

REVISION TEST - 1

Class XII

INFORMATION PRACTICES
SET A

Time : 1½ hrs.
Marks : 35

SECTION A. EACH CARRIES 1 MARK

- Missing data in pandas is represented through:
 - Null
 - None
 - Missing
 - NaN
- Mr X sitting on hot seat of KBC game of Sony TV and Mr Amitabh Bachhan ask a question to Mr X that one of the statement is not correct. You help to Mr X for finding the correct answer :
 - import matplotlib.pyplot
 - matplotlib.PyPlot as pl
 - import matplotlib.pyplot as plt
 - matplotlib.pyplot.plot(x,y)
- Read the following code: Identify the purpose of this code and choose the right option from the following.
C:\Users\YourName\AppData\Local\Programs\Python\Python36-32\Scripts>pip – version
 - Check if PIP is Installed
 - Install PIP
 - Download a Package
 - Check PIP version
- Assertion (A): Empty series can be created by using Series () function.
Reason (R): Series () function can create empty series having no values.
 - (A) is False but (R) is True
 - (A) is True but (R) is False
 - Both are True and (R) is correct explanation of (A)
 - Both are True but (R) is not correct explanation of (A)
- What will be output for the following code?

```
import pandas as pd
s = pd.Series([1,2,3,4,5],index = ['a','b','c','d','e'])
print s['a']
```

 - 1
 - 2
 - 3
 - 4
- What is correct syntax to add the labels “x”, “y” and “z” to a Pandas Series?
 - pd.Series(mylist, names = ["x", "y", "z"])
 - pd.Series(mylist, index = ["x", "y", "z"])
 - pd.Series(mylist, lables = ["x", "y", "z"])

- D. `pd.Series(mylist, renames = ["x", "y", "z"])`
7. Choose correct from the following:
- A column in Dataframe can have different data type for its values
 - Different columns of the dataframe can have different values
 - A column in the Dataframe can have only one datatype
 - ii and iii

SECTION B. VERY SHORT ANSWER QUESTIONS. EACH CARRIES 2MARKS

8. What will be the output of following code
- ```
import pandas as pd
s1=pd.Series([1,2,2,7,'Sachin',77.5])
print(s1.head())
print(s1.head(3))
```
9. Differentiate between Pandas Series and NumPy Arrays
10. Write a python program to create a data frame with headings (CS and IP) from the list given below-
- ```
[[79,92],[86,96],[85,91],[80,99]]
```
11. Write a program to create a series from a given Tuple data
- ```
data=('1','Aman',86.3,'A')
```
12. Give the output:
- ```
import pandas as pd
name=['Raj','Ankur','Harsh']
p=pd.Series(name,index=[2,5,6])
print(p) p1=p.reindex([2,5])
print (p1)
```

SECTION C- SHORT ANSWER QUESTIONS. EACH CARRIES 3 MARKS

13. Write a program to modify the value 5000 to 7000 in the following Series "S1"
- 25000
 - 12000
 - 8000
 - 5000
- ii) Complete the code to get the required output :
- ```
import _____ as pd
_____ = pd.Series([31, 28, 31], index = ["Jan", "Feb", "Mar"])
print(S1["_____"])
OUTPUT :
```
- 28
14. Virat has created a Series 'sale' which stores sale of a week.
- 40.0
  - 32.0
  - NaN
  - 44.0
  - 28.0
  - NaN
  - 50

His boss asked him to do some task which are given below. Help him to write appropriate command for them.

- i) Count missing or unknown values
- ii) Alter the index of sale to weekday names
- iii) Reset sale to 0

15. i) What do you mean by Series in Python?

ii) Find the output of given code-

```
S= pd.Series([3,6,8])
print(S.index)
```

**SECTION D-LONG ANSWER QUESTIONS. EACH CARRIES 5 MARKS**

16. Consider the following Data Frame df and answer questions

```
Delhi mumbai
kolkatta chennai
hospitals 200 300 100 50
population 10 20 30 40
schools 250 350 400 200
```

- i. Display details of city delhi and chennai
- ii. Display hospitals in delhi
- iii. Display shape of dataframe
- iv. Change the population in kolkatta as 50
- v. Rename the column population as "pop"

