

Self Assessment Paper

General Instructions :

1. This question paper contains two parts A and B. Each part is compulsory.
2. Both Part A and Part B have choices.
3. Part - A has 2 sections :
 - (a) **Section – I** is short answer questions, to be answered in one word or one line.
 - (b) **Section – II** has two case studies questions. Each case study has 4 case-based sub- parts. An examinee is to attempt any 4 out of the 5 subparts.
4. **Part - B** is Descriptive Paper.
5. **Part - B** has three sections :
 - (a) **Section-I** is short answer questions of 2 marks each in which two questions have internal options.
 - (b) **Section-II** is long answer questions of 3 marks each in which two questions have internal options.
 - (c) **Section-III** is very long answer questions of 5 marks each in which one question has internal option.

PART – A

Section – I

Attempt any 15 Questions from Questions 1 to 21

1. **State whether True or False :**
 - (i) Always check the content you post on web.
 - (ii) Copyright is usually granted for inventions. [1]
2. Pandas was developed by _____ in 2008. [1]
3. Which function returns the last value of the selected column(s)?
 - (a) Last()
 - (b) First()
 - (c) MID()
 - (d) INSTR() [1]
4. Which command is used to install matplotlib?
 - (a) install matplotlib
 - (b) pip install matplotlib
 - (c) pip matplotlib
 - (d) None of these [1]

5. In matplotlib, what is ticks? [1]
6. CSV files are the _____. [1]
7. _____ is a unique identifier used to locate a resource on the Internet. [1]
8. _____ is used for 2D plots of arrays in Python. [1]
9. Which device is used to connect all computers inside a lab? [1]
10. Expand the following
- (i) LAN
- (ii) PAN [1]
11. Which of the following is the correct answer of the following query? [1]
- SELECT MOD(26, 5);
- (a) 2
- (b) 3
- (c) 4
- (d) 1
12. The very first cyber crime was recorded in the year _____. [1]
13. The _____ labels satisfying the criteria are selected. [1]
14. Name the methods for proper treatment of e-waste. [1]
15. In _____ topology, single cable is used to connect all the workstations.
- (a) Star
- (b) Mesh
- (c) Bus
- (d) Tree [1]
16. _____ is actually preparing the owner against cyber attack. [1]
17. What is financial identity theft? [1]
18. String and date type arguments are not _____ that we calculate. [1]
19. _____ is known as range operator in MySQL. [1]
20. _____ symbol separates the user from the domain. [1]
21. _____ blocks the user from accessing, usually by encryption the data. [1]

Section -II

Both the case study based questions (22 & 23) are compulsory. Attempt any four sub parts from each question. Each sub question carries 1 mark .

22. Consider the following DataFrame **df** and answer any four questions from (i) - (v)

Code	Subject	Rahul	Riya	Khushal
1	Mathematics	75	62	90
2	Science	82	83	75
3	Computer	80	75	82
4	English	75	70	75
5	Hindi	70	72	70

(i) Which the command that will give the following output :

```
Code      1
Subject   Computer
Rahul     70
Riya      62
Khushal   70
dtype: object
```

(a) `print(df.min)`

- (b) `print(df.min())`
 (c) `print(df.min(axis=1))`
 (d) `print(df.min,axis=1)` [1]
- (ii) Which statement is suitable for giving below output ?
- ```
1 227
2 240
3 237
4 220
5 212
dtype : int 64
```
- (a) `print(df.sum())`  
 (b) `print(df.sum(axis=0))`  
 (c) `print(df.sum(axis=1))`  
 (d) `print(df.sum)` [1]
- (iii) Identify the command to know the marks of subject computer whose code is 3.
- (a) `df1=df[df['Code']==3]`  
`print(df1)`  
 (b) `df1=df[df[Code]==3]`  
`print(df1)`  
 (c) `df1=df[df.Code=3]`  
`print(df1)`  
 (d) `df1=df[Code=3]`  
`print(df1)` [1]
- (iv) Which of the following statement will give the exact number of values in each column of the DataFrame df ?
- (a) `print(df.count())`  
 (b) `print(df.count)`  
 (c) `print(df.count(1))`  
 (d) `print(df.count(axis='index'))` [1]
- (v) Which of the following statement will display the column labels of the DataFrame?
- (a) `print(df.coloumn())`  
 (b) `print(df.rows())`  
 (c) `print(df.index())`  
 (d) `print(df.columns)` [1]

