

LIONS SCHOOL MIRZAPUR
Pre-Board Examination (2021-22)
Term - 1

Class: XII
Min

Time: 90

Subject: Informatics Practices (065)
M.M.: 35

General Instructions:

- *The paper is divided into 3 Sections- A, B and C.*
- *Section A, contains 20 questions from 1 to 20.*
- *Section B, contains 20 questions from 21 to 40.*
- *Section C, contains 5 questions from 41 to 45.*
- *Attempt all the questions.*
- *All questions carry equal marks.*

Section - A

Q1: You were not able to create the IP project, therefore you download a project from the internet and submitted it to your teacher by your name. This wrong/unethical act is considered as _____

- a) Copyright b) Hacking c) Plagiarism d) Trademark

Q2: Which argument would you give to read_csv() if you only want to read top 10 rows of data?

- a) Skiprows b) Header c) Head d) nrows

Q3: Out of the following, which crime(s) will come under cyber crime category?

- a) Identity theft b) Invasion of privacy
c) Online harassment d) All of the above

Q4: Technology not protected by copyright and available to everyone, is categorized as:

- a) Proprietary b) Open Source c) Experimental

d) Shareware

Q5: Indian law to deal with cyber crime is :

- a) Cyber Act (CA) b) Internet Act (IA) c) IT Act (ITA) d) www Act (WWWA)

Q6: E-waste is harmful to the environment and human health if not properly treated or disposed of, therefore they must be handled with care. What are the health hazards which can be caused by E-waste?

- a) Lung cancer b) DNA damage c) Brain damage d) All of the above

Q7: Why does following code causes error?

```
dfc1 = pd.DataFrame( [2, 3, 4] )  
dfc2 = pd.DataFrame( [ [2, 3, 4] ] )  
print(dfc1 == dfc2)
```

- a) Due to missing **data** attribute in DataFrame
b) Due to missing **data & index** attribute in DataFrame
c) Due to mismatch of dimension of DataFrame
d) Due to nested list given in DataFrame

Q8: _____ is a license that gives right opposite to copyright.

Q9: If S1 is a series object then how will len(S1) and S1.count() behave?

- a) Both will print the same value
b) Len print max index value and count print no of rows
c) Len print no of rows and count print non-NaN value
d) Len print no of rows and count print max index value

Q10: _____ is an injury or disorder of the muscles, nerves, tendons, ligaments and joints.

Q11: To display the 3rd, 4th and 5th columns from the 6th to 9th rows of a dataframe DF, you can write

a) DF.loc[6:9, 3:5]

b) DF.loc[6:10, 3:6]

c) DF.iloc[6:10, 3:6]

d) DF.iloc[6:9, 3:5]

Q12: Every activity you perform on the Internet is saved for how long?

a) one month

b) as per my setting

c) one year

d) forever

Q13: Which of the following is a type of program that either pretends to have, or is described as having, a set of useful or desirable features but actually contains a damaging code.

a) Trojans

b) Viruses

c) Worm

d) Adware

Q14: Which one of the following is an attribute of the series object in Pandas to set the index label for the given object

a) Label

b) Index

c) loc

d) All of the

above

Q15: Which of the following tracks your internet browsing habits and sends you popups containing advertisements related to the sites and topics you've visited?

a) Trojans

b) Viruses

c) Worm

d) Adware

Q16: Write Python code to create a series object Temp2 storing temperature of seven days of week. Its indexes should be 'Sunday', 'Monday', 'Saturday'.

