

Sample Question Paper – SET(A/B/C)
Term-I
Subject: Informatics Practices (Code-065)
Class – XII

Time Allowed: 90 minutes

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.

Section – A

Section A consists of 25 questions, attempt any 20 questions.

1	Which of the following statement is not correct for Pandas?	
	<ul style="list-style-type: none"> a. Pandas is open source built in library b. Pandas offers high-performance, easy to use data structures c. Pandas provides tools for backup and recovery d. Pandas provides tools for data analysis 	
2	Which of the following is the correct statement to access index 3rd and 5th values using positional index for series s?	
	<ul style="list-style-type: none"> a. s[3,5] b. s[[3,5]] c. s[(3,5)] d. s([3,5]) 	
3	Which of the following is correct way of assinging a labelled index to series?	
	<ul style="list-style-type: none"> a. s=pd.Series(index=range(5,10),[22,33,44,56,78]) b. s=pd.Series(index=range(5,10),dt=[22,33,44,56,78]) c. s=pd.Series({22,33,44,56,78},index=range(5,10)) d. s=pd.Series([22,33,44,56,78],index=range(5,10)) 	
4	Mr. Anuj is trying to access 3rd element from series named s using positional index. Suggest him the correct statements from given statements:	
	<ul style="list-style-type: none"> a. s(2) b. s{2} c. s[2] d. s[II] 	
5	Which of the folloiwng statement is correct to create a series of 5 elements between 55 to 95?	
	<ul style="list-style-type: none"> a. s = pd.Series([55,95,5]) b. s = pd.Series(range(55,95,5)) c. s = pd.Series(np.linspace(55,95,5)) d. s = pd.Series((55,95,5)) 	
6	You can create a Python pandas series using?	
	<ul style="list-style-type: none"> a. sequence b. ndarray c. tuple d. all of the above 	

7	Which one of the following is correct statement to create series 35,38,41,44 using a python sequence?	
	<ul style="list-style-type: none"> a. <code>s = pd.Series(range(35,44,3))</code> b. <code>s = pd.Series(range(35,45,3))</code> c. <code>s = pd.Series(range(35 to 45,3))</code> d. <code>s = pd.Series(range(35-45,3))</code> 	
8	Which of the following is correct statement to create a series of multiple table of 3?	
	<ul style="list-style-type: none"> a. <code>s = pd.Series(range(3,31,3))</code> b. <code>s = pd.Series(range(3,3*11))</code> c. <code>s = pd.Series(range(3,3,3))</code> d. All of these 	
9	Which of the following is correct statement to create a series of multiple repeated values 44, 55 for three times?	
	<ul style="list-style-type: none"> a. <code>s = pd.Series([44,55],3)</code> b. <code>s = pd.Series(np.tile[44,55],3)</code> c. <code>s = pd.Series(44,55,3)</code> d. <code>s = pd.Series(range(44 and 55, 3))</code> 	
10	Which of the following statement is correct to create a series of 5 elements between 55 to 95?	
	<ul style="list-style-type: none"> a. <code>s = pd.Series([55,95,5])</code> b. <code>s = pd.Series(range(55,95,5))</code> c. <code>s = pd.Series(np.linspace(55,95,5))</code> d. <code>s = pd.Series((55,95,5))</code> 	
11	Mr. Anuj is trying to access 3rd element from series named s using positional index. Suggest him the correct statements from given statements:	
	<ul style="list-style-type: none"> a. <code>s(2)</code> b. <code>s{2}</code> c. <code>s[2]</code> d. <code>s[ll]</code> 	
12	Which of the following is correct way of assigning a labelled index to series?	
	<ul style="list-style-type: none"> a. <code>s=pd.Series(index=range(5,10),[22,33,44,56,78])</code> b. <code>s=pd.Series(index=range(5,10),dt=[22,33,44,56,78])</code> c. <code>s=pd.Series({22,33,44,56,78},index=range(5,10))</code> d. <code>s=pd.Series([22,33,44,56,78],index=range(5,10))</code> 	
13	Which of the following is the correct statement to access index 3rd and 5th values using positional index for series s?	
	<ul style="list-style-type: none"> a. <code>s[3,5]</code> b. <code>s[[3,5]]</code> c. <code>s[(3,5)]</code> d. <code>s([3,5])</code> 	
14	For 2D plotting using a Python library, which library interface is often used?	
	<ul style="list-style-type: none"> A. Seaborn B. Plotly C. Matplotlib D. Matplotlib.pyplot 	
15	Which of the following is not a valid chart type?	
	<ul style="list-style-type: none"> A. Histogram 	