23. Consider the following table SuperMarket :

| Code | Item     | Big_Mart | Food_Bazaar | D_Mart | Fresh |
|------|----------|----------|-------------|--------|-------|
| 101  | Bread    | 12       | 11          | 13     | 11    |
| 102  | Nescafe  | 56       | 58          | 62     | 59    |
| 103  | Ketchup  | 89       | 87          | 66     | 89    |
| 104  | Pedigree | 230      | 234         | 242    | 235   |
| 105  | Chocos   | 78       | 67          | 77     | 78    |
| 106  | Milk     | 20       | 19          | 21     | 20    |

- (i) What will be the output of the following query ?  
`SELECT Item, code FROM SuperMarket`  
`WHERE Big_Mart = Fresh;`

(a)

| Item    | Code |
|---------|------|
| Nescafe | 102  |
| Bread   | 101  |
| Milk    | 106  |

(b)

| Code | Item    |
|------|---------|
| 103  | Ketchup |
| 105  | Chocos  |
| 106  | Milk    |

(c)

| Code | Item     |
|------|----------|
| 102  | Nescafe  |
| 104  | Pedigree |
| 101  | Bread    |

(d)

| Code | Item     |
|------|----------|
| 101  | Bread    |
| 102  | Nescafe  |
| 103  | Ketchup  |
| 104  | Pedigree |
| 105  | Chocos   |
| 106  | Milk     |

(ii) Identify the primary key of given table SuperMarket. [1]

- (a) Code  
 (b) Item  
 (c) Big\_Mart  
 (d) Fresh

(iii) Help Suhana to know the details of item Pedigree with its code. [1]

- (a) SELECT Pedigree FROM SuperMarket;  
 (b) SELECT Item FROM SuperMarket WHERE Item = "Pedigree";  
 (c) SELECT \* FROM SuperMarket WHERE Item = "Pedigree";  
 (d) SELECT code, Item FROM SuperMarket WHERE Pedigree;

(iv) Choose the right command to find the maximum price in Food\_Bazaar. [1]

- (a) SELECT MAX (Food\_Bazaar) FROM SuperMarket;  
 (b) SELECT MAX (Price) FROM SuperMarket WHERE Food\_Bazaar;  
 (c) SELECT MAX (Price) FROM SuperMarket GROUPS BY Food\_Bazaar;  
 (d) All of these;

(v) Which command is used for following output ? [1]

| Item     |
|----------|
| Nescafe  |
| Ketchup  |
| Pedigree |
| Chocos   |

- (a) SELECT Item FROM SuperMarket WHERE Big\_Mart > 100;  
 (b) SELECT Item FROM SuperMarket WHERE Food\_Bazaar > 150;  
 (c) SELECT Item FROM SuperMarket WHERE D\_Mart > 50;  
 (d) SELECT Item FROM SuperMarket WHERE Fresh < 50;

[1]

**PART - B****Section – I**

24. Explain the selection in series. [2]  
 25. Differentiate between SUBSTR( ) and INSTR( ). [2]

OR

Consider the table below :

**Table : Company**

| EmpID | Department | Salary |
|-------|------------|--------|
| E101  | Personnel  | 60000  |
| E102  | Accounts   | 65000  |
| E103  | Marketing  | 40000  |
| E104  | Personnel  | 62000  |
| E105  | Personnel  | 50000  |
| E106  | Marketing  | 35000  |

Identify errors (s) in the following SQL statement, to display average salary of each department. Rewrite the correct SQL statement.

