ROLL NUMBER				

SET	1

INDIAN SCHOOL MUSCAT
FIRST PRE-BOARD EXAMINATION 2022-23
INFORMATICS PRACTICES
MARKING SCHEME

CLASS :XII
DATE: 00-01-2023

TIME ALLOTED : 3 HRS.
MAXIMUM MARKS: 70

GENERAL INSTRUCTIONS:

Read the Questions carefully before start writing the Answers

Section A: 18 marks
Section B: 14 marks
Section C: 15 marks
Section D: 15 Marks
Section E: 08 Marks

SECTION - A

1. In Mysql, _____ command is used to ADD a new value to the table. 1
   insert
2. In Python_____function is used to access groups rows/ columns.
   loc() 1
3. Which of the following is not a cyber-crime? 1
   d. Tracking
4. Proprietary software is a software which is available _____ 1
   b. on paying license fee
5. Any fraudulent business practice that extracts money e from an unsuspecting, ignorant person is called_____ 1
   b. Scam
6. Full form of MAN is 1
   b. Metropolitan Area Net Work
7. Define URL with an example. 1
   Uniform Resource Locator - https://www.google.com/info.html any valid example
8. In MSql _____ is used to save the transaction permanent. 1
   ii. Commit
9. _____ is a technology related health condition affecting eyesight. 1
   b. Computer vision syndrome

10. The _____ is the permissions given to use a product or someone's creator by the copyright holder. 1
b. Licence c. Software authority d. Digital rights .

11. Ms. Sharma, the class teacher wants to add a new column, the scores of Grade with the values, ' A', 'B', 'A', 'A', 'B', 'A' choose the command to do so: 1
b. df ['Grade']=['A','B','A','A','B','A']

12. To get the number of elements in a Series object, attribute may be used.
(b) size 1

13. Which of the following are feasible methods of e-waste management? 1
d. All of the above

14. The axis 0 identifies a dataframe's 1
(a) rows

15. Whenever we surf the Internet using smartphones we leave a trail of data reflecting the activities performed by us online, which is our _____ 1
a. Digital footprint

16. HTTP is the set of rules for transferring files -- such as text, images, sound, video and other multimedia files over the web. 1

Directions (Q No. 17-18) In the questions given below there are two statements marked as Assertion (A) and Reason (R) . Read the statements and choose the correct option.

a. Both (A) and (R) are True, and (R) is the correct explanation of (A).
b. Both (A) and (R) are True, but (R) is not the correct explanation of (A).
c. (A) is true, but (R) is false.
d. (A) is false, but (R) is true.

17. Assertion (A): Amit has stolen the content of a research paper and published it online. Amit has performed cybercrime. 1
Reason (R): Plagiarism is the act of stealing someone's work and presenting it as one's own work. .
d. A is false but R is True

18. Assertion (A): To display the first four elements of a Series object, you may write S[:4]. 1
Reason (R): To display the first five rows of a Series object S, you may use tail() function.
A is true but R is false

SECTION- B

19. Sonal needs to display name of teachers, who have "0" as the third character in their name. She wrote the following query. 2
SELECT NAME FROM TEACHER WHERE NAME like "-_ _0%";
But the query is not producing the result. Identify the problem.

20. import pandas as pd 2
St={"Red":"09","Green":"10","Blue":"09","Yellow":"09"}
S1=pd.Series(St)
print(S1) 2 marks

21. Explanation 1 mark + creating data frame with read_csv("file name") 1 mark 2

22. aggregate functions explanation and any one function name – 1 mark single row functions. Write any one function name – 1mark. 2

OR

Explain the following Terms

a. Web Browser with an example.- Explanation with an example 1 mark
b. Web Page - explanation 1 mark

23. Carefully observe the following code and write the output based on the print statement.

Term Values
A 5000.0 13000.0
B 8000.0 14000.0
D 12000.0 NaN
E 18000.0 NaN
C NaN 12000.0 ½ mark
10 ½ mark
2 ½ mark
A 5000.0
B 8000.0
D 12000.0
E 18000.0
C NaN ½ mark
Name: Term, dtype: float64 2

OR

List any four benefits of e-waste management. 2 marks

24. Find the output of the following:
True 1 mark
[False False True True] 1 Mark 2

25. What is the difference between CHAR and VARCHAR data type in mysql? Explain with an example. 2
CHAR Explanation with an example 1 mark
Varchar Explanation with an example 1 mark