	<p>B. Statistical</p> <p>C. Pie</p> <p>D. Box</p>	
16	Which of the following is not a valid plotting function of pyplot?	
	<p>A. plot()</p> <p>B. bar()</p> <p>C. line()</p> <p>D. pie()</p>	
17	Which of the following would be a creative work protected by copyright?	
	<p>A. A list of all Indian President names</p> <p>B. A portrait of your family</p> <p>C. A song you wrote</p> <p>D. Name of your pet dog</p>	
18	Which of the following is not the type of cybercrime?	
	<p>A. Data theft</p> <p>B. Forgery</p> <p>C. Damage to data and system</p> <p>D. Installing antivirus for protection.</p>	
19	Which of the following is not done by cyber criminals?	
	<p>A. Unauthorized account access.</p> <p>B. Mass attack using trojans as botnets</p> <p>C. Email spoofing and spamming</p> <p>D. Report vulnerability in any system.</p>	
20	What is name of the IT law that India is having in the Indian legislature.	
	<p>A. India's Technology (IT) Act , 2000</p> <p>B. India's Digital Information Technology (DIT) Act, 2000</p> <p>C. India's Information Technology (IT) Act, 2000</p> <p>D. The Technology Act, 2008</p>	
21	What is example of e-waste?	
	<p>A. A ripened banana</p> <p>B. An old Computer</p> <p>C. Old clothes</p> <p>D. Empty soda cans</p>	
22	Software that can be freely accessed and modified is called.	
	<p>A. Synchronous software</p> <p>B. Package software</p> <p>C. Open-source software</p> <p>D. Middleware</p>	
23	Data which has no restrictions of usage and is freely available to everyone under intellectual property rights is categorized as:	
	<p>A. Open source</p> <p>B. Open data</p> <p>C. Open contents</p> <p>D. Open education</p>	
24	Which of the following is an advantage of 'Open-source software'?	
	<p>A. You can edit the source code to customize it.</p> <p>B. You need to be an expert to edit code.</p>	

	<p>C. You have to pay</p> <p>D. Can sometime be too generic for specialist purpose.</p>	
25	Which of the following is a disadvantage of 'Open-source software'?	
	<p>A. High quality software with lots of features.</p> <p>B. Not as customizable.</p> <p>C. May not have been tested much as proprietary software, so might have bugs.</p> <p>D. You can edit the source code to customise it</p>	

Section – B

Section B consists of 24 Questions (26 to 49). Attempt any 20 questions.

26	In Pandas _____ is used to store data in multiple columns.	
	<p>a. Series</p> <p>b. DataFrame</p> <p>c. Both of the above</p> <p>d. None of the above</p>	
27	A _____ is a two-dimensional labelled data structure .	
	<p>a. DataFrame</p> <p>b. Series</p> <p>c. List</p> <p>d. None of the above</p>	
28	_____ data Structure has both a row and column index.	
	<p>a. List</p> <p>b. Series</p> <p>c. DataFrame</p> <p>d. None of the above</p>	
29	Which library is to be imported for creating DataFrame?	
	<p>a. Python</p> <p>b. DataFrame</p> <p>c. Pandas</p> <p>d. Random</p>	
30	Which of the following function is used to create DataFrame?	
	<p>a. DataFrame()</p> <p>b. NewFrame()</p>	

	<p>c. CreateDataFrame()</p> <p>d. None of the Above</p>	
31	<p>The following code create a dataframe named 'D1' with _____ columns.</p> <pre>import pandas as pd D1 = pd.DataFrame([1,2,3])</pre>	
	<p>a. 1</p> <p>b. 2</p> <p>c. 3</p> <p>d. 4</p>	
32	<p>We can create DataFrame from _____</p>	
	<p>a. Numpy arrays</p> <p>b. List of Dictionaries</p> <p>c. Dictionary of Lists</p> <p>d. All of the above</p>	
33	<p>Which of the following is used to give user defined column index in DataFrame?</p>	
	<p>a. index</p> <p>b. column</p> <p>c. columns</p> <p>d. colindex</p>	
34	<p>The following code create a dataframe named 'D1' with _____ columns.</p> <pre>import pandas as pd LoD = [{'a':10, 'b':20}, {'a':5, 'b':10, 'c':20}] D1 = pd.DataFrame(LoD)</pre>	
	<p>a. 1</p> <p>b. 2</p> <p>c. 3</p> <p>d. 4</p>	
35	<p>The following code create a dataframe named 'D1' with _____ rows.</p> <pre>import pandas as pd LoD = [{'a':10, 'b':20}, {'a':5, 'b':10, 'c':20}] D1 = pd.DataFrame(LoD)</pre>	
	<p>a. 0</p> <p>b. 1</p> <p>c. 2</p>	

