

KENDRIYA VIDYALAYA SANGATHAN JAIPUR REGION**Sample Question Paper (Term-I)****Class : XII****Time Allowed : 90 Minutes****Subject : (065) Informatics Practices****Maximum Marks: 35****General instructions:**

- The paper is divided into 3 Sections- A, B and C.
- Section A, consists of Question 1 to 25 and student need to attempt 20 questions.
- Section B, consists of Question number 26 to 49 and student need to attempt 20 questions.
- Section C, consists of Question number 50 to 55 and student need to attempt 5 questions.
- All questions carry equal marks (0.77 mark per question).

Section – A**Section A consists of 25 questions, attempt any 20 questions**

- Which of the following is a feature of Pandas?
 - it has the functionality to find and fill missing data
 - it supports reshaping of data into different forms
 - it can read or write many different data formats.
 - All of the above
- In the Statement "import pandas as pd "
 - it is compulsory to provide alias 'pd'
 - it is optional to provide alias 'pd'
 - providing alias in import statement depends on requirement of program
 - none of the above statement is true
- An empty Series can be created using the following statement:
 - s=pd.Series(NaN)
 - s=pd.Series()
 - s=pd.Series([NaN])
 - s=pd.Series()
- Given a Pandas series named S, the command which will display the first 4 rows is _____.
 - print(S.head(4))
 - print(S.Head(4))
 - print(S.heads(4))
 - print(S.Heads(4))
- Let there be a Series S containing integers. Command to add 5 to each of the elements of Series S and store the result in the same Series is
 - S=S.sum(5)
 - S=S+5
 - Scalar value cannot be added to a Series Elements
 - None
- What will be the result of following command?
S=pd.Series({'a':10, 'b':20, 'c':30})
 - Error
 - Series S will be created with dictionary values as series values and dictionary keys will be ignored.
 - Series S will be created with dictionary values as series values and dictionary keys as Series Index.
 - None

7. Consider a series
`S= pd.Series(10, index=[10,20,30])`.
 What will be output of the following command?
`>>> print(S[20])`
 a. error
 b. 10
 c. 20
 d. None
8. The correct way of creating a series with values (10, 20, 30, 40) and respective index as ('A', 'B', 'C', 'D') is
 a. `ser = pd.Series({'A':10, 'B':20, 'C':30, 'D':40})`
 b. `ser= pd.Series([10, 20, 30, 40], index=['A', 'B', 'C', 'D'])`
 c. both the above are correct
 d. series cannot have indexes
9. The by default indexing in pandas is
 a. Positional Index
 b. Labelled Index
 c. Sliceing Index
 d. Iterrows Index
10. Sohan created a DataFrame, using the following command
`df1=pd.DataFrame({'a':[10], 'b':[2], 'c':[3]})`.
 How many rows will be there in the resulting data frame?
 a. 3
 b. 1
 c. 2
 d. Data Frame will not get created
11. Write a command to add a new Column 'Result', to an existing DataFrame - df, with Default Values as True
 a. `df.col['Result']= True`
 b. `df.addCol['Result']=True`
 c. `df['Result']=True`
 d. Adding new column in not possible in Dataframes
12. Consider a Data Frame df, having containing three columns C1, C2 and C3, which of the following commands can be used to delete the column C2?
 a. `del df.C2`
 b. `del df.loc[:, 'C2']`
 c. `del df.iloc[:,1]`
 d. `del df ['C2']`
13. Function used to change the index names of a DataFrame is
 a. `ChangeIndex()`
 b. `rename()`
 c. `RenameIndex()`
 d. `reindex()`
14. Which of the following command will display the column labels of a data frame?
 a. `print(df.columns())`
 b. `print(df.column())`
 c. `print(df.column)`
 d. `print(df.columns)`
15. Which of the following are ways to access DataFrame elements?
 a. Using for loop
 b. Indexing
 c. Slicing
 d. All of these
16. Dataframes allow Boolean indexing
 a. True
 b. False
 c. True, only if the column values are also Boolean
 d. None
17. Assume an empty DataFrame df. The command, `df['a']=['A', 'B', 'C']`, will add a new
 a. Row to the DataFarme
 b. A new column to the DataFrame
 c. Will generate an error
 d. None