SELECT Department, Salary FROM Company GROUP By Department;

26. A numeric data field PRICE store a value 406.98. Write the SQL statements for:

- (i) Up to 1 decimal place  
 (ii) to a whole number

**[AI]** 27. What is slicing?

28. Mention any 4 numeric functions in MySQL.

**[AI]** 29. Consider the following SQL string: "Welcome"

Write commands to display:

- (a) "come"  
 (b) "com"

OR

Considering the same string "Welcome"

Write SQL commands to display:

- (a) the position of the substring 'com' in the string "Welcome"  
 (b) the first 2 letters of the string

30. Explain DataFrame. Can it be considered as 1D Array or 2D Array?

31. Why is switch called an intelligent hub?

32. What is copyright infringement ?

**[AI]** 33. What are frauds?

**Section – II**

34. Consider two objects A and B. A is a list where as B is a Series. Both have values 10, 40, 60, 75, 120.

What will be the output of the following two statements considering that the above objects have been created already?

- (a) print (A\*3)  
 (b) print(B\*3)

Justify your answer.

35. Why is it important to recycle e-waste?

OR

What is digital footprint?

36. Give a sample code to generate a bar graph.

OR

Draw the graph of  $2x + 3y = 6$  for first 5 natural numbers. Show the markers.

37. Give the output of the following sql statements based on table GRADUATE:

| S.NO. | NAME  | STIPEND | SUBJECT | AVERAGE | DIVISION |
|-------|-------|---------|---------|---------|----------|
| 1     | Karan | 400     | Physics | 68      | I        |

|    |         |     |           |    |    |
|----|---------|-----|-----------|----|----|
| 2  | Diwakar | 450 | Comp. Sc  | 68 | I  |
| 3  | Divya   | 300 | Chemistry | 62 | I  |
| 4  | Rekha   | 350 | Physics   | 63 | I  |
| 5  | Arjun   | 500 | Maths     | 70 | I  |
| 6  | Sabina  | 400 | Chemistry | 55 | II |
| 7  | John    | 250 | Physics   | 64 | I  |
| 8  | Robert  | 450 | Maths     | 68 | I  |
| 9  | Rubina  | 500 | Comp. Sc. | 62 | I  |
| 10 | Vikas   | 400 | Maths     | 57 | II |

- (i) Select MIN(AVERAGE) from GRADUATE where SUBJECT = "PHYSICS";  
 (ii) Select SUM(STIPEND) from GRADUATE WHERE div = II;  
 (iii) Select AVG(STIPEND) from GRADUATE where AVERAGE > = 65;

[3]

### Section – III

38. List the features of DataFrame. [5]

39. Which function is used to round up the number to the upwards or downwards whichever the nearest whole number? Explain. [5]

OR

Table : EXAM

| No. | Name     | Stipend | Subject     | Average | Division |
|-----|----------|---------|-------------|---------|----------|
| 1   | Karan    | 400     | English     | 68      | FIRST    |
| 2   | Aman     | 680     | Mathematics | 72      | FIRST    |
| 3   | Javed    | 500     | Accounts    | 67      | FIRST    |
| 4   | Bishakh  | 200     | Informatics | 55      | SECOND   |
| 5   | Sugandha | 400     | History     | 35      | THIRD    |
| 6   | Suparna  | 550     | Geography   | 45      | THIRD    |

Write SQL command for

- (i) To list the name of those students who have obtained DIVISION as FIRST in the ascending order at Name.  
 (ii) To count the number of students who have either accounts or informatics as subject.  
 Give output of the following :  
 (iii) SELECT AVG (Stipend) FROM EXAM where DIVISION = "THIRD"  
 (iv) SELECT COUNT (DISTINCT Subject) FROM EXAM;  
 (v) SELECT MIN (Average) From EXAM WHERE Subject = "English".

40. How does www work ?

[5]

Finished Solving the Paper ?  
 Time to evaluate yourself !  
<https://qr.go.page.link/sU9tZ>

OR

SCAN THE CODE



For elaborate Solutions

**OSWAAL COGNITIVE  
 LEARNING TOOLS**

