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EDAPALLY

TIME : 1.5hrs **SUBJECT: INFORMATICS PRACTICES** **MAX.MARKS: 30**

GENERAL INSTRUCTIONS

1.The paper is divided into 4 sections A, B and C,D.

2. All questions are compulsory. All programming questions are to be answered using Python Language only.

3. Section A, consists of 6 questions(1-5). Each question carries 1 mark.

4. Section B, consists of 4 questions(6-9). Each question carries 2 marks.

5. Section C, consists of 3 questions(10-12). Each question carries 3 marks.

6. Section D, consists of 3 questions(13-14). Each question carries 4 marks.

7. Write down the correct option completely for MCQs.

Q.no SECTION-A Marks

1. **Choose the correct way to import pandas module:** 1
a)import pandas as s
b)import pandas
c)from pandas import *
d)all of the above

2. **State whether true or false:** 1
Series are value mutable but size immutable.

3. **Which among the following is correct format to access an element in a series:** 1
a) print(s['Firefox'])
b)print(s.Firefox)
c)print(s.Firefox())
d)Both a and b

4. Given the code: 1
import pandas as pd
s=pd.Series(list('abcdefghij'))
Which among the following will produce output below:

```
9    j
6    g
3    d
0    a
dtype: object
```

a)s[: : -2] **b)s[: : -3]**
c)s[: : 2] **d)s[: -2:-2]**

5. Suppose we have series S containing 6 elements.Given below are 4 statements.**Which pair** 1

will produce the same output?
I .S.tail(4) II . S.tail(-2) III. S.tail(-3) IV. S.tail(2)

a) I and II b)II and III
c) III and IV d) IV and I

SECTION-B

6. **Predict the output:** 2

```
import pandas as pd
S=pd.Series([10,20,30,40,50,60])
print("The original element of the series:")
print(S) #Statement1
S[2:5]=30
print("Editted series is:")
print(S) #Statement2
```

7. **Consider the following series:** 2

```
>>> seriesCapCntry = pd.Series(['NewDelhi', 'WashingtonDC', 'London', 'Paris'],
index=['India', 'USA', 'UK', 'France'])
```

What will be the output of:

a)seriesCapCntry[[3,2]] ?

b)seriesCapCntry[: : -1] ?

8. **Suppose you have a series:** 2

```
s = pd.Series(=[3, 2, 1, 4], index=['a', 'b', 'c', 'd'])
```

Write the command to do the following:
a)Sort in ascending order of index
b)Sort in descending order of values

9. **Find the output:** 2

```
import pandas as pd
ind = ['Firefox', 'Chrome', 'Safari', 'IE10', 'Konqueror']
s=pd.Series([1,2,3,4,5],index=ind)
print(s)  #Statement1
new_index = ['Safari', 'Iceweasel', 'Comodo Dragon', 'IE10',
            'Chrome']
print(s.reindex(new_index)) #Statement2
```

SECTION-C

10. **Fill in the blanks with appropriate functions:** 3

```
import pandas as pd
import numpy as np
s=pd.Series(list('CONGRAGULATIONS'))
s1=s._________________ #1command to remove elements at even indexes like 0,2,4 etc
print(s1)
```

```
s[10:13]=np.nan
s2=s._____ #2command to remove NaN values
print(s2)
s3= s._____ #3command to remove duplicate elements
```

11. **a)What is Boolean indexing in pandas series?Explain with an example.** 3

b)What will be the output:

```
import pandas as pd
s=pd.Series([25,45,34,67,55],index=list('abcde'))
print(s>40) #Statement1
print(s[s>40]) #Statement2
```

12. **Enumerate any 3 advantages of using Numpy Array over Normal List in Pandas.** 3

SECTION-D

13. **Read the following code and find the output of each line:** 4

```
import pandas as pd
import numpy as np
s=pd.Series([5,6,7,8,9,np.nan,11,12,13,14],index=list('abcdefghij'))
print(s.index) #line1
print(s.size)  #line2
print(s.hasnans) #line3
print(s.shape)  #line4
print(s.head(3))  #line5
print(s.tail(2))  #line6
print(s.head(-5))  #line7
print(s.count()) #line8
```

14. **Write a python code to create a pandas series having the numbers as index and their cubes the values of series using a mathematical operation.** 4

--------END OF PAPER-------