a) import pandas as pd

```
S1 = pd.Series(data = [35, 35, 36, 30, 32, 33, 35])
```

```
print(S1)
```

b) import pandas as pd

```
S1 = Series(data = [35, 35, 36, 30, 32, 33, 35],\
```

```
index = ["Sunday", "Monday", "Tuesday", "Wednesday", "Thursday",
```

```
"Friday", "Saturday"])
```

```
print(S1)
```

c) import pandas as pd

```
S1 = pd.Series(data = [35, 35, 36, 30, 32, 33, 35],\
index = ["Sunday", "Monday", "Tuesday", "Wednesday", "Thursday",
"Friday", "Saturday"])
print(S1)
```

d) import pandas as pd

```
S1 = pd.Series(data = [35, 35, 36, 30, 32, 33, 35],\
idx = ["Sunday", "Monday", "Tuesday", "Wednesday", "Thursday",
"Friday", "Saturday"])
print(S1)
```

Q17: Given following series objects, What will be the result of S1 - S2?

0	3
1	5
2	6
4	10
5	12

0	12
2	10
3	15
4	20
6	27

a) 0 9.0
1 NaN
2 4.0
3 NaN
4 10.0
5 NaN
6 NaN
dtype: float64

b) 0 9.0
1 NaN
2 -4.0
3 NaN
4 10.0
5 NaN
6 NaN
dtype: float64

c) 0 -9.0
1 NaN
2 -4.0
3 NaN
4 -10.0
5 NaN
6 NaN
dtype: float64

d) 0 -9.0
0 NaN
1 -5.0
2 -9.0
4 -10.0
5 -15.0
dtype: float64

Q18: Find the error and choose the correct version of code -

```
data = np.array( ['a', 'b', 'c', 'd', 'e', 'f'] )
s = pd.Series(data, index = [100, 101, 102, 103, 104, 105] )
print( s[102, 103, 104] )
```

- a) import pandas as pd
import numpy as np
data = np.array(['a', 'b', 'c', 'd', 'e', 'f'])
s = pd.Series(data, index = [100, 101, 102, 103, 104, 105])
print(s[2:5])
- b) import pandas as pd
import numpy as np
data = np.array(['a', 'b', 'c', 'd', 'e', 'f'])
s = pd.Series(data, index = [100, 101, 102, 103, 104, 105])
print(s[2:4])
- c) import pandas as pd
import numpy as np
data = np.array(['a', 'b', 'c', 'd', 'e', 'f'])
s = pd.Series(data, index = [100, 101, 102, 103, 104, 105])
print(s[102:105])
- d) import pandas as pd
import numpy as np
data = np.array(['a', 'b', 'c', 'd', 'e', 'f'])
s = pd.Series(data, index = [100, 101, 102, 103, 104, 105])
print(s[102:104])

Q19: Given a series object S13 as shown below =>

A	7600
B	5600
C	7000
D	7000
dtype:	int64

Why is the following code producing error while working on Series object S13?
Suggest the correct code -

```
import pandas as pd
S13.index = range(0, 5)
print(S13)
```

- a) `S13.index = range(0, 4)`
`print(S13)`
- b) `S13[0:5] = range(0, 5)`
`print(S13)`
- c) `S13.index = range(0, 3)`
`print(S13)`
- d) `S13.values = range(0, 4)`
`print(S13)`

Q20: Given a data frame namely **data** as shown in adjacent figure (fruit names are row labels). Choose the correct code to do the following -

	Color	Count	Price
Apple	Red	3	120
Apple	Green	9	110
Pear	Red	25	125
Pear	Green	26	150
Lime	Green	99	70

- i) Find all rows with the label “Apple”. Extract all columns.
- ii) List only the columns Color and Price using loc.
- iii) List only rows with labels “Apple” and “Pear” using loc.

