



INDIAN SCHOOL SOHAR  
UNIT TEST I (2024-25)  
INFORMATICS PRACTICES (065)  
SET -2

CLASS : XII  
DATE : 21/05/2024

MAX.MARKS :20  
TIME: 40 MINS.

**General Instructions:**

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A has 6 questions each carrying 01 mark.
4. Section B has 1 Very Short Answer type questions carrying 02 marks.
5. Section C has 1 Short Answer type questions carrying 03 marks.
6. Section D has 1 Long Answer type questions carrying 04 marks with internal choice provided against **part iii**.
7. Section E has 1 internal choice based question carrying 05 marks.

**SECTION A**

1. Which of the following statement is wrong? 1  
a. We can't change the index of the Series.      b. We can easily convert the list, tuple, and dictionary into a series.  
c. A Series represents a single column in memory.      d. We can create an empty Series.
2. What type of error is returned by the following statements? 1  
import pandas as pa  
pa.Series ([1, 2, 3, 4,], index = 'a', 'b', 'c', 'd')  
a. Value Error      b. Name Error  
c. Syntax Error      d. Logical Error
3. To iterate over vertical subsets of a dataframe , \_\_\_\_ function may be used. 1  
a. iterrows()      b. iterate()  
c. iteritems()      d. itercols()
4. For a dataframe **df**, **df.values** returns a \_\_\_\_\_. 1  
a. 2-d array      b. 2-d lists  
c. 2-d dictionary      d. 2-d Series objects

Q5 and Q6 are **ASSERTION AND REASONING** based questions. Mark the correct choice as :

- a. Both A and R are true and R is the correct explanation for A
  - b. Both A and R are true and R is not the correct explanation for A
  - c. A is True but R is False
  - d. A is False but R is True
- 
5. **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.

6. **Assertion (A):** A series object is size mutable. 1  
**Reason (R):** Series supports addition and deletion of values from it.

**SECTION-B**

7. Write any 1 similarity and difference between Series and Dataframe. 2

**SECTION-C**

8. Write the code in python to create and display : 1+2  
i. The following Series object **s1** using an array.

**s1**

**101** BBB

**102** NaN

**103** CCC

**104** DDD

**105** EEE

- ii. The following Dataframe object **df1** using list of dictionaries.

	Year	Month	Passengers
<b>Air India</b>	2010	Jan	25
<b>Indigo</b>	2010	Mar	50
<b>Spicejet</b>	2012	Jan	35
<b>Jet</b>	2010	Dec	55
<b>Emirates</b>	2012	Dec	65

**SECTION-D**

9. Given a Series object **ser1** as follows: 1+1+2

**ser1**

**1004** a

**1003** c

**1002** b

**1005** e

**1001** d

Answer the questions given below.

- i. Display **ser1** in descending order of its index.  
ii. Display the last 2 elements from **ser1**.  
iii. Predict the output of the following code:

```
print(ser1[3:])
```

```
print(ser1[ser1=='b'])
```

**OR**

Predict the output of the following:

```
print(ser1.shape)
```

```
print(ser1.index)
```

**SECTION E**

i. A data-centre stores details of City-wise information in a Dataframe **cities** as follows:

5

	Population	Schools	Hospitals
Chennai	40	200	500
Delhi	10	250	200
Kolkata	30	400	100
Mumbai	20	350	300

Write the statement(s) in Python to do the following:

- i. Add a new column **Tot\_Buildings** which is the sum of **Schools** and **Hospitals**.
- ii. Display the records of **Chennai** and **Mumbai**.
- iii. Display the number of hospitals in Chennai and Delhi.
- iv. Display the dataframe in descending order of Population.
- v. Add a new row for the city Pune with the values: 35, 290, 210.

**OR**

- i. Rename the column 'Population' as 'Pop\_density'.
- ii. Display the number of schools in **Kolkata**
- iii. Display the details of **cities** where **the number of schools is less than 300**.
- iv. Delete the details of **Delhi**.
- v. Reduce the number of Hospitals in Mumbai by 5.