SECTION-C

26. Write a Python code to create the following DATA FRAME named as PLAYER. 3

```
import pandas as pd
data={"Player Name":["Sachin","Dravid","Yuvaraj","Dinesh Karthik"],"No of
Matches":
    [320,312,314,216],"Runs Scored":[18999,14324,12345,8345]}
player=pd.DataFrame(data)
print(player)
```

1+1+1=3 mark

27. i. JAYA has become a victim of cyber bullying and cyber stalking. 1 mark
ii. She must immediately bring it into the notice of her parents and school authorities. And she must report this cyber crime to local police with the help of her parents. 1 mark 3
iii. Yes. The Information Technology Act, 2000 (also known as ITA-2000, or the IT Act) is the primary law in India dealing with cybercrime and electronic commerce. 1 mark

28. Consider the given DataFrame **'EMPLOYEE':**

```
import pandas as pd
data={"Name":["RAJA","SCOTT","RHEA","PETER"]}
DF=pd.DataFrame(data)
print(DF)
DF["SALARY"]=[2000,1200,3000,2300]
print(DF)
DF.loc[4]=["Rahul",1200]
print(DF)
```

3
11/2 mark
1 ½ mark

29. **Find the output of the following:**
    i. Select Substr("WELCOMES",length("we");ELCOMES 1 mark
    ii. Select Truncate(4534.789,-1);4530 1 mark
    iii. Select Replace("Corporate","o,"*");C*rp*rate 1 mark

3

30. Based on table **STUD_MASTER** given here, write suitable SQL queries for the following

Rollno	Name	Class	Gender	City	Marks
23	Paul	XII	MALE	DELHI	345
34	Nancy	XII	FEMALE	MUMBAI	425
12	Nishant	XII	MALE	MUMBAI	295
32	Payal	X	FEMALE	DELHI	255
14	Arun	X	MALE	CHENNAI	365
21	Sanjey	XII	MALE	CHENNAI	385
20	Anish	XI	MALE	COCHIN	315

3

a) Write a Query to display how many students are there in each Class.
   Select class,count(*) from stud_master group by class;
b) Write a Query to display all the students who are from city "Delhi" and Class is XI.
   Select * from stud_master where city="delhi" and class="XI";
c) Write a Query to display how many students are scored above 450.
   Select count(*) from stud_master where marks>450;

OR

Explain the following:
Commit -explanation 1 mark b. Rollback To - explanation 1 mark c. Save Point – explanation 1 mark

SECTION -D

31. Explain the following SQL functions using suitable examples. 5*1=5

i. SUBSTR( ) -explanation with an example ½ + ½ =1 mark
ii. SQRT( ) -explanation with an example ½ + ½ =1 mark
iii. DAYOFMONTH( ) -explanation with an example ½ + ½ =1 mark
iv. COUNT( ) -explanation with an example ½ + ½ =1 mark
v. TRIM( ) -explanation with an example ½ + ½ =1 mark

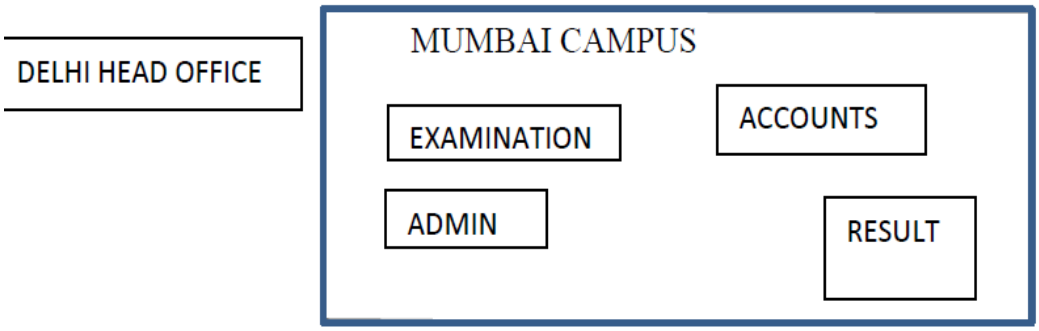
OR

Write a Query for the following statement(s)

i. Write a Query to display the Day number of the month from "2002-12-12 11:23:34"
   Selet dayofmonth("2002-12-12 11:23:34"); 1 mark
ii. Write Query to find the power of 5 raised to 4
   Select pow(5,4); 1 mark
iii. Write a Query display the reminder 34 divided by 2
   Select ,od(34,2); 1 mark
iv. Write a Query to remove the decimal point from the number 23.56
   Select round(23.56); or select truncate(23.56); 1 mark
v. Write a Query to convert the string "master mind" as upper case.
   Select upper("master mind"); 1 mark

