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. Pandas is an open source_____ library
   a. Ruby
   b. JavaScript
   c. Java
   d. Python

2. We can analyze the data in Pandas with
   a. Series
   b. DataFrame
   c. Both a and b
   d. None of the above

3. Which of the following thing can be data in Pandas?
   a. A python Dictionary
   b. An ndarray
   c. A scalar values
   d. All of the above

4. Pandas key data structure is called?
   a. Keyframe
   b. DataFrame
   c. Statics
   d. Economics

5. To display top two rows in DataFrame, which of the following is correct?
   a. df.head()=2
   b. df.head(n=2)
   c. df.head(range(2))
   d. All of the above

6. Data Structure in Pandas can be mutated in term of _____ but not of _____
   a. Size, value
   b. Value, size
   c. Semantic, size
   d. None of the above

7. The command to display the title for x-axis to a graph is _____.
   a. plt.xlabel()
   b. plt.xtitle()
   c. plt.xaxis()
   d. pltxaxistitle()

8. Which of the following is not a valid function of plotting function of pyplot()
   a. bar()
   b. hist()
   c. barh()
   d. histh()

9. Which object do you get after reading a csv file using pandas.read_csv()?
   a. DataFrame
   b. ndarray
   c. chart vector
   d. none

10. Which of the following is not a valid chart type?
    a. lineplot
    b. bargraph
    c. histogram
    d. statistical

11. The command used to give a heading to a graph is _____.
    a. plt.show()
    b. plt.plot()
    c. plt.title()
    d. plt.xlabel()

12. It is stealing ideas of creations of others ____
    a. Plagiarism
    b. Intellectual Property Right
    c. Piracy
    d. All of the above

13. In a dataframe, the property attribute 'axis=0' represent
    a. Row
    b. Column
    c. First Row + Column
    d. None

14. Which of the following is not an open source software
    a. Ubuntu
    b. Linux
    c. Open Office
    d. Window 10

15. To save a plot, _____function is used
    a. save()
    b. savefig()
    c. saveplot()
    d. savegraph()

16. The programmer who break your secure systems for malicious purpose is
    a. Hackers
    b. Crackers
    c. breakers
    d. burglars

17. The function to get the index of maximum values in a column in DataFrame is
    a. max()
    b. index()
    c. idxmax()
    d. maxidx()

18. What is name of the IT law that India is having in the Indian Legislature
    a. Indian Technology IT Act, 2000
    b. Indian Digital Information(DIT) Act 2000
    c. Indian Information Technology(IT) Act, 2000
    d. The Technology Act, 2008

19. A software company purchase new computers every year and discarded the old ones into a local dumping yard. Write the name of most appropriate category of waste that the company created every year, out of the following option.

    a. Business Waste
    b. E-Waste
    c. Commercial Waste
    d. Solid Waste

20. Exploring appropriate and ethical behavior related to online environments and digital media
    a. Cyber ethics
    b. Cyber security
    c. Cyber safety
    d. Cyber law

21. Which of the following, a person is constantly followed/chased by another person or group of several peoples?
    a. Phishing
    b. Bulling
    c. Stalking
    d. Identity theft

22. After a fight with your friend, you did the following activities. Which of the these activities is not example of cyber bullying?
    a. You sent an email to your friend with a message saying that "I am sorry"
    b. You sent a threatening message to your friend
    c. You created an embarrassing image of your friend and uploaded in your account of social networking site.

23. Missing data in Pandas object is represented by
    a. null
    b. None
    c. NaN
    d. missing

24. A CSV file can take _____ character as separator
    a. ,
    b. ~
    c. !
    d. \t

25. Method or function to add a new row in a data frame is:
    a. loc()
    b. iloc()
    c. join
    d. add()

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

26. What will be output for the following code?
    ```
    import pandas as pd
    s = pd.Series([1, 2, 3, 4, 5],
                index = ['a','b','c','d','e'])
    print(s['a'])
    ```
    a. 1
    b. 2
    c. NaN
    d. 4

