INDIAN SCHOOL SOHAR
UNIT TEST I (2022-23)
INFORMATICS PRACTICES (065)
SET I

CLASS: XII
DATE: 24/05/2022

MAX. MARKS: 20
TIME: 45 MINUTES

GENERAL INSTRUCTIONS:

- The question paper is divided into 3 sections – A, B and C
- **Section A** – consists of 5 questions (1-5). Each question carries 1 mark.
- **Section B** – consists of 3 questions (6-8). Each question carries 2 marks.
- **Section C** – consists of 3 questions (9-11). Each question carries 3 marks.

Q. No	SECTION – A Each question carries 1 mark Question	Marks

1.	State whether True or False:
	    a) We need to define an index in Pandas.
	    b) A Series object can store only homogeneous elements.
		1

2.	How many values will be there in data1, if the given code is not returning any error? >>> S4 = pd.Series(data1, index = ["Delhi", "Chennai", "Mumbai", "Agra"])	1
3.	Missing data in Pandas series and dataframe can be filled with a .... value	1

4.	Consider the command given below based on a dataframe DF and select the correct explanation.
	print(DF[2014]+ 200)
	    a) A new row is added to the dataframe with the increased values.
	    b) It will increase the value of 2014 by 200 in dataframe DF and display the dataframe.
	    c) It will only display the increased values of 2014 by 200.
	    d) It will return error.
		1

5.	Navami wants to display the first four rows of the dataframe **stud** and has written the following code: stud.head() But she is not getting the desired output. Identify the error and rewrite the correct code so that first 4 rows get displayed.	1
	SECTION – B Each question carries 2 marks	
6.	Jhanvi is a professional blogger. She wants to blog on the topic Pandas data structure. Help her to define a dataframe and its characteristics.	2
7.	Consider the Pandas series **S1** given below. 0 10.0 1 52.0 2 35.0 3 92.0 4 NaN 5 25.0	2

Write code to:
a) Count the number of values less than 50 from the series.
b) Arrange the series in descending order of their values.

| 8. | Write the output of the following code: | 2 |
| | a) |
| | ```
import numpy as n
import pandas as pd
A=n.array([1,10,21])
S1 = pd.Series(A, index =[11,111])
print(S1)
``` |
| | b) |
| | ```
import pandas as pd
val = pd.Series([1,5,9], index = ["A","B","C"])
print(val[2]>9)
``` |

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SECTION – C
Each question carries 3 marks

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| 9. | Ram has created a Pandas dataframe **topDf** as given below: | 3 |

```
        Roll   Name   Marks
Sec A   115    Pavni  97.5
Sec B   236    Rishi  90.0
Sec C   307    Preet  96.5
Sec D   422    Paula  89.0
```

Ram wants to perform some operations with the above dataframe. Help him to write codes to:
 a) Create the dataframe topDf from a dictionary of Series.
 b) Change the column label "Roll" to "Rollno".
 c) Delete the second last row from the dataframe.

| 10. | Consider the dataframe **topDf** (refer Q9) and write the output: | 3 |

 a) print(topDf.loc[:,'Marks']>90)
 b) print(topDf.iat[1,2])
 c) print(topDf.count( ))

| 11. | Ashiq stores some data in the form of a nested dictionary. Later on he created a dataframe "**section**" from a 2D dictionary by writing the following code. | 3 |

```
import pandas as pd
X = {'H': {'a':10,'b':20,'d':10}, 'G': {'a':5,'b':10,'c':20}}
section = pd.DataFrame(X)
print(section)
```

Consider the above dataframe and answer the following questions:
 a) How many row(s) will be there in the above dataframe?
 b) Write code to add a new column" C1" with value 50 to the dataframe.
 c) Write code to fetch both index and column names of the dataframe.

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