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

CLASS: XII   MAX. MARKS: 20
DATE: 24/05/2022   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	Marks
	Question	
1.	State whether True or False: a) In Pandas, dictionary keys can be used as index in series while column names in the dataframe. b) A Series object stores ordered collection of data that can store data of different type.	1
2.	Which parameter of drop( ) function is used to specify the row or column to be delete?	1
3.	Dataframe has .... indices.	1
4.	Consider the command given below based on a dataframe DF and select the correct explanation. print(DF[2014] + 200) a) It will increase the value of 2014 by 200 in dataframe DF and display the dataframe. b) It will only display the increased values of 2014 by 200. c) A new row is added to the dataframe with the increased values. d) It will return error.	1
5.	Navami wants to display the last four rows of the dataframe **stud** and has written the following code: stud.tail() But she is not getting the desired output. Identify the error and rewrite the correct code so that last 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 Dataframe. Help her to state the difference between 'at' and 'iat' with respect to a Dataframe.	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) Display the multiple of 5 from the Panda series.
b) Arrange the series in ascending order of their index.

8.	Write the output of the following code:	2

a) import numpy as n
```
   import pandas as pd
   A=n.array([1,11])
   S1 = pd.Series(A, index =[1,11,111])
   print(S1)
```

b) import pandas as pd
```
   val = pd.Series([1,5,9], index = ["A","B","C"])
   print(val[1]<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 list of dictionaries.
b) Display the Marks of Sec C student.
c) Add a new column 'Class' of value 'XII' between Roll and Name column.

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

a) print(topDf.loc[[True,True,False,False]])
b) print(topDf.count(0))
c) topDf.set_index('Marks',inplace=True)
    print(topDf)

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

Consider the above dataframe and answer the following questions:
a) How many NaN(s) will be there in the dataframe "section"?
b) Write code to display the numpy representation of the dataframe.
c) Write code to change the entire values of the last row to 0.

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