	d. 3	
36	When we create DataFrame from List of Dictionaries, then dictionary keys will become _____	
	<p>a. Column labels</p> <p>b. Row labels</p> <p>c. Both of the above</p> <p>d. None of the above</p>	
37	When we create DataFrame from List of Dictionaries, then number of columns in DataFrame is equal to the _____	
	<p>a. maximum number of keys in first dictionary of the list</p> <p>b. maximum number of different keys in all dictionaries of the list</p> <p>c. maximum number of dictionaries in the list</p> <p>d. None of the above</p>	
38	When we create DataFrame from List of Dictionaries, then number of rows in DataFrame is equal to the _____	
	<p>a. maximum number of keys in first dictionary of the list</p> <p>b. maximum number of keys in any dictionary of the list</p> <p>c. number of dictionaries in the list</p> <p>d. None of the above</p>	
39	In given code dataframe 'D1' has _____ rows and _____ columns. import pandas as pd LoD = [{'a':10, 'b':20}, {'a':5, 'b':10, 'c':20},{'a':7, 'd':10, 'e':20}] D1 = pd.DataFrame(LoD)	
	<p>a. 3, 3</p> <p>b. 3, 4</p> <p>c. 3, 5</p> <p>d. None of the above</p>	
40	A ----- graph is a type of chart which displays information as a series of data points connected by straight line segment.	
	<p>A. line</p> <p>B. bar</p> <p>C. pie</p> <p>D. boxplot</p>	
41	Which argument of bar() lets you set the thickness of bar?	
	<p>A. thick</p> <p>B. thickness</p> <p>C. width</p> <p>D. barwidth</p>	

42	The ----- argument of hist() is set to create a horizontal histogram.	
	<ul style="list-style-type: none"> A. landscape B. portrait C. documentation D. orientation 	
43	The ---- argument of legend() provides the location of legends.	
	<ul style="list-style-type: none"> A. loc B. Toc C. Goc D. None of these 	
44	Using pyplot matplotlib, _____ can be used to count how many values fall into each interval.	
	<ul style="list-style-type: none"> A. Histogram B. Pyplot C. Barchart D. Pie chart 	
45	In terms of information security, acronym CIA stands for:	
	<ul style="list-style-type: none"> A. Central intelligence agency B. Confidentiality integrity and Authentication C. Cognitive Intelligent Access. D. None of above. 	
46	A malicious piece of code which copies and appends itself to other files and disk sectors is called _____.	
	<ul style="list-style-type: none"> A. Computer virus B. Computer trojan C. Computer worm D. Web scripts 	
47	A self-replicating computer program which sends copies of itself to other nodes on the computer network without any user intervention I called _____	
	<ul style="list-style-type: none"> A. Computer virus B. Computer trojan C. Computer worm D. Web scripts 	
48	A sentinel program which tries to protect computer system from data loss, destruction of system files and attack of any external threats like worm or virus is called _____	
	<ul style="list-style-type: none"> A. Virus program B. Worm scripts C. Antivirus program D. Spyware 	
49	In terms of network security, 'DoS' is termed as _____	
	<ul style="list-style-type: none"> A. Disk operating system 	

- B. Denial of service
- C. Distributive Operative services
- D. Distributed operating system.

Section - C

Section C consists of 6 Question (50 to 55). Attempt any 5 questions.

Case Study

Sanyukta is the event incharge in a school. One of her students gave her a suggestion to use Python Pandas and Matplotlib for analysing and visualising the data, respectively. Sha has created a data frame 'df' to keep track of the number of first, second and third prize won by different houses in the various events.

	House	First	Second	Third
0	Chenab	5	7	6
1	Ganges	10	5	4
2	Jamuna	8	13	15
3	Jhelum	12	9	12
4	Ravi	5	11	10
5	Satluj	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['House'][(df['Second']>12) or (df['Second']<=20)]`
- b. `df[House][(df['Second']>12) and (df['Second']<=20)]`
- c. **`df['House'][(df['Second']>12) & (df['Second']<=20)]`**
- d. `df[(df['Second']>12) & (df['Second']<=20)]`

51 To display the records in reverse order the command would be?

- a. `print(df[::-1])`
- b. **`print(df.iloc[::-1])`**
- c. `print(df[[-1:]+df[:-1]])`
- d. `print(df.reverse())`

52 Write python command to display bottom 3 records.

- a. `df.last(3)`
- b. `df.bottom(3)`
- c. `df.next(3)`
- d. **`df.tail(3)`**

53 Choose the correct output of the given statements.

`x=df.columns[:1]`

	<code>print(x)</code>	
	<ul style="list-style-type: none">a. 0b. Housec. Firstd. Error	
54	Which command will give the output 24?	
	<ul style="list-style-type: none">a. <code>print(df.size)</code>b. <code>print(df.shape)</code>c. <code>print(df.index)</code>d. <code>print(df.axes)</code>	
55	What is the output of the following Python statement? <code>df.iloc[1:2,1:2]</code>	
	<ul style="list-style-type: none">a. Gangesb. 10c. 8d. Jamuna	

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- ❖ Section A consists of Question 1 to 25 and student need to attempt 20 questions.
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Section – A

Section A consists of 25 questions, attempt any 20 questions.