27. ```
    import pandas as pd
    Ser1=pd.Series([15, 16, 17, 18, 10],
            index=['a', 'b', 'c', 'd', 'e'])
    l=[12, 16, 11, 14, 16]
    Ser2=pd.Series(l, index=['e', 'd', 'z', 'b', 'a'])
    print(Ser1+Ser2)
    ```

a.
```
a    31.0
b    30.0
c     0
d    34.0
e    22.0
z    NaN
dtype: float64
```
b.
```
a    31.0
b    30.0
c    NaN
d    34.0
e    22.0
z    NaN
dtype: float64
```
c.
```
a    31.0
b    30.0
c    NaN
d    34.0
e    22.0
z     0
dtype: float64
```
d.
```
a    31.0
b    30.0
c     0
d    34.0
e    22.0
z     0
dtype: float64
```

Note : In 28-30 questions a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice.

28. Assertion (A): Open source technology is a growing trends in GIS
    Reason (R) : One major reason for the growth and use of FOSS technology is because users have access to the source so it is much easier to fix faults and improve the application.
    a. Both Assertion (A) and reason(R) are true and reason(R) is the correct explanation of Assertion (A).
    b. Both Assertion(A) and reason(R) are true but reason (R) is not correct explanation of Assertion(A)
    c. Assertion (A) is true but reason(R) is false
    d. Assertion (A) is false but reason(R) is true

29. Assertion (A): To create a series from array, we have to import the numpy module and then use array() method.
    Reason (R): NumPy is an open source numerical pyhton library. Numpy contains a multi dimensional array and matrix data structure.
    a. Both Assertion(A) and reason(R) are true and reason(R) is the correct explanation of Assertion (A).
    b. Both Assertion(A) and reason(R) are true but reason (R) is not correct explanation of Assertion(A)
    c. Assertion (A) is true but reason(R) is false
    d. Assertion (A) is false but reason(R) is true

30. The data transferred between your device and the server is securely _____ if you're using VPNs.
    a. Locked
    b. Sealed
    c. Packed
    d. Encrypted

31. Assertion (A)   : A line plot is a graph that shows the frequency of data along a number line.
    Reason (R)   : The legend is displayed by default associating the colors with the plotted area.
    a. Both Assertion(A) and reason(R) are true and reason(R) is the correct explanation of Assertion (A).
    b. Both Assertion(A) and reason(R) are true but reason (R) is not correct explanation of Assertion(A)
    c. Assertion (A) is true but reason(R) is false
    d. Assertion (A) is false but reason(R) is true

32. Suhana is down with fever. So, she decided not to go to school tomorrow. Next day, in the evening she called up her classmate, Shaurya and enquired about the computer class. She also requested him to explain the concept. Shaurya said, "Mam taught us how to use tuples in Python". Further he generously said, "Give me some time, I will email you the material which will help you to understand". Shaurya quickly downloaded a 2-minute clip from the internet explaining the concept of tuples in python. Using video editor, he added the text "Prepared by Shaurya" in the downloaded clip. Then he emailed the modified video clip to Suhana. This act of Saurya is an expel of :
    a. Fair Use
    b. Hacking
    c. Copyright infringement
    d. Cyber Crime

33. Which of the following software allow copy, free use, redistribution and modification?
    a. Licensed
    b. Free and Open Source Software (FOSS)
    c. General Public License (GPL)
    d. All of the above

34. When someone steals someone else's personal information to commit theft or fraud, it is called _____
    a. Identity theft
    b. Hacking
    c. Computer Piracy
    d. Infringement

35. URL Stand for _____.
    a. Universal Resource Loader
    b. Universal Resource Locator
    c. Unite Research Loader
    d. Uniform Resource Locator

36. In India, E-Waste management assume greater significance because
    a. Generation of own e-waste
    b. Dumping of e-waste from developed country
    c. Lack of awareness
    d. All of the above