**OR**

M/s ComTech Systems pvt. Ltd. is a company dealing in IT products, following dataframe **dfp** is an extraction their database to be analyzed for making policy decisions before actual analysis basic tasks are to be done. Answer following questions to perform these basic tasks:

|            | Brand      | Model  | Price | Qty   |
|------------|------------|--------|-------|-------|
| KEYBOARD   | P INFOTECH | P15    | 800   | 525.0 |
| KEYBOARD   | KTEK       | CPK13  | 350   | 400.0 |
| LAPTOP     | KTEK       | TEKO   | 35500 | 120.0 |
| LAPTOP     | P INFOTECH | RISE14 | 45000 | 50.0  |
| LAPTOP     | P INFOTECH | KP3902 | 68000 | 20.0  |
| MICROPHONE | CPD        | M29    | 590   | 100.0 |
| MONITOR    | P INFOTECH | M21H   | 8800  | 80.0  |
| MOUSE      | CPD        | TTP21  | 300   | NaN   |
| MOUSE      | KTEK       | KT-32  | 850   | 120.0 |
| SPEAKER    | CPD        | SP51   | 4500  | 120.0 |
| TV         | PERIO TEK  | LD32   | 22000 | 55.0  |
| TV         | PERIO TEK  | LD43   | 35000 | 22.0  |
| TV         | MAGNATECH  | R32    | 18000 | 35.0  |
| UPS        | KTEK       | PS600  | 1800  | 200.0 |
| UPS        | MAGNATECH  | LP1200 | 2500  | 115.0 |
| WEBCAM     | P INFOTECH | WC2500 | 3500  | 55.0  |
| WEBCAM     | PERIO TEK  | MP340  | 1200  | 80.0  |

- I. Which statement will remove the column Model from the dataframe:
- II. which statement will delete all the rows having label LAPTOP from the existing dataframe:
- iii. Which statement will give a new dataframe after renaming the column Brand as Comp and Row label laptop as NBOOK
- iv. Which of the following statement is correct to get a new dataframe newdf after deleting column Qty:
- v. Which of the following is correct to Retrieve the details of all products from Brand KTEK and pricing more than 25000

**SECTION E: CASE STUDY. Attempt any four**

**4**

17. Anisha is a commerce teacher and working to analyze student's data. She has create a dataframe **dfm** as given below. Help her by answering the questions that follows

|               | ENG  | BST  | ACC  | IP   | ECO  |
|---------------|------|------|------|------|------|
| <b>RICHA</b>  | 85.0 | 88.0 | 85.0 | 96.0 | 88.0 |
| <b>RAGHAV</b> | 74.0 | 92.0 | 75.0 | 89.0 | 76.0 |
| <b>MANISH</b> | 65.0 | 74.0 | 62.0 | 77.0 | 63.0 |
| <b>DAVID</b>  | 83.0 | 65.0 | 89.0 | 83.0 | NaN  |
| <b>AMIT</b>   | 82.0 | 72.0 | NaN  | 92.0 | 90.0 |
| <b>PRAGYA</b> | 56.0 | NaN  | 74.0 | 73.0 | 68.0 |
| <b>AVIKA</b>  | 63.0 | 91.0 | 62.0 | 84.0 | 79.0 |
| <b>RAHUL</b>  | 75.0 | 64.0 | 78.0 | 67.0 | 91.0 |
| <b>VEENA</b>  | 88.0 | 75.0 | 91.0 | NaN  | 82.0 |
| <b>ROHINI</b> | 65.0 | 82.0 | 76.0 | 86.0 | 81.0 |

- i) Which statement will be used to show the marks of Amit in IP
- ii) Which of the following will be used to show the columns of IP and BST only where IP is first and then BST is second column:
- iii) If the rows of ROHINI, AVIKA, DAVID are to be shown along with all subject columns where the order of Rows should be ROHINI, AVIKA and DAVID what should be the statement ?
- iv) Which statement will be used to score of MANISH, AMIT and PRAGYA in subject ENG, BST and IP.
- v) Which of the following statement will be used to show the details of ENG, BST and ECO columns.

# REVISION TEST SERIES - 1

Class XII

INFORMATION PRACTICES  
SET B

Time : 1½ hrs.  
Marks : 35

## SECTION A. EACH CARRIES 1 MARK

1. Which of the following library in Python is used for plotting graphs and visualization.

- a) Pandas
- b) NumPy
- c) Matplotlib
- d) None of the above

2. Way to install the pandas library ?

- a) install pandas
- b) pandas install python
- c) python install pandas as p
- d) from pandas import \*
- e) All of the above

3..Assertion (A): While creating Series by specifying data as scalar value, index must be provided.