18. Which of the following is NOT a characteristics of Strong Password
 - a. Contains your own name or Date of Birth, so that you don't forget it.
 - b. Contains Upper and lower case alphabets
 - c. Contains two to more special characters.
 - d. Contains an arbitrary sequence of digits
19. Which of the following is NOT a good way to handle cyberbullying?
 - a. Ignore or block the person
 - b. Tell your parents or a teacher
 - c. Get in a fight with the person at school
 - d. Save the messages as evidence
20. Consider a Data Frame containing three rows R1, R2 and R3, which of the below given commands to delete the rows R1 and R2 is incorrect?
 - a. `df=df.drop(['R1','R2'],1)`
 - b. `df=df.drop(['R1','R2'])`
 - c. `df=df.drop(['R1','R2'],0)`
 - d. `df=df.drop(['R1','R2'],axis='index')`
21. Which method is used to access vertical subset of a DataFrame?
 - a. `iterrows()`
 - b. `iteritems()`
 - c. `itertuples()`
 - d. `itercols()`
22. Which function can be used to export generated graph in matplotlib to png
 - a. `savefigure()`
 - b. `savefig()`
 - c. `save()`
 - d. `export()`
23. Which of these is not a valid line style in matplotlib
 - a. '-'
 - b. '--'
 - c. '-.'
 - d. '<'
24. A line chart is a type of chart
 - a. Which present data with rectangular bars
 - b. Which displays information as a series of data points called 'markers' connected by straight line segments.
 - c. Which represent data by scatter plot
 - d. All of the above
25. You can save the figure using pyplot's in which of the following formats:-
 - a. .pdf, .png, .eps etc
 - b. .doc, .docx
 - c. .html
 - d. None

Section – B

Section B consists of 24 questions, attempt any 20 questions.

26. Consider a series
`S=pd.Series([3, 4, 10, None, 12])`.
What will be output of the following command?
`>>> len(S)`
 - a. 4
 - b. 5
 - c. 6
 - d. Error
27. A Data Frame is having True and False as its boolean indexes. The command that can be used to access all the rows corresponding to True boolean index is
 - a. `print(df.loc(True))`
 - b. `print(df.loc[:, True])`
 - c. `print(df.loc[True])`
 - d. `print(df.loc(True,:))`

28. Consider a DataFrame -df as below :

	prod	price
P1	Maggi	12
P2	Jam	23
P3	Gems	10
P4	Cadbury	40

What will the output of the following sequence of command?

```
df2= df['Price']+10  
print(df2)
```

a.	P1	22.0	b.	0	12
	P2	33.0		1	23
	P3	20.0		2	10
	P4	50.0		3	40

c.	0	22.0	d.	P1	NaN
	1	33.0		P2	NaN
	2	20.0		P3	NaN
	3	50.0		P4	NaN

29. Navneet is a Social Science Teacher. He teaches two sections of class VII. For each of his section he created a DataFrame, storing marks of each test in a column. Now he wishes to join both these DataFrames as single DataFrame by joining the second below the first. What function of DataFrame should he use for the above purpose.

- a. join()
- b. append()
- c. concat()
- d. concatenate()

30. Assume a DataFrame created using the following command:

```
df1=pd.DataFrame({'a':[10,20],  
                  'b':[20,30], 'c':[30,40]})
```