1	<p>Which of the following statement is false with respect to accessing series elements through slicing?</p> <p>It can be used as same as numpy or list slicing It requires slicing start and end parameters The values of last positional index is included The series must be created with a sequence to access using slicing</p>	
2	<p>Select the correct option to get the index preview in reverse order</p> <p>s[-1::1] s[-1:1:1] s[::-1] s[::]</p>	
3	<p>What will be the output of following code:</p> <pre>import pandas as pd s=pd.Series([11,12,13,14,15,16]) s[1:4] = 20 s=list(s) print(s)</pre> <p>Select the correct output:</p> <p>[11, 20, 20, 20, 15, 16] [20, 20, 20, 20, 15, 16] [20, 12, 13, 20, 15, 16] [11, 20, 13, 20, 15, 16]</p>	
4	<p>Which of the following attribute gives the following output – (4,) for following data frame?</p> <pre>0 23 1 25 2 28 4 30</pre> <p>s.shape() s.index s.shape</p>	

	s.size	
5	Ms. Anita wants to print only list of values from the series. She should use which of the following attribute?	
	s.value s.values s.val s.eval	
6	Which of the following attribute is used to returns the total number of rows?	
	countAll size shape ndim	
7	Which of the following attribute is used check whether a series contains NaN value or not?	
	s.NaN s.None s.hasnans s.nan	
8	Which of the following function of series is used to return first 'n' elements from series?	
	s.head() s.tail() s.top() s.on()	
9	The head function returns how many elements by default from the series?	
	2 3 4 5	
10	Ms. Priya is a python developer and she created a series using the following code, but she missed some of the lines given as blank. Fill that blanks and help her to complete the code: import pandas as pd import _____ as np s1=pd.Series([3,4,_____,44,67]) print(s1) Output: 0 3 1 4 2 NaN 3 44 4 67	
	a) numPy, no.None b) numpy,np.nan c) numpy,np.NaN	

	d) NumPy, np.NaN	
11	<p>Mr. Sidhart wants to define the index explicitly for a series named s. Which of the following statement(s) is/are correct?</p> <p>Statement 1: s.index=['1st','2nd','3rd','4th']</p> <p>Statement 2: s.index('1st','2nd','3rd','4th')</p>	
	<p>a) Only Statement 1 is Correct</p> <p>b) Only Statement 2 is Correct</p> <p>c) Both statements are correct</p> <p>d) None of these statements are correct</p>	
12	<p>What will be the output of following code?</p> <pre>import pandas as pd s=pd.Series([10,20,30,40,50],index={'a','b','c','d','e'}) s['d']</pre>	
	<p>a) d</p> <p>b) 30</p> <p>c) 40</p> <p>d) 4</p>	
13	<p>Mrs. Payal Mishra wanted to access multiple index value from series s. Which of the following statement is correct for her?</p>	
	<p>a) s.index=[0,1,2,3,4]</p> <p>b) s.index(0,1,2,3,4)</p> <p>c) s[0,1,2,3,4]</p> <p>d) s[[0,1,2,3,4]]</p>	
14	<p>Which of the following plotting function does not plot multiple data series?</p>	
	<p>A. plot()</p> <p>B. bar()</p> <p>C. barh()</p> <p>D. pie()</p>	
15	<p>The plot which trend between two graphed variables is the _____ graph/chart.</p>	
	<p>A. Line</p> <p>B. Scatter</p> <p>C. Bar</p> <p>D. Pie</p>	
16	<p>The plot which tells the correlations between two variables which may not be directly related is _____ graph/chart.</p>	
	<p>A. Line</p> <p>B. Scatter</p>	

	C. Bar D. Pie	
17	Which of the following is an advantage of proprietary software?	
	A. It is usually free. B. Thoroughly tested because people are paying to use it. C. Not as customizable D. Can sometime be too generic for specialist purpose.	
18	Which of the following is a disadvantage of proprietary software?	
	A. You need to be an expert to edit the code. B. You have to pay for this type of software. C. It's Licensed D. It is launched after proper testing.	
19	Stealing someone's intellectual work and representing it as own work is called _____.	
	A. Intellectual steal B. Pluckism C. Plagiarism D. Pickism	
20	The information/art/work that exists in digital form is called _____.	
	A. E-work B. E-asset C. Digital property D. E-property	
21	Every activity you performed on the internet is saved for how long?	
	A. One month B. One year C. As per my setting D. Forever	
22	The digital trails which get created as a person's internet usage using computers, smartphones, gaming console etc. is called _____.	
	A. Internet data B. Internet trails C. Digital footprint D. E-footprint	
23	Gaining unauthorized access to a network or computer or digital files with malicious intentions is called _____.	
	A. Cracking B. Hacking C. Banging D. Phishing	
24	Legal term to describe the rights of a creator of original creative or artistic work is called _____.	
	A. Copyright B. Copyleft C. GPL D. None of these	
25	A computer _____ is a malicious code which self-replicates by copying itself to other program.	

	<p>A. Program</p> <p>B. Virus</p> <p>C. Application</p> <p>D. Worm</p>	
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Section – B

Section B consists of 24 Questions (26 to 49). Attempt any 20 questions.