32. M & M Computer services Ltd. is an international educational organization. It is planning to set up its India campus at Mumbai with its head office in Delhi. The Mumbai office campus has four main buildings-ADMIN, ACCOUNTS, EXAMINATION and RESULT.
You as a network expert have to suggest the best network related solutions for their problems raised in (i) to (v), keeping in mind the distances between the buildings and other given parameters.

5



Distances between various buildings:	
ADMIN TO ACCOUNTS	55 m
DELHI Head Office to MUMBAI campus	2150 Km
ADMIN TO RESULT	50 m
ACCOUNTS TO EXAMINATION	55 m
ACCOUNTS TO RESULT	50 m
EXAMINATION TO RESULT	45 m
ADMIN TO EXAMINATION	90 m

Number of Computers installed in various buildings	
Accounts	**25**
Examination	**15**
Admin	**240**
Result	**10**
Delhi Head Office	**50**

a. Star topology 1 mark layout 1 mark =2 marks
b. HUB/SWITCH 1 mark
c. Suggest Which Building you will keep the server? What is the reason? Admin
d. Which of the following will you suggest to establish the online face to face communication between the people in the ADMIN office of Mumbai campus and Delhi head office?
Video conferencing

33. Mr. Manish is new learner of python to CSV Connection concept. Explain What is the meaning of CSV file and write the method(s) for transferring data from python to CSV and CSV to Python. 5
CSV explanation – 1 mark to_csv() read_csv() explanation – 1 +1 =2 mark
Write a Simple code to create the following Data Frame named as CSVDATA from EMPLOYEE.CSV. -writing the correct import statement , creating data frame -1 mark
transferring data frame to CSV with the correct method 1 mark

SECTION-E

34. Write a Python program to create a LINE chart based on the following instructions:
a. Data for creating chart is
TEST=['TEST1','TEST2','TEST3','TEST4']
MARKS=[62,53,34,80] 4
b. X label is TEST
Y label is Marks
Title is Analysis

```
import pandas as pd
import matplotlib.pyplot as plt
TEST=['TEST1','TEST2','TEST3','TEST4']
MARKS=[62,53,34,80]
plt.plot(TEST,MARKS,marker="*")
plt.xlabel("TEST")
plt.ylabel("MARKS")
plt.title("ANALYSIS")
plt.show()
```

each correct steps and using proper function(s) ½ mark

OR

Write a python program to plot a bar chart based on the given data to depict the changing weekly average temperature in MUMBAI for four weeks.
Week=[1,2,3,4]
Avg_week_temp=[40,42,38,44]
each correct steps and using proper function(s) ½ mark

35. Ms.Dimple, a data analyst has designed the Data Frame EMPDATA that contains data about Employee's Salary. Write a python program to create the following dataframe and display all the details of employees whose salary is greater than 3100. 4

	EMPNO	EMP_Name	SALARY
0	1	Allan	3420
1	2	Karnn	2415
2	3	Kumar	1490
3	4	Anisha	3400
4	5	Sanjey	5970

import pandas as pd
data={"EMPNO":[1,2,3,4,5],"EMP_Name":["Allan","Karnn","Kumar","Anisha","Sanjey"], "SALARY":[3420,2415,1490,3400,5970]}
df1=pd.DataFrame(data) --- creating the data frame with proper import and data 2 marks
print(df1)
print(df1[df1["SALARY"]>=3100]) ---- 2 marks

OR

Ms.Naima, a data analyst has designed the Data Frame EMPDATA that contains data about Employee's Salary. Write a python program to create the following dataframe and display all the details of Allan and Sanjey.

import pandas as pd
data={"EMPNO":[1,2,3,4,5],"EMP_Name":["Allan","Karnn","Kumar","Anisha","Sanjey"],
"SALARY":[3420,2415,1490,3400,5970]}
df1=pd.DataFrame(data) ----creating the data frame with proper import and data 2 marks
print(df1)
print(df1[df1["EMP_Name"]=="Allan"],"\n",df1[df1["EMP_Name"]=="Sanjey"]) --- 2marks