37. Hardik wants to create dataframe. He write following code. Help him by identifying the statement which will create the dataframe.
    import pandas as pd
    Book=['IP', 'Acc', 'English', 'Bst']
    Cost=[250, 300, 200, 290]
    a. df=pd.DataFrame({'Book':Book,'Cost':Cost})
    b. df=pd.DataFrame('Book':Book,'Cost':Cost)
    c. df=pd.DataFrame([Book, Cost], column=['Book','Cost'])
    d. df=pd.DataFrame({Book:'Book', Cost:'Cost'})

38. Which of the following command will display the column of dataframe?
    a. print(df.column())
    b. print(df.columns())
    c. print(df.column)
    d. print(df.columns)

39. Identify the suitable code to write a title for the chart "The weekly Restaurant Orders".
    a. plt.tittle(The weekly Restaurant Orders)
    b. plt.title("The weekly Restaurant Orders")
    c. plt.xtitle("The weekly Restaurant Orders")
    d. plt.ytitle("The weekly Restaurant Orders")

40. Point out the correct combination with regards to kind keyword for graph plotting.
    a. 'hist' for histogram
    b. 'box' for boxplot
    c. 'line' for line plot
    d. All of the above

41. Given a series named **employee**, which command will be used to print 5 as output?

    | Jaswant | 130 |
    | Mukesh | 131 |
    | Dilip | 132 |
    | Chandra Prakash | 133 |
    | Hareesh | 134 |

    a. employee.length
    b. employee.values
    c. employee.size
    d. employee.index

42. Consider the following dataframe df

ID	Name	Age	Color	Points
T01	Rahul Anand	32	Blue	73
T02	Mohak Girdhar	25	Green	82
T03	Rajeev Tyagi	45	Orange	29
T04	Rohini Malik	30	Pink	39

    Write the command to extract the complete row 'T03'.

    a. df.loc[: , ID]
    b. df.loc['T03', 'Name']
    c. df.loc['T02', 'T03']
    d. df.loc['T03', :]

43. Read the following python code:
    import matplotlib.pyplot as plt
    plt.plot(3,2)
    plt.show()
    Identify the output for the above coding.
    a.
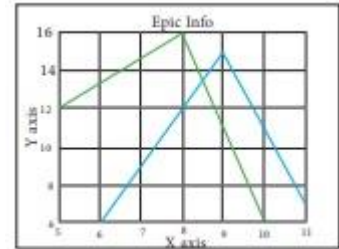
    b.
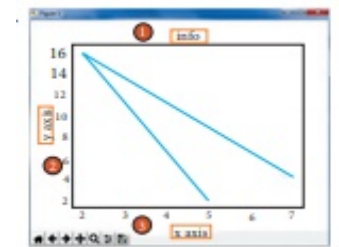
    c.
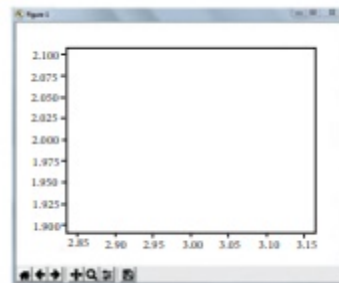
    d.
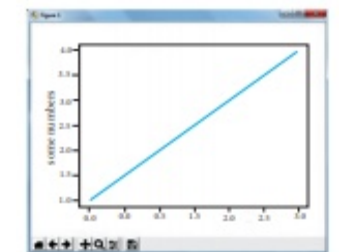
44. Which command is be used to delete 1 and 3 rows of the dataframe. Assuming the dataframe is df
    a. df.drop([0, 2], axis=0)
    b. df.drop([0, 2], axis=1)
    c. df.drop([1, 3], axis=1)
    d. df.drop([1, 3])

45. Write the output of the given command
    import pandas as pd
    Ser1=pd.Series(51000, 34568, 64358, 40454, 35000)
    print(Ser1[Ser1>50000]
    a.
        0   51000
        1   34568
    b.
        0   51000
        2   64358
    c.
        1   34568
        3   40454
        4   35000
    d.
        0   51000
        3   40454

46. A series named sequence is
    (10, 20, 30, 40, 50, 60)
    To display first three elements of a series object sequence
    a. sequence[: 3]
    b. sequence[3 :]
    c. sequence[3rd]
    d. All of the above