- a)** `data.loc['Apple']`
`data.loc['Color', 'Price']`
`data.loc['Apple', 'Pear']`
- b)** `data.loc['Apple', :]`
`data.loc['Color', 'Price']`
`data.loc[['Apple', 'Pear']]`
- c)** `data.loc['Apple']`
`data.loc[:, ['Color', 'Price']]`
`data.loc[['Apple', 'Pear']]`
- d)** `data.loc['Apple', :]`
`data.loc[:, ['Color', 'Price']]`
`data.loc[['Apple', 'Pear']]`

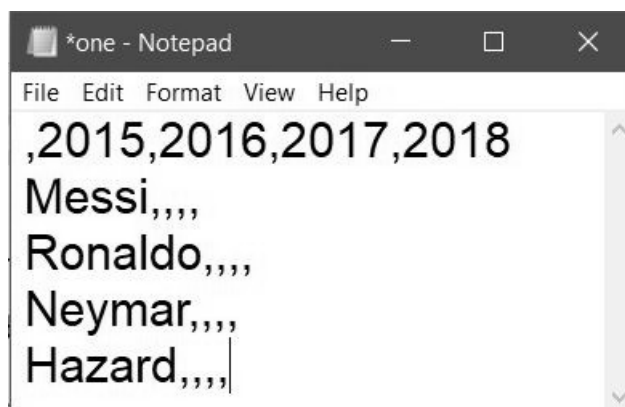
Section - B

Q21: Consider the following code and figure out what it is trying to do? The pandas library has been imported.

```
pd.read_csv ("data.csv", skiprows = [1, 2, 3, 4], header = None,
index_col= 'Ename')
```

- a) The above code is reading a csv file namely data.csv and it will read the mentioned row numbers given in the list for skiprows argument, will not read column header row as dataframe column headings and will display index labels as Ename.
- b) The above code is reading a csv file namely data.csv and it will skip the mentioned row numbers given in the list for skiprows argument, will not read column header row as dataframe column headings and will create dataframe's index labels from column Ename's values.
- c) The above code is reading a csv file namely data.csv and it will skip the mentioned row numbers given in the list for skiprows argument, will not display column header in dataframe and will create dataframe's index labels from column Ename's values.
- d) The above code is reading a csv file namely data.csv and it will skip the mentioned row numbers given in the list for skiprows argument, will not read column header row as dataframe column headings and will create dataframe's column header as Ename's values.

Q22: To display the following CSV files, complete the following code section --



```
import pandas as pd
```

```

columns = ['2015', '2016', '2017', '2018']
index = _____
df = pd.DataFrame(_____, index=index)
print(df)
df.to_csv("C:\one.csv")

```

Q23: Given the following Series -

Series = **S1**

0	2
1	3
2	1
dtype:	
int64	

predict the output of the following code -

```
print(S1**3)
```

```
print(S1*3)
```

a)

0	8
1	27
2	1
dtype: int64	

0	6
1	9
2	3
dtype: int64	

b)

0	2
1	3
2	1
0	2
1	3
2	1
0	2
1	3
2	1
dtype: int64	

0	6
1	9
2	3
dtype: int64	

c)

0	8
1	27
2	1
dtype: int64	

ERROR

d) ERROR

0	6
1	9
2	3
dtype: int64	

Q24: Find the error in the following code fragment & choose the correct version of code --

```
S2 = pd.Series( [101, 102, 102, 104] )
print(S2.index)
S2.index = [0, 1, 2, 3, 4, 5]
S2[5] = 220
print(S2)
```

a) import pandas as pd
S2 = pd.Series([101, 102, 102, 104])
print(S2.index)
S2.index = [0, 1, 2, 3, 4]
S2[3] = 220
print(S2)

b) import pandas as pd
S2 = pd.Series([101, 102, 102, 104])
print(S2.index)
S2.index = [0, 1, 2, 3]
S2[3] = 220
print(S2)

c) import pandas as pd
S2 = pd.Series([101, 102, 102, 104])
print(S2.index)
S2.index = [0, 1, 2, 3, 4]
S2[4] = 220
print(S2)

d) import pandas as pd
S2 = pd.Series([101, 102, 102, 104])
print(S2.index)
S2.index = [0, 1, 2, 3]
S2[104] = 220
print(S2)

Q25: Pushp, a student of class-XII, has been assigned a code to create a panda series S1, as shown below.

```
a    100
b    200
c    300
d    400
e    500
dtype: int64
```

With reference to the above series answer the following question:

Pushp wants to delete the value against index 'd'. Help him to choose the suitable option to do so:

a) S1=S1.drop(d)

- b) S1=S1.drop('d')
- c) S1=drop('d')
- d) S1=S1.drop['d']

Q26: _____ are the attempts by individuals to obtain confidential information from you through an original looking site and URL.