SET	2

INDIAN SCHOOL MUSCAT
FIRST PRE-BOARD EXAMINATION 2022-23
INFORMATICS PRACTICES
MARKING SCHEME

CLASS :XII
DATE: 16-01-2023

SECTION - A

36. Full form of MAN is 1
b. Metropolitan Area Net Work

37. Define Domain Name- UNIQUE NAME OF ANY WEB SITE with an example.www.cbse.nic.in 1

38. In MSql _____ is used to save the transaction permanent. 1
b. Commit

39. _____ is a technology related health condition affecting eyesight. 1
b. Computer vision syndrome

40. Ms. Sharma, the class teacher wants to add a new column, the scores of Grade with the values, ' A', 'B', 'A', 'A', 'B', 'A' choose the command to do so: 1
b)df ['Grade']=['A','B','A','A','B','A']

41. In Mysql, ALTER command is used to Delete a Column from the table. 1

42. In Python_____function is used to access groups rows/ columns. 1
iii. loc( )

43. Which of the following is not a cyber-crime? 1
d. Tracking

44. Proprietary software is a software which is available _____ 1
b. on paying license fee

45. Any fraudulent business practice that extracts money e from an unsuspecting, ignorant person is called_____ 1
b. Scam

46. _____ is the permissions given to use a product or someone's creator by the copyright holder. 1
b. Licence .

47. Whenever we surf the Internet using smartphones we leave a trail of data reflecting the activities performed by us online, which is our _____ 1
a. Digital footprint

48. HTTP is the set of rules for transferring files -- such as text, images, sound, video and other multimedia files over the web. 1

49. To get the number of elements in a Series object, attribute may be used. 1
(b) size

50. Which of the following are feasible methods of e-waste management? 1
d. All of the above

51. The axis 0 identifies a dataframe's 1
(a) rows

Directions (Q No. 17-18) In the questions given below there are two statements marked as Assertion (A) and Reason (R) . Read the statements and choose the correct option.

a. Both (A) and (R) are True, and (R) is the correct explanation of (A).
b. Both (A) and (R) are True, but (R) is not the correct explanation of (A).
c. (A) is true, but (R) is false.
d. (A) is false, but (R) is true.

52. Assertion (A): Amit has stolen the content of a research paper and published it online. Amit has performed cybercrime. 1
Reason (R): Plagiarism is the act of stealing someone's work and presenting it as one's own work. .
d. A is false but R is True

53. Assertion (A): To display the first four elements of a Series object, you may write S[:4]. 1
Reason (R): To display the first five rows of a Series object S, you may use tail() function.
A is true but R is false

SECTION- B

54. Suresh needs to display name of teachers, who have "S" as the third character in their name. He wrote the following query. 2
SELECT NAME FROM TEACHER WHERE NAME like "-_ _0%";

But the query is'nt producing the result. Identify the problem.

55. Define Data Frame and write a Python code to transfer the date from "Salary.CSV " to Data Frame named as DFSALARY. 2
Explanation 1 mark + creating data frame with read_csv("file name") 1 mark

56. Write a PYTHON program to create a series object using a dictionary that stores the number of students in each house of class 12H of your school. 2
Note: Assume four house names are Red, Green, Blue and Yellow having 12, 15, 24, 10 students respectively and pandas library has been imported as pd.

```
import pandas as pd
St={"Red":12,"Green":15,"Blue":24,"Yellow":10}
```

S1=pd.Series(St)
print(S1) 2 marks

57. Carefully observe the following code and write the output based on the print statement. 2

Term Values
A 5000.0 13000.0
B 8000.0 14000.0
D 12000.0 NaN
E 18000.0 NaN
C NaN 12000.0 ½ mark
10 ½ mark
2 ½ mark
A 5000.0
B 8000.0
D 12000.0
E 18000.0
C NaN ½ mark
Name: Term, dtype: float64

OR

List any four benefits of e-waste management. 2 marks

58. aggregate functions explanation and any one function name – 1 mark single row functions. Write any one function name – 1mark.