47. In below structure, which command will give the output : (3,5)

	Empno	Name	Salary
0	141	Rohan	55000
1	142	Mukesh	45000
2	143	Suresh	46000
3	144	Sohan	52000
4	145	Pawan	35000

    a. print(df.shape())
    b. print(df.shape)
    c. print(df.size())
    d. print(df.size)

48. Consider the following dataframe df as shown

	Name	Eng	IP	Acc	Total
T1	Susheel	52	98	85	235
T2	Sumit	48	85	88	221
T3	Tharun	50	95	82	227
T4	Dushyant	53	98	91	242

    Which command give the output 20
    a. print(df.size)
    b. print(df.shape)
    c. print(df.index)
    d. print(df.axes)

49. For above dataframe df what will be the output produced by following statement?
    print(df.iloc[: : 2, 0 : : 4]
    a.
	Name	Total
T1	Susheel	235
T2	Sumit	221
    b.
	Name	Total
T2	Sumit	221
T4	Dushyant	242
    c.
	Name	Total
T1	Susheel	235
T3	Tharun	227
    d.
	Name	Total
T3	Tharun	227
T4	Dushyant	242

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

Khushi is the event in-charge in a school. One of her students gave her a suggestion to use Python Pandas and Matplotlib for analyzing and visualizing the data, respectively. She has created a Data frame "df" to keep track of the number of first, second and third prizes won by different houses in various events.

	House	First	Second	Third
0	Chenab	5	7	6
1	Ganga	10	5	4
2	Jamuna	8	13	15
3	Jhelam	12	9	12
4	Ravi	5	11	10
5	Sataluj	10	5	3

Write Python commands to do the following:

50. Display the house names where the number of Second Prizes are in the range of 12 to 20.
    a. df['Name'][(df['Second']>=12) and (df['Second']<=20)]
    b. df[Name][(df['Second']>=12) & (df['Second']<=20)]
    c. df['Name'][(df['Second']>=12) & (df['Second']<=20)]
    d. df[(df['Second']>=12) & (df['Second']<=20)]

51. Display all the records in the reverse order.
    a. print(df[: : 1])
    b. print(df.iloc[: : -1])
    c. print(df[- 1 :] + df[: -1])
    d. print(df.reverse())

52. Display the bottom 3 records.
    a. df.last(3)
    b. df.bottom(3)
    c. df.next(3)
    d. df.tail(3)

53. She wants to add new column with name 'forth' in above dataframe choose the right command to do so
    a. df['forth']=[10, 12, 8, 9, 7, 11]
    b. DF('forth)= [10, 12, 8, 9, 7, 11]
    c df(house)= [10, 12, 8, 9, 7, 11]
    d. df[10, 12, 8, 9, 7, 11]=forth

54. Choose the correct output for the given statements
    x=df.columns[: 1]
    print(x)
    a. 0
    b. Name
    c. First
    d. Error

55. Which command will give the output 24:
    a. print(df.size)
    b. print(df.shape)
    c. print(df.index)
    d. print(df.axes)

0-O-o- Best of Luck –o-O-0

KVS RO JAIPUR REGION
Sample Question Paper 5 Term-I
Subject: Informatics Practices (Code-065) Class – XII

Time Allowed: 90 minutes   **Maximum Marks: 35**

Sample Paper Set-5

Answer Key:

Q.No	Answer	Q.No	Answer	Q.No	Answer	Q.No	Answer	Q.No	Answer	Q.No	Answer
1	d	11	c	21	c	31	c	41	c	51	b
2	c	12	a	22	a	32	d	42	d	52	d
3	d	13	a	23	c	33	b	43	c	53	a
4	b	14	d	24	a	34	a	44	a	54	b
5	b	15	b	25	a	35	d	45	b	55	a
6	b	16	b	26	a	36	d	46	a		
7	a	17	c	27	b	37	a	47	b		
8	d	18	c	28	b	38	a	48	a		
9	a	19	b	29	a	39	b	49	b		
10	b	20	a	30	b	40	d	50	c		|