26	When we create DataFrame from Dictionary of List then Keys becomes the _____	
	<p>a. Row Labels</p> <p>b. Column Labels</p> <p>c. Both of the above</p> <p>d. None of the above</p>	
27	When we create DataFrame from Dictionary of List then List becomes the _____	
	<p>a. Row Labels</p> <p>b. Column Labels</p> <p>c. Values of rows</p> <p>d. None of the above</p>	
28	In given code dataframe 'D1' has _____ rows and _____ columns. import pandas as pd LoD = {"Name" : ["Amit", "Anil", "Ravi"], "RollNo" : [1,2,3]} D1 = pd.DataFrame(LoD)	
	<p>a. 3, 3</p> <p>b. 3, 2</p> <p>c. 2, 3</p> <p>d. None of the above</p>	
29	DataFrame created from single Series has _____ column.	
	<p>a. 1</p> <p>b. 2</p> <p>c. n (Where n is the number of elements in the Series)</p> <p>d. None of the above</p>	
30	In given code dataframe 'D1' has _____ rows and _____ columns. Import pandas as pd S1 = pd.Series([1, 2, 3, 4], index = ['a', 'b', 'c', 'd'])	

	<pre>S2 = pd.Series([11, 22, 33, 44], index = ['a', 'bb', 'c', 'dd']) D1 = pd.DataFrame([S1, S2])</pre>	
	<p>a. 2, 4</p> <p>b. 4, 6</p> <p>c. 4, 4</p> <p>d. 2, 6</p>	
31	In DataFrame, by default new column added as the _____ column	
	<p>a. First (Left Side)</p> <p>b. Second</p> <p>c. Last (Right Side)</p> <p>d. Random</p>	
32	We can add a new row to a DataFrame using the _____ method	
	<p>a. rloc[]</p> <p>b. iloc[]</p> <p>c. loc[]</p> <p>d. None of the above</p>	
33	D1[:] = 77 , will set _____ values of a Data Frame 'D1' to 77.	
	<p>a. Only First Row</p> <p>b. Only First Column</p> <p>c. All</p> <p>d. None of the above</p>	
34	In the following statement, if column 'Rollno' already exists in the DataFrame 'D1' then the assignment statement will _____ D1['Rollno'] = [1,2,3] #There are only three rows in DataFrame D1'	
	<p>a. Return error</p> <p>b. Replace the already existing values.</p> <p>c. Add new column</p> <p>d. None of the above</p>	
35	In the following statement, if column 'Rollno' already exists in the DataFrame 'D1' then the assignment statement will _____ D1['Rollno'] = [1, 2] #There are only three rows in DataFrame D1'	
	<p>a. Return error</p> <p>b. Replace the already existing values.</p> <p>c. Add new column</p> <p>d. None of the above</p>	
36	In the following statement, if column 'Rollno' already exists in the DataFrame 'D1' then the assignment statement will _____	

	D1['Rollno'] = 11	
	a. Return error b. Change all values of column Roll numbers to 11 c. Add new column d. None of the above	
37	DF1.loc[] method is used to _____ # DF1 is a DataFrame	
	a. Add new row in a DataFrame 'DF1' b. To change the data values of a row to a particular value c. Both of the above d. None of the above	
38	Which method is used to delete row or column in DataFrame?	
	a. delete() b. del() c. drop() d. None of the above	
39	To delete a row, the parameter axis of function drop() is assigned the value _____	
	a. 0 b. 1 c. 2 d. 3	
40	Which type of chart shows the relationship between a numerical variable and categorical variable?	
	A. line B. bar C. pie D. x-y plot	
41	Which of the following one indicates discontinuity?	
	A. histogram B. pie C. bar graph D. None of these	
42	Assertion(A): a histogram is a plot that shows the underlying frequency distribution of a set of continuous data. Reason(R): Pyplot interface is a collection of methods within matplotlib library of python.	

	<p>a. both (A) and (R) are true, and (R) is the correct explanation of (A)</p> <p>b. both (A) and (R) are true, but (R) is not correct explanation of (A)</p> <p>c. (A) is true but (R) is false.</p> <p>d. (A) is false but (R) is true.</p>	
43	<p>Assertion(A): Pyplot plot() function is used to create line charts.</p> <p>Reason(R): Pyplot's barh() function is used to create horizontal bar graph.</p>	
	<p>a. both (A) and (R) are true, and (R) is the correct explanation of (A)</p> <p>b. both (A) and (R) are true, but (R) is not correct explanation of (A)</p> <p>c. (A) is true but (R) is false.</p> <p>d. (A) is false but (R) is true.</p>	
44	<p>Assertion(A): The datapoint plotted on a graph are called markers.</p> <p>Reason(R): The width argument of plot() specifies the width of the line.</p>	
	<p>a. both (A) and (R) are true, and (R) is the correct explanation of (A)</p> <p>b. both (A) and (R) are true, but (R) is not correct explanation of (A)</p> <p>c. (A) is true but (R) is false.</p> <p>d. (A) is false but (R) is true.</p>	
45	<p>A _____ is a program that protects website against bots by generating and grading tests that humans can pass but current computer program cannot.</p>	
	<p>CAPTCHA Human intelligence Test Firewall Anti-Virus</p>	
46	<p>Out of the following which one will be altered or modified by a computer virus?</p>	
	<p>Operating system Speed of network connectivity Application software All of the above</p>	
47	<p>Open-source software can be used for commercial purpose.</p>	
	<p>True False Error None of these</p>	
48	<p>It is okay to copy and paste the information from internet into your report then organize it.</p>	
	<p>True False Error None of these</p>	
49	<p>Shareware software allows you to try the software before you buy it.</p>	
	<p>True False Error None of these</p>	

Section - C

Section C consists of 6 Question (50 to 55). Attempt any 5 questions.