What error will the following command generate?

```
df1['d']
```

- a. Run time error
- b. Value error
- c. Index error
- d. Key error

31. **Assertion:** It is not possible to add a new row to an empty DataFrame, with no columns defined.
Reason: DataFrame does not support adding of new rows
- Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
 - The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
 - Our Assertion is true but the Reason is false.
 - The statement of the Assertion is false but the Reason is True
32. Which attribute of plot() function is used to set the width of line in line plot?
- widthline
 - linewidth
 - widthofline
 - none of the above
33. The following code will show _____ lines in the figure/chart.
- ```
import matplotlib.pyplot as pl
a = [1,2,3,4,5]
b = [10, 20, 30, 40, 50]
c = [5, 10, 15, 20, 25]
pl.plot(a, b)
pl.plot(a, c)
pl.show()
```
- 1
  - 2
  - 3
  - 4
34. The main difference between loc and iloc is
- loc is label-based while iloc is integer position-based.
  - loc is used to refer rows through index while iloc is used to refer column through headings
  - both are same
  - None of the above
35. Write the output of the following statement sequence:
- ```
import pandas as pd
S=pd.Series([10,20,30,40,50],['A','B','C','D','E'])
print(S['B': 'E'])
```
- B 20
C 30
D 40
E 50
 - B 20
C 30
D 40
 - Error
 - None of the above
36. Consider a DataFrame as below :
- | | City | MinTemp | MaxTemp | WindSpeed |
|----|--------|---------|---------|-----------|
| C1 | Delhi | 9 | 41 | 5 |
| C2 | Jaipur | 11 | 43 | 7 |
| C3 | Kanpur | 6 | 40 | 6 |
| C4 | Ratlam | 18 | 36 | 6 |
- What will the output of the following command?
- ```
>>> df.size
```
- (4,4)
  - [4,4]
  - 16
  - Value Error
37. The part of chart which identifies different sets of data plotted on plot by using different colours is called:
- legends
  - title
  - axes
  - figure
38. Who can see data from your digital footprints?
- Only police or related IT cells can use your digital footprints
  - Parts of Digital footprints are potentially visible to everyone
  - Anyone with the permission can use data from your digital footprints.

- d. Digital footprints are NOT useable to anyone.
39. **Assertion:** Histograms are good for showing general distributional features of dataset variables.  
**Reason:** Each bar typically covers a range of numeric values called a bin, a bar's height indicates the frequency of data points.
- Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
  - The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
  - Our Assertion is true but the Reason is false.
  - The statement of the Assertion is false but the Reason is true.
40. Which is an example of plagiarism?
- Reading a paragraph online and retyping it in your own words.
  - Copying and pasting someone else's work into your paper using quotation marks and citing the author
  - Typing a paper in your own words
  - Copying and pasting a sentence from the Internet into your paper.
41. Which of the following is not a Digital footprint
- Postings on Face book
  - IP address of Internet user
  - Logs of webs pages
  - Passport
42. Which one of the following is NOT an example of 'Active digital footprint'?
- Sharing of personal information on social media sites
  - Storing of passwords on websites for future use.
  - Acceptance of Cookies
  - Browsing History
43. Which of the following is not an E-Waste hazard?
- Acidification of Soil
  - Increase in price of electronic products
  - Air Pollution
  - Landfills with lead and heavy metals
44. The best way to dispose-off E-waste is
- Store it in metal containers, so that no radiations comes out.
  - Dump them in landfills
  - Give them to certified E-waste Recycler
  - Keep using then
45. What health related issues can emerge, due to over use of technology?
- Computer vision syndrome
  - Loss of Sleep
  - Anxiety
  - All of the above
46. **Assertion:** if you don't want to use one of your e-gadget any longer, you should donate it to someone needy, instead of giving it to a –E-Waste Manager  
**Reason:** One should always think of Charily
- Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
  - The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
  - Our Assertion is true but the Reason is false.
  - The statement of the Assertion is false but the Reason is true.
47. Jatin Kapoor is a famous celebrity, who posted his views on a burning social issue, on a social network site. Few hours later, he finds various users posting various absurd comments on his post. Many of them used foul language and a few even threaten him. He has become a victim of
- Cyber Bullying
  - Ransomware
  - Virus Attack
  - None. This is a normal thing

48. On opening her Laptop one morning, Sumita finds that all the data in the system has been blocked and none of the application is working. She receives a message from an unknown source, where the sender is threatening her to give money in terms of bit coins; otherwise her laptop will be blocked permanently. She has become a victim of :
- Cyber bullying
  - Ransomware
  - Cyber Stalking
  - Virus Attack
49. **Assertion:** One must be very careful, while dealing with commercial transaction on the internet.