- a) Phishing scams
- b) Spoofing
- c) Eavesdropping
- d) Pharming

Q27: The attack that focuses on capturing small packets from the network transmitted by other computers and reading the data content in search of any type of information is _____.

- a) Phishing
- b) Eavesdropping
- c) Scams
- d) PC intrusion

Q28: Jai is an IT expert and a freelancer. He recently used his skills to access the administrator password for the network server of MegaTech Corporation Ltd. And provided confidential data of the organization to its Director, informing him about the vulnerability of their network security. Out of the following options (i) to (iv), which one most appropriately defines Jai? Justify the answer for your chosen option :

- i) Hacker
- ii) Cracker
- iii) Operator
- iv) Network Admin

Q29: Nowadays children are fond of playing computer games. What is the health hazard that can occur due to excessive use of computer/smart phone screens?

- a) Internet addiction disorder (IAD)
- b) Computer Vision Syndrome (CVS)
- c) Repetitive Strain Injury (RSI)
- d) Games addiction disorder (GAD)

Q30: Which of the following is a disadvantage of 'open source' software?

- a) High quality software with lots of features
- b) Not as customizable
- c) May not have been tested as much as proprietary software, so might have bugs.
- d) You can edit the source code to customize it.

Q31: Which argument of bar() lets you set the thickness of bar?

- a) Height
- b) thickness
- c) Width
- d) size

Q32: Name the functions you will use to create a (i) line chart (ii) bar chart

- a) matplotlib.pyplot.plot()
matplotlib.pyplot.bar()
- b) matplotlib.pyplot.line()
matplotlib.pyplot.bar()
- b) pyplot.plot()
pyplot.bar()
- b) matplotlib.line()
matplotlib.bar()

Q33: Using Python matplotlib _____ can be used to display information as a series of data points.

- a) Line chart
- b) Bar graph
- c) Histogram
- d) Scatter Chart

Q34: Out of the following, which function cannot be used for customization of charts in Python?

- a) xlabel()
xticks()
- b) colour()
- c) title()
- d)

Q35: Following code is plotting the desired graph but legends are not showing despite giving the legend() of PyPlot. What could be the reason? Suggest a solution for the problem.

```
plt.plot(x, y)
plt.plot(x, z)
plt.legend (loc = "upper left")
```

```

a) import matplotlib.pyplot as plt
x = [1,3,5,7,9]
y = [1,2,3,4,5]
z = [0,1,2,3,4]
plt.plot(x, y, color='r')
plt.plot(x, z, color='g')
plt.legend(loc = "upper left")
plt.show()

b) import matplotlib.pyplot as plt
x = [1,3,5,7,9]
y = [1,2,3,4,5]
z = [0,1,2,3,4]
plt.plot(x, y, color='r', label="Series1")
plt.plot(x, z, color='g', label="Series2")
plt.legend.show()
plt.show()

c) import matplotlib.pyplot as plt
x = [1,3,5,7,9]
y = [1,2,3,4,5]
z = [0,1,2,3,4]
plt.plot(x, y, color='r', label="Series1")
plt.plot(x, z, color='g', label="Series2")
plt.legend(loc = "upper left")
plt.show()

d) import matplotlib.pyplot as plt
x = [1,3,5,7,9]
y = [1,2,3,4,5]
z = [0,1,2,3,4]
plt.plot(x, y)
plt.plot(x, z)
plt.legend.show()
plt.show()

```

Q36: _____ is the function to save the graph.