Case Study

Consider the following dataframe df and answer the given questions:

RollNo	Name	UT1	UT2	UT3	UT4
1	Prerna Singh	24	24	20	22
2	Manish Arora	18	17	19	22
3	Tanish Goel	20	22	18	24
4	Falguni Jain	22	20	24	20
5	Kanika	15	20	18	22
6	Ramandeep	20	15	22	24

50 Write down the command to display the following output:

```
RollNo      6
Name        Tanish Goel
UT1         24
UT2         24
UT3         24
UT4         24
```

- a. `print(df.max)`
- b. `print(df.max())`**
- c. `print(df.max(axis=1))`
- d. `print(df.max.axis=1)`

51 The teacher needs to know the marks scored by the students with the roll number 4. Help her identify the correct set of statements from the given options:

- a. `df1=df[df['RollNo']==4]`
`print(df1)`**
- b. `df1=df['rollno']==4]`
`print(df1)`
- c. `df1=df[df.rollno=4]`
`print(df1)`
- d. `df1=df[df.rollno==4]`
`print(df1)`

52 Which of the following statement will give the exact number of values in each column of the dataframe?

- I. `print(df.count())`
- II. `print(df.count(0))`
- III. `print(df.count)`
- IV. `print(df.count(axis= 'index'))`

- a. (i) and (ii)
- b. Only (ii)
- c. (i) , (ii) and (iii)
- d. (i) , (ii) and (iv)**

53	Which of the following command will display the column labels of the dataframe?	
	<ul style="list-style-type: none"> a. <code>print(df.columns())</code> b. <code>print(df.column())</code> c. <code>print(df.column)</code> d. <code>print(df.columns)</code> 	
54	Mrs. Sharma is the class teacher wants to add a new column, the score of Grade with the values , 'A', 'B' , 'A', 'A' , 'B', 'A' to the dataframe. Help her choose the command to do so:	
	<ul style="list-style-type: none"> a. <code>df.column=['A', 'B' , 'A', 'A' , 'B', 'A']</code> b. <code>df['Grade']=['A', 'B' , 'A', 'A' , 'B', 'A']</code> c. <code>df.loc['Grade']=['A', 'B' , 'A', 'A' , 'B', 'A']</code> d. Both b and c are correct. 	
55	What is the command to get the highest marks scored in the test UT4?	
	<ul style="list-style-type: none"> a. <code>df['UT4'].max()</code> b. <code>df.max()['UT4']</code> c. <code>df['UT4'].max()</code> d. all of these 	

Sample Question Paper – SET(A/B/C)
Term-I
Subject: Informatics Practices (Code-065)
Class – XII

Time Allowed: 90 minutes

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.

Section – A

Section A consists of 25 questions, attempt any 20 questions.

1	Which of the following code is helpful to access first 3 index values?	
	a) <code>s[:3]</code> b) <code>s[::3]</code> c) <code>s[3:]</code> d) <code>s[:3:]</code>	
2	Which of the following statement is correct with respect to loc and iloc?	
	a) both are used for to access values based on index labels b) iloc does not include the last element of the range c) loc does not include the last element of the series d) All of the above are correct	
3	What will be the output for the following code: <pre>import pandas as pd s=pd.Series([66,22,11,44,55]) for i in range(s.size): if s[i]>20: print(s[i],end=",")</pre>	
	a) 66,22,44,55 b) 22,44,55,66 c) 66,22,44,66 d) Error	
4	Ms. Advika wants to apply name for the index in series named sal for month wise salary of her employees. Choose the correct statment for her:	
	a) <code>s.index='Month'</code> b) <code>s.index.name='Month'</code> c) <code>s.index('Month')</code> d) <code>s.index.name['Month']</code>	
5	Tushar is new learner for python pandas series. He learned some of the concepts of	

	<p>python in class 11 with numpy module. He wants to create a series of values multiply by 7 between 20 to 30 with following code. The index should between 20 to 30 and evey value should be multiply with 7. Help him to create series by folloiwng code:</p> <pre>import pandas as pd import numpy as np s=np.arange(20,30)</pre>	
	<p>a) sm7= pd.Series(s,s*7)</p> <p>b) sm7=pd.Series(s*7,s)</p> <p>c) sm7=pd.Series([s*7],index=s)</p> <p>d) All of these</p>	
6	<p>What will be the output of the following code:</p> <pre>import pandas as pd s1=pd.Series([4,5,7,8,9],index=['a','b','c','d','e']) s2=pd.Series([1,3,6,4,2],index=['a','p','c','d','e']) print(s1-s2)</pre>	
	<p>a)</p> <p>a 3.0 b 0 c 1.0 d 4.0 e 7.0 p 0 dtype: float64</p> <p>b)</p> <p>a 3.0 b NaN c 1.0 d 4.0 e 7.0 p NaN dtype: float64</p> <p>c)</p> <p>a 3.0 c 1.0 d 4.0 e 7.0 dtype: float64</p> <p>d)</p>	