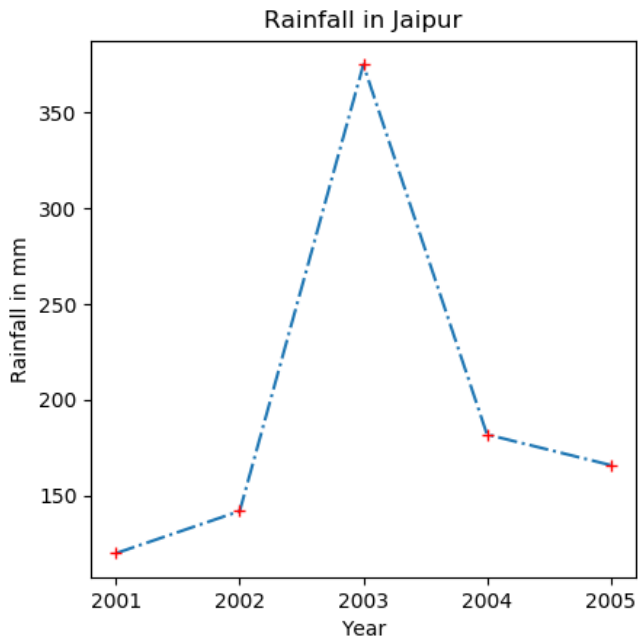
**Reason:** a careful attitude, checking website and dealers details before making any payment on internet, will avoid possibilities of frauds.

- Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
- The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
- Our Assertion is true but the Reason is false.
- The statement of the Assertion is false but the Reason is true.

## Section – C

**Section C consists of 06 questions, attempt any 05 questions.**

Ramesh is an IP student. He is working on Data Visualization. His teacher has assigned him a task to create a line chart to show rainfall in Jaipur from 2001 to 2005. He wrote the following incomplete code, help him to complete the task.



```
import matplotlib.pyplot as plt
rainfall=[120, 142, 375, 182, 166]
year=[2001, 2002, 2003, 2004, 2005]
plt.plot(_____, _____, marker='+',
 markeredgecolor='r', linestyle='-')
 [Statement 1]
plt.chartTitle ("Rainfall in Jaipur") [Statement 2]
plt._____('Rainfall in mm') [Statement 3]
plt._____("Year") [Statement 4]
plt.show() [Statement 5]
```

50. To plot the above graph with Rainfall on Y axis and Year on x axis, the correct sequence of arguments in Statement 1 is
- rainfall, year
  - year, rainfall
  - both a and b are correct
  - both a and b are wrong

51. To set the caption 'Rainfall in mm' on y axis the correct command for Statement 3 is
- plt.yaxis("Rainfall in Jaipur")
  - plt.ylabel ("Rainfall in Jaipur")
  - plt.ycaption("Rainfall in Jaipur")
  - None of the above
52. To set the caption 'Year' on x axis the correct command for Statement 4 is
- plt.xaxis("Year ")
  - plt.xlabel ("Year ")
  - plt.xcaption("Year ")
  - None of the above
53. Ramesh is encountering an error in statement2. Correct statement to set chart title as ("Rainfall in Jaipur") is
- plt.title("Rainfall in Jaipur")
  - plt.legend("Rainfall in Jaipur")
  - plt.ChartLabel("Rainfall in Jaipur")
  - plt.chartlabel("Rainfall in Jaipur")
54. Ramesh also wants to add a new series avgtemp=[32, 41, 37, 36, 38], which shows the average temperature in month of June. Where should he add following plot statement to get the desired result?
- After statement1
  - Between statement 2 and statement 3
  - Anywhere after statement 1
  - Anywhere before statement 5
55. To change the thickness of the line in the graph, in which statement and what attribute should he change.
- Statement 1, LineThickness
  - Statement 1, PlotThickness
  - Statement 2, LineThickness
  - Statement 1, linewidth

0-0-o- Best of Luck -o-0-0