Reason(R): The scalar value repeated to match the length of index.

- a) (A) is False but (R) is True
- b) (A) is True but (R) is False
- c) Both are True but (R) is not correct explanation of (A)
- d) Both are True and (R) is correct explanation of (A)

4. For given two sequences

```
x=[10,20,30,40]
```

```
y=['M','N','O','P']
```

to create a series which of the following is not correct?

- a) S=pd.Series(data=x,index=y)
- b) S=pd.Series(x,index=y)
- c) S=pd.Series(x,y)
- d) S=pd.Series(data=x,index=y,type=np.float64)

5 .To display 2nd element of Series object s, we can use

- A. s[2]
- B. s[1]
- C. s[:1]
- D. s[:2]

6.Shardul wants to display 10 values from the bottom/end of series 's2'. Mitali suggest him to write following commands:

(i) print(s2.tail(10))

(ii) print(s2[s2.count()-10:])

What do you think about both the commands?

- a. (i) True (ii) False
- b. (i) False (ii) True
- c. Both are True
- d. Both are False

7. Which function is used to iterate over all columns in the Dataframe?

- a) iterrows()
- b) iteritems()
- c) itercolumns()
- d) itervertical()

OR

Consider the following code :

```
for (x,y) in df.iterrows():
print(x)
print(y)
```

What is the data type of y?

- a) Series
- b) Dataframe
- c) Tuple
- d) List

### VERY SHORT ANSWER QUESTIONS

5 x 2 =10

8. Write the output of the following :

```
import numpy as num
import pandas as pd
arr=num.array([1,7,21])
S1 = pd.Series(arr)
print(S1)
```

9. Name three data structures available in Pandas.

10. A dictionary data ={'a':0.,'b':1.,'c':2} is given.

Write a program to create series from dictionary data.

11. Give the output:

```
import pandas as pd
data ={'a':0,'b':1.,'c':2.}
s =pd.Series(data,index=['b','c','d','a'])
print(s)
```

12. Write a program to create a series from ndarray with elements 'a','b','c','d'

OR

Write python statement to delete the 3rd and 5th rows from dataframe df.

### SHORT ANSWER QUESTIONS

3 x 3 =9

13. i) Write a program to display only those values greater than 200 in the given Series "S1"

```
0 300
1 100
2 1200
3 1700
```

ii) Fill in the blank of given code, if the output is 71.

```
import pandas as pd
S1 = pd.Series([10, 20, 30, 40, 71,50])
print(S1[_____])
```

14. Richa is analyzing Gross Enrolment Ratio in Higher Education of India in respect of marginalized sections and created following Dataframe dfGER:

**Df GER**

|             | <b>SC</b> | <b>ST</b> |
|-------------|-----------|-----------|
| <b>2015</b> | 19.10     | 13.70     |
| <b>2016</b> | 19.90     | 14.20     |
| <b>2017</b> | 21.10     | 15.40     |
| <b>2018</b> | 21.80     | 15.90     |
| <b>2019</b> | 23.00     | 17.20     |

- i) She wants to add a column “**All**” with values 24.30,24.50,25.20,25.80, & 26.30 respectively for each year, Write the statement
- ii) She wants to see the data in respect of years 2016,2017 & 2018. Write the statement
- iii) Write the statement to be used for used to remove the row containing the details of 2015 from the Dataframe

15. Write a program to find the Total salary of all employees in the dataframe employee without using any aggregate function.

**LONG ANSWER QUESTIONS. EACH CARRIES 5 MARKS**

**1 x 5 =5**

16. Consider the following Data Frame df and answer questions

```
ACC BST ECO IP
S1 90 91 92 93
S2 94 95 96 97
S3 98 99 100 100
S4 91 92 93 94
```

- i. Create a new column total TOT by adding marks
- ii. Find the highest marks scored by student s1
- iii. Find the lowest marks scored by student s1
- iv. Find the highest marks in ACC
- v. Find the lowest marks in IP

OR

Consider the following Data Frame df and answer questions

Write the output of the following

- i. `print(len(df))`
- ii. `print(df.count())`
- iii. `print(df.count(1))`
- iv. `print(min(df.loc['SALARY']))`
- v. `print(max(df.loc['ENAME']))`

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