	a 3.0 b – c 1.0 d 4.0 e 7.0 p – dtype: float64	
7	Which of the following is not a correct statement to delete the element stored at 3rd position?	
	a) del s[3] b) s.pop(3) c) s.drop(3) d) s.delete(3)	
8	He wants to check whether series is empty or not?	
	a. s1.empty b. s1.none c. s1.blank d. s1.zero	
9	He wants to print Name and Values for Ritika and Mridul, which of the following command is correct:	
	a. s1.loc['Ritika','Mridul'] b. s1.loc['Ritika':'Mridul':3] c. s1.loc['Ritika':'Mridul'] d. s1.loc['Ritika'-'Mridul']	
10	Help to reset all values with 0 which ends with 7. Which of the following code is correct:	
	a. s1[s1/10==7]=0 b. s1[s1%10==7]=0 c. s1[s1//10==7]=0 d. s1[s1**7]=0	
11	What will be output of: print(s1.shape)	
	a. (6,) b. 6 c. [6] d. {6}	
12	He wants to check the availability of NaN values in index. Which of the following is correct statement for him?	
	a. s1.none b. s1.nan c. s1.hasnans d. s1.hasNan	
13	He wants to return total number elements from the series. Which of these statment is correct?	
	a. s1.index b. s1.length c. s1.itemsize d. s1.size	
14	A ----- is a summarization tool for discrete or continuous data.	
	A. quartile B. histogram	

	<ul style="list-style-type: none"> C. mean D. median 	
15	Which of the following function will produce a horizontal bar chart?	
	<ul style="list-style-type: none"> A. plot() B. bar() C. plotbar() D. barh() 	
16	To specify the style of line as dashed, which argument of plot() need to be set?	
	<ul style="list-style-type: none"> A. line B. width C. style D. linestyle 	
17	What is the broad term covering computer viruses, worms, trojan, adware etc.?	
	<ul style="list-style-type: none"> A. Malware B. Spyware C. Worm D. Adware 	
18	Which of the following is the source of spreading viruses from one computer to another?	
	<ul style="list-style-type: none"> A. Email B. Infected data C. Infected programs D. All of these 	
19	_____ is an attempt where a hacker tries to divert network traffic to a bogus site.	
	<ul style="list-style-type: none"> A. Phishing scams B. Spoofing C. Eavesdropping D. Pharming attack 	
20	IAD means _____	
	<ul style="list-style-type: none"> A. Internet addiction disorder B. International addiction disorder C. Instant addiction disorder D. All of the above. 	
21	The _____ is a license that gives rights opposite to copyright.	
	<ul style="list-style-type: none"> A. Patent B. Copyright C. Copytop D. Copyleft 	
22	_____ is a technology related health condition affecting eyesight.	
	<ul style="list-style-type: none"> A. Repetitive strain injury B. Destructive strain injury C. In-destructive strain injury 	

	D. In-respective strain injury	
23	_____ is a program that appears harmless but actually performs malicious functions.	
	A. Ransomware B. Spyware C. Worm D. Trojan horse	
24	The use of internet or other electronic media to harass a person or group of individuals or an organization is termed as:	
	A. Cybernet B. Cyber policing C. Cyber Stalking D. Cyber space	
25	An unsolicited mail or message indiscriminately sent to a large number of persons without their consent is called _____.	
	A. Worm B. Spam C. Trojan D. Online marketing	

Section – B

Section B consists of 24 Questions (26 to 49). Attempt any 20 questions.

26	To delete a column, the parameter axis of function drop() is assigned the value _____	
	a. 0 b. 1 c. 2 d. 3	
27	The following statement will _____ df = df.drop(['Name', 'Class', 'Rollno'], axis = 1) #df is a DataFrame object	
	a. delete three columns having labels 'Name', 'Class' and 'Rollno' b. delete three rows having labels 'Name', 'Class' and 'Rollno' c. delete any three columns d. return error	
28	If the DataFrame has more than one row with the same label, then DataFrame.drop() method will delete _____	