OR

Explain the following Terms 2

a. Web Browser with an example.- Explanation with an example 1 mark
b. Web Page - explanation 1 mark

59. Find the output of the following:
True 1 mark
[False False True True] 1 Mark
2

60. What is the difference between CHAR and VARCHAR data type in mysql? Explain with an example. 2
CHAR Explanation with an example 1 mark
Varchar Explanation with an example 1 mark

SECTION-C

61. Write a Python code to create the following DATA FRAME named as PLAYER. 3

```
import pandas as pd
data={"Player Name":["Sachin","Dravid","Yuvaraj","Dinesh Karthik"],"No of
Matches":
[320,312,314,216],"Runs Scored":[18999,14324,12345,8345]}
player=pd.DataFrame(data)
print(player)
```

1+1+1=3 mark

62. Consider the given DataFrame **'EMPLOYEE':**

```
import pandas as pd
data={"Name":["RAJA","SCOTT","RHEA","PETER"]}
DF=pd.DataFrame(data)
print(DF)
DF["SALARY"]=[2000,1200,3000,2300]
print(DF)
DF.loc[4]=["Rahul",1200]
print(DF)
```

3 (11/2 mark; 1 ½ mark)

Write suitable Python statements for the following:

i. Add a new column called NETSAL with the following data: [2000,1200,3000,2300]
ii. Add a new row to EMPLOYEE data frame as ["Rahul",1200].

63. i. JAYA has become a victim of cyber bullying and cyber stalking. 1 mark
ii. She must immediately bring it into the notice of her parents and school authorities. And she must report this cyber crime to local police with the help of her parents. 1 mark
iii. Yes. The Information Technology Act, 2000 (also known as ITA-2000, or the IT Act) is the primary law in India dealing with cybercrime and electronic commerce. 1 mark 3

64. **Find the output of the following:**

iv. Select Substr("WELCOMES",length("OM"); ELCOMES 1 mark
v. Select Truncate(4534.789,-2); 4500 1 mark
vi. Select Replace("Corporate","o,"%"); c%rp%rate 1 mark

3

65. Based on table **STUD_MASTER** given here, write suitable SQL queries for the following

Rollno	Name	Class	Gender	City	Marks
23	Paul	XII	MALE	DELHI	345
34	Nancy	XII	FEMALE	MUMBAI	425
12	Nishant	XII	MALE	MUMBAI	295
32	Payal	X	FEMALE	DELHI	255
14	Arun	X	MALE	CHENNAI	365
21	Sanjey	XII	MALE	CHENNAI	385
20	Anish	XI	MALE	COCHIN	315

3

d) Write a Query to display how many students are there in each Class.
Select Class, count(*) from Stud_Master group by Class;
e) Write a Query to display all the students who are from city "Delhi" and Gender is Male.
Select name from stud_master where city="Delhi" and gender="male";
f) Write a Query to display how many students are scored above 450.
Select count(*) from stud_master where marks> 450;

OR

Explain the following:

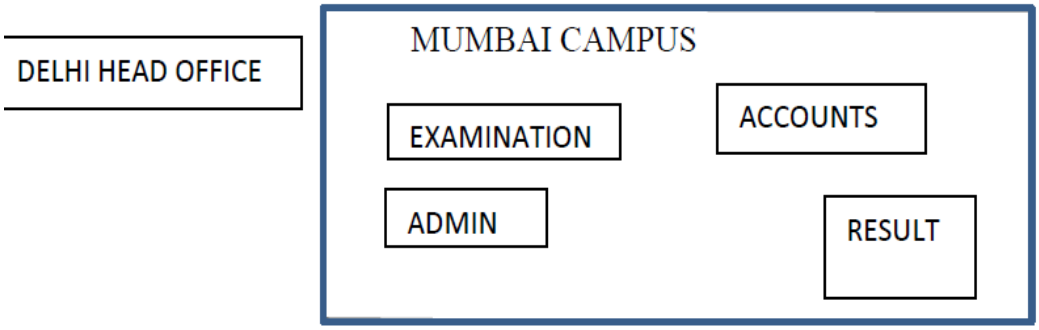
Commit -explanation 1 mark b. Rollback To - explanation 1 mark c. Save Point – explanation 1 mark

SECTION -D

66. Mr. Manish is new learner of python to CSV Connection concept. Explain What is the meaning of CSV file and write the method(s) for transferring data from python to CSV and CSV to Python. CSV explanation – 1 mark to_csv() read_csv() explanation – 1 +1 =2 mark 5

Write a Simple code to create the following Data Frame named as CSVDATA from EMPLOYEE.CSV. -writing the correct import statement , creating data frame -1 mark transferring data frame to CSV with the correct method 1 mark