- a) Savefig() b) Savefigure() c) Savegraph()
d) Savechart()

Q37: Given an ndarray p as ([1, 2, 3, 4]). Write code to plot a bar chart having bars for p and p**2 (with red color) and another bar for p vs p*2 (with blue color). (assume that libraries have been imported)

```

a) import matplotlib.pyplot as plt
import numpy as np

```

```
p = np.array(1,2,3,4)
plt.bar(p, p**2, color='r')
plt.bar(p, p*2, color='b')
plt.show()
```

```
b)import matplotlib.pyplot as plt
import numpy as np
p = np.array(1,2,3,4)
plt.bar(p, p**2, color='r', width=0.2)
plt.bar(p+0.2, p*2, color='b', width=0.2)
plt.show()
```

```
c)import matplotlib.pyplot as plt
import numpy as np
p = [1,2,3,4]
plt.bar(p, p**2, width=0.2)
plt.bar(p+0.2, p*2, width=0.2)
plt.show()
```

```
d)import matplotlib.pyplot as plt
import numpy as np
p = np.array([1,2,3,4])
plt.bar(p, p**2, color='r', width=0.2)
plt.bar(p+0.2, p*2, color='b', width=0.2)
plt.show()
```

Q38: Stat A) The Dataframe's Plot() function is a versatile function, which can plot all types of chart

Stat B) By using <DF>.plot(), **graph** attribute, we can plot all types of chart.

- a) Stat A True & Stat B False
- b) Stat A False & Stat B True
- c) Stat A & Stat B both are False
- d) Stat A & Stat B both are True

Q39: A _____ is a summarization tool for discrete or continuous data.

- a) Line chart
- b) Bar graph
- c) Histogram
- d) Scatter Chart

Q40: Stat A) In plt.bar() function, color attribute can change the color of all bars.

Stat B) In plt.bar() function, by passing a tuple of colors we can define different color for different bars.

- a) Stat A False & Stat B True
- b) Stat A True & Stat B False
- c) Stat A & Stat B both are True
- d) Stat A & Stat B both are False

Section - C

[Case Study]

Q: HR Department of ABCTech has created following dataframe to store data about salaries and bonus paid to their employees:

```
import pandas as pd
```

```
import numpy as np
```

```
d1={ 'ENAME':[ 'Kavita', 'Sudha', 'Garima' ], 'Sal':[50000,60000,55000], 'Bonus':[3000,4000,5000] }
```

```
Df1=pd.DataFrame(d1)
```

Choose the python statement using suitable functions for the following tasks:

41: Display the columns Sal and Bonus

- a) `Df1 [:Sal :Bonus]`
- b) `Df1.loc(['Sal','Bonus'])`
- c) `Df1.iloc(['Sal','Bonus'])`
- d) `Df1[['Sal','Bonus']]`

42: Display the details of employee Kavita.

- a) `Df1[Df1.ENAME='Kavita']`

- b) `Df1.loc[Df1.ENAME=='Kavita']`
- c) `Df1.iloc[Df1.ENAME=='Kavita']`
- d) `Df1[ENAME='Kavita']`

43: Display the details of the last employee.

- a) `Df1.tail(1)`
- b) `Df1.tail(-1)`
- c) `Df1.head(n=1)`
- d) `Df1.head()`

44: Add a new column named 'Email' with the value "abc@gmail.com".

- a) `Df1['Email']= 'abc@gmail.com'`
- b) `Df1[Email]='abc@gmail.com'`
- c) `Df1.loc['Email']='abc@gmail.com'`
- d) `Df1('Email')='abc@gmail.com'`

45: Write a python statement to print the details of employees having Sal more than 50000

- a) `Df1.Sal>=5000`
- b) `Df1[Df1.Sal>=5000]`
- c) `Df1[Df1.'Sal'>=5000]`
- d) `Df1.iloc[Df1.Sal>=5000]`