 1                    50000          1
         2 2                     4000          1
         3 1                    20000          3
         3 2                     6000          1

7 rows selected.
```

Practical Examination – November 2018 M.C.A (PART-II)
[Lab I-Advanced Web Technology and Data Mining and Business Intelligence]

Page No:15

Q1. A) Use emp table and display highest and lowest salary of each department using first and last. 5

```
SQL> select * from emp1;

     EMPNO ENAME                          SAL     DEPTNO
---------- -------------------- ---------- ----------
         1 Harry                       25000          1
         2 Hermione                    50000          2
         3 Ron                         10000          3
         4 Dumbledore                  15000          1
         5 McConnical                   8000          1
         6 Jinny                        7000          3
         7 Jorge                        5000          3
         8 Fred                         5000          3
         9 Voldermort                  18000          2
        10 Victor                       8000          2

10 rows selected.

SQL> select empno,ename,sal,deptno,first_value(sal) over (partition by deptno) as H
ighest,last_value(sal) over (partition by deptno) as Lowest from emp1;

     EMPNO ENAME                          SAL     DEPTNO    HIGHEST     LOWEST
---------- -------------------- ---------- ---------- ---------- ----------
         1 Harry                       25000          1      25000      15000
         5 McConnical                   8000          1      25000      15000
         4 Dumbledore                  15000          1      25000      15000
         9 Voldermort                  18000          2      18000      50000
        10 Victor                       8000          2      18000      50000
         2 Hermione                    50000          2      18000      50000
         6 Jinny                        7000          3       7000      10000
         7 Jorge                        5000          3       7000      10000
         8 Fred                         5000          3       7000      10000
         3 Ron                         10000          3       7000      10000

10 rows selected.
```

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Page No:16

Q1. A) Use emp table and use Group By clause and calculate average,sum and max salary of employee . 5

SQL Plus

```
SQL> select * from emp1;

     EMPNO ENAME                          SAL     DEPTNO
---------- -------------------- ---------- ----------
         1 Harry                     25000          1
         2 Hermione                  50000          2
         3 Ron                       10000          3
         4 Dumbledore                15000          1
         5 McConnical                 8000          1
         6 Jinny                      7000          3
         7 Jorge                      5000          3
         8 Fred                       5000          3
         9 Voldermort                18000          2
        10 Victor                     8000          2

10 rows selected.

SQL> select deptno,avg(sal),sum(sal),max(sal) from emp1 group by deptno;

    DEPTNO   AVG(SAL)   SUM(SAL)   MAX(SAL)
---------- ---------- ---------- ----------
         1      16000      48000      25000
         2 25333.3333      76000      50000
         3       6750      27000      10000
```