67. M & M Computer services Ltd. is an international educational organization. It is planning to set up its India campus at Mumbai with its head office in Delhi. The Mumbai office campus has four main buildings-ADMIN, ACCOUNTS, EXAMINATION and RESULT.
You as a network expert have to suggest the best network related solutions for their problems raised in (i) to (v), keeping in mind the distances between the buildings and other given parameters. 5



Distances between various buildings:	
ADMIN TO ACCOUNTS	55 m
DELHI Head Office to MUMBAI campus	2150 Km
ADMIN TO RESULT	50 m
ACCOUNTS TO EXAMINATION	55 m
ACCOUNTS TO RESULT	50 m
EXAMINATION TO RESULT	45 m
ADMIN TO EXAMINATION	90 m

Number of Computers installed in various buildings	
Accounts	**25**
Examination	**15**

Admin	**240**
Result	**10**
Delhi Head Office	**50**

e. Suggest and draw cable layout to efficiently connect various buildings within the MUMBAI campus for a wired connectivity. Star 1 mark and lay out 1 mark

f. Which networking device will you suggest to be procured by the company to interconnect all the computers of various buildings of MUMBAI campus? Hub/ switch

g. Suggest Which Building you will keep the server? What is the reason? Admin

h. Which of the following will you suggest to establish the online face to face communication between the people in the ADMIN office of Mumbai campus and Delhi head office?

3) Video conferencing

68. Explain the following SQL functions using suitable examples.

i. SUBSTR( ) explanation ½ mark example ½ mark
ii. SQRT( ) explanation ½ mark example ½ mark
iii. DAYOFMONTH( ) explanation ½ mark example ½ mark
iv. COUNT( ) explanation ½ mark example ½ mark 5*1=5
v. TRIM( ) explanation ½ mark example ½ mark

OR

Write a Query for the following statement(s)

vi. Write a Query to display the Day number of the month from "2002-12-12 11:23:34"
Selet dayofmonth("2002-12-12 11:23:34"); 1 mark

vii. Write Query to find the power of 5 raised to 4
Select pow(5,4); 1 mark

viii. Write a Query display the reminder 34 divided by 2
Select ,od(34,2); 1 mark

ix. Write a Query to remove the decimal point from the number 23.56
Select round(23.56); or select truncate(23.56); 1 mark

x. Write a Query to convert the string "master mind" as upper case.
Select upper("master mind"); 1 mark

SECTION-E

69. Write a Python program to create a LINE chart based on the following instructions:

c. Data for creating chart is
TEST=['TEST1','TEST2','TEST3','TEST4']
MARKS=[62,53,34,80] 4

d. X label is TEST
Y label is Marks
Title is Analysis

```
import pandas as pd
import matplotlib.pyplot as plt
TEST=['TEST1','TEST2','TEST3','TEST4']
MARKS=[62,53,34,80]
plt.plot(TEST,MARKS,marker="*")
plt.xlabel("TEST")
plt.ylabel("MARKS")
plt.title("ANALYSIS")
plt.show()
```

each correct steps and using proper function(s) ½ mark

OR

Write a python program to plot a bar chart based on the given data to depict the changing weekly average temperature in CHENNAI for four weeks.
Week=[1,2,3,4]
Avg_week_temp=[34,42,38,40]
each correct steps and using proper function(s) ½ mark

70. Ms.Dimple, a data analyst has designed the Data Frame EMPDATA that contains data about Employee's Salary. Write a python program to create the following dataframe and display all the details of employees whose salary is less than 2500. 4

```
import pandas as pd
data={"EMPNO":[1,2,3,4,5],"EMP_Name":["Allan","Karnn","Kumar","Anisha","Sanje
y"], "SALARY":[3420,2415,1490,3400,5970]}
df1=pd.DataFrame(data)   --- creating the data frame with proper import and data 2 marks
print(df1)
print(df1[df1["SALARY"]<2500])   ----          2 marks
```

OR

```
import pandas as pd
data={"EMPNO":[1,2,3,4,5],"EMP_Name":["Allan","Karnn","Kumar","Anisha","Sanje
y"],  "SALARY":[3420,2415,1490,3400,5970]}
df1=pd.DataFrame(data)          ----creating the data frame with proper import and data 2
marks
print(df1)
print(df1[df1["EMP_Name"]=="Karan"],"\n",df1[df1["EMP_Name"]=="Anisha"])   ---
2marks
```