Paper Code: 21-22/IP-1

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

- 1. Which of the following is a feature of Pandas?
 - a. it has the functionality to find and fill missing data
 - b. it supports reshaping of data into different forms
 - c. it can read or write many different data formats.
 - d. All of the above
- 2. In the Statement "import pandas as pd "
 - a. it is compulsory to provide alias 'pd'
 - b. it is optional to provide alias 'pd'
 - c. providing alias in import statement depends on requirement of program
 - d. none of the above statement is true
- 3. An empty Series can be created using the following statement:
 - a. s=pd.Series(NaN)
 - b. s=pd.Series()
 - c. s=pd.Series([NaN])
 - d. s.pd.Series()
- 4. Given a Pandas series named S, the command which will display the first 4 rows is _____.
 - a. print(S.head(4))
 - b. print(S.Head(4))
 - c. print(S.heads(4)
 - d. print(S.Heads(4))

- 5. 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
 - a. S=S.sum(5)
 - b. S=S+5
 - c. Scalar value cannot be added to a Series Elements
 - d. None
- 6. What will be the result of following command?

S=pd.Series({'a':10, 'b':20,'c':30})

- a. Error
- b. Series S will be created with dictionary values as series values and dictionary keys will be ignored.
- c. Series S will be created with dictionary values as series values and dictionary keys as Series Index.
- d. 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
Р3	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	
	Р3	20.0		2	10	
	P4	50.0		3	40	
c.	0	22.0	d.	P1	NaN	
	1	33.0		P2	NaN	
	2	20.0		Р3	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

- a. Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
- b. The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
- c. Our Assertion is true but the Reason is false.
- d. 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?
 - a. widthline
 - b. linewidth
 - c. widthofline
 - d. 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()

- a. 1
- b. 2
- c. 3
- d. 4
- 34. The main difference between loc and iloc is
 - a. loc is label-based while iloc is integer position-based.
 - b. loc is used to refer rows through index while iloc is used to refer column through headings
 - c. both are same
 - d. 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'])

- a. B 20
 - C 30
 - D 40
 - E 50
- b. B 20
 - C 30
 - D 40
- c. Error
- d. 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
- a. (4,4)
- b. [4,4]
- c. 16
- d. Value Error
- 37. The part of chart which identifies different sets of data plotted on plot by using different colours is called:
 - a. legends
 - b. title
 - c. axes
 - d. figure
- 38. Who can see data from your digital footprints?
 - a. Only police or related IT cells can use your digital footprints
 - b. Parts of Digital footprints are potentially visible to everyone
 - c. 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.

- a. Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
- b. The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
- c. Our Assertion is true but the Reason is false.
- d. The statement of the Assertion is false but the Reason is true.
- 40. Which is an example of plagiarism?
 - a. Reading a paragraph online and retyping it in your own words.
 - b. Copying and pasting someone else's work into your paper using quotation marks and citing the author
 - c. Typing a paper in your own words
 - d. Copying and pasting a sentence from the Internet into your paper.
- 41. Which of the following is not a Digital footprint
 - a. Postings on Face book
 - b. IP address of Internet user
 - c. Logs of webs pages
 - d. Passport
- 42. Which one of the following is NOT an example of 'Active digital footprint'?
 - a. Sharing of personal information on social media sites
 - b. Storing of passwords on websites for future use.
 - c. Acceptance of Cookies
 - d. Browsing History
- 43. Which of the following is not an E-Waste hazard?
 - a. Acidification of Soil
 - b. Increase in price of electronic products
 - c. Air Pollution

- d. Landfills with lead and heavy metals
- 44. The best way to dispose-off E-waste is
 - a. Store it in metal containers, so that no radiations comes out.
 - b. Dump them in landfills
 - c. Give them to certified E-waste Recycler
 - d. Keep using then
- 45. What heath related issues can emerge, due to over use of technology?
 - a. Computer vision syndrome
 - b. Loss of Sleep
 - c. Anxiety
 - d. 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

- a. Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
- b. The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
- c. Our Assertion is true but the Reason is false.
- d. 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
 - a. Cyber Bullying
 - b. Ransomeware
 - c. Virus Attack
 - d. None. This is a normal thing

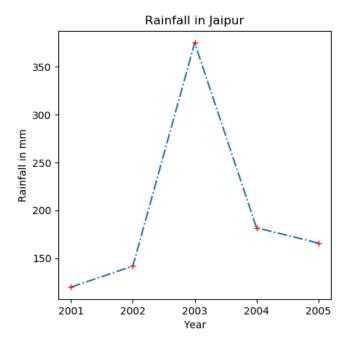
- 48. On opening her Laptop one morning, Sumita finds that all the data in the system has been blocked and none of the application is working. She receives a message from an unknown source, where the sender is threatening her to give money in terms of bit coins; otherwise her laptop will be blocked permanently. She has become a victim of:
 - a. Cyber bullying
 - b. Ransomware
 - c. Cyber Stalking
 - d. 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.

- a. Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
- b. The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
- c. Our Assertion is true but the Reason is false.
- d. 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.



- 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
 - a. rainfall, year
 - b. year, rainfall
 - c. both a and b are correct

- d. both a and b are wrong
- 51. To set the caption 'Rainfall in mm' on y axis the correct command for Statement 3 is
 - a. plt.yaxis("Rainfall in Jaipur")
 - b. plt.ylabel ("Rainfall in Jaipur")
 - c. plt.ycaption("Rainfall in Jaipur")
 - d. None of the above
- 52. To set the caption 'Year' on x axis the correct command for Statement 4 is
 - a. plt.xaxis("Year ")
 - b. plt.xlabel ("Year")
 - c. plt.xcaption("Year ")
 - d. None of the above
- 53. Ramesh is encountering an error in statement2. Correct statement to set chart tile as ("Rainfall in Jaipur") is
 - a. plt.title("Rainfall in Jaipur")
 - b. plt.legend("Rainfall in Jaipur")
 - c. plt.ChartLabel("Rainfall in Jaipur")
 - d. 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?
 - a. After statement1
 - b. Between statement 2 and statement 3
 - c. Anywhere after statement 1
 - d. Anywhere before statement 5
- 55. To change the thickness of the line in the graph, in which statement and what attribute should he change.
 - a. Statement 1, LineThickness
 - b. Statement 1. PlotThickness
 - c. Statement 2, LineThickness
 - d. Statement 1, linwwidth

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