	<p>a. first matching row from it.</p> <p>b. all the matching rows from it</p> <p>c. last matching row from it.</p> <p>d. Return Error</p>																															
29	<p>Write the code to remove duplicate row labelled as 'R1' from DataFrame 'DF1'</p> <p>a</p>																															
	<p>. DF1 = DF1.drop('R1', axis = 0)</p> <p>b. DF1 = DF1.drop('R1', axis = 1)</p> <p>c. DF1 = DF1.del('R1', axis = 0)</p> <p>d. DF1 = DF1.del('R1', axis = 1)</p>																															
30	<p>Which method is used to change the labels of rows and columns in DataFrame?</p>																															
	<p>a. change()</p> <p>b. rename()</p> <p>c. replace()</p> <p>d. None of the above</p>																															
	<p>Consider the DataFrame 'DF' given below and answer the questions from Q31 to Q37. Following DataFrame 'DF' containing year wise sales figures for five sales persons</p> <table border="1"> <thead> <tr> <th></th> <th>2014</th> <th>2015</th> <th>2016</th> <th>2017</th> </tr> </thead> <tbody> <tr> <td>Madhu</td> <td>100.5</td> <td>12000</td> <td>20000</td> <td>50000</td> </tr> <tr> <td>Kusum</td> <td>150.8</td> <td>18000</td> <td>50000</td> <td>60000</td> </tr> <tr> <td>Kinshuk</td> <td>200.9</td> <td>22000</td> <td>70000</td> <td>70000</td> </tr> <tr> <td>Ankit</td> <td>30000</td> <td>30000</td> <td>10000</td> <td>80000</td> </tr> <tr> <td>Shruti</td> <td>40000</td> <td>45000</td> <td>125000</td> <td>90000</td> </tr> </tbody> </table> <p>Python DataFrame 'DF'</p>		2014	2015	2016	2017	Madhu	100.5	12000	20000	50000	Kusum	150.8	18000	50000	60000	Kinshuk	200.9	22000	70000	70000	Ankit	30000	30000	10000	80000	Shruti	40000	45000	125000	90000	
	2014	2015	2016	2017																												
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Ankit	30000	30000	10000	80000																												
Shruti	40000	45000	125000	90000																												
31	<p>Write a statement to append the DataFrame 'DF2' to the DataFrame 'DF'</p>																															
	<p>a. DF.append(DF2)</p> <p>b. DF2.append(DF)</p> <p>c. DF2.update(DF)</p> <p>d. None of the above</p>																															
32	<p>Write a statement to display the sales made by all sales persons in the year 2017.</p>																															
	<p>a. print(DF.loc[:, 2017])</p> <p>b. print(DF[2017])</p>																															

	<p>c. Both of the above</p> <p>d. None of the above</p>	
33	Write a statement to add new column for another year '2018' with values 55000, 65000, 75000, 85000, 95000	
	<p>a. DF[2018] = 55000, 65000, 75000, 85000, 95000</p> <p>b. DF[2018] = [55000, 65000, 75000, 85000, 95000]</p> <p>c. DF[2018] = (55000, 65000, 75000, 85000, 95000)</p> <p>d. All of the above</p>	
34	Write a statement to add new row for 'Raman' with values 55000, 66000, 77000, 88000	
	<p>a. DF.loc['Raman'] = 55000, 66000, 77000, 88000</p> <p>b. DF.loc['Raman'] = [55000, 66000, 77000, 88000]</p> <p>c. Both (a) and (b)</p> <p>d. None of the above</p>	
35	Raman was caught in the case of cheating so his Boss decided to set his sales of all years to 0(Zero). Help him to write the code for same.	
	<p>a. DF.loc['Raman'] = {0}</p> <p>b. DF.loc['Raman'] = [0]</p> <p>c. DF.loc['Raman'] = 0</p> <p>d. All of the above</p>	
36	Write a statement to delete the record of 'Shruti'	
	<p>a. print(DF.drop('Shruti',axis=0))</p> <p>b. print(DF.drop('Shruti'))</p> <p>c. Both (a) and (b)</p> <p>d. none of the above</p>	
37	Write a statement to delete a column having column label as 2017.	
	<p>a. print(DF.drop(2017,axis=0))</p> <p>b. print(DF.drop(2017,axis=1))</p> <p>c. print(DF.drop('2017',axis=1))</p>	

	d. All of the above	
38	What will be the output of the given code? import pandas as pd s = pd.Series([1,2,3,4,5], index=['akram','brijesh','charu','deepika','era']) print(s['charu'])	
	a. 1 b. 2 c. 3 d. 4	
39	Assuming the given series, named stud, which command will be used to print 5 as output? Amit 90 Ramesh 100 Mahesh 50 john 67 Abdul 89 Name: Student, dtype: int64	
	a. stud.index b. stud.length c. stud.values d. stud.size	
40	Assertion(A): The linestyle argument of plot specifies the style of the line. Reason(R): The line argument of bar() specifies the bar width.	
	a. both (A) and (R) are true, and (R) is the correct explanation of (A) b. both (A) and (R) are true, but (R) is not correct explanation of (A) c. (A) is true but (R) is false. d. (A) is false but (R) is true.	
41	Assertion(A): The xticks() function is used to specify ticks for x-axis. Reason(R): To save a plot, savefig() function is used.	
	a. both (A) and (R) are true, and (R) is the correct explanation of (A) b. both (A) and (R) are true, but (R) is not correct explanation of (A) c. (A) is true but (R) is false. d. (A) is false but (R) is true.	
42	Assertion(A): Data visualization demand much more from a graph/plot. The graph/plot should have a proper title, X and Y limits defined, Labels, Legends etc. Reason(R): Any graph or chart that you create using matplotlib's pyplot interface is created as per a specific structure of a plot or shall we say a specific anatomy.	
	a. both (A) and (R) are true, and (R) is the correct explanation of (A) b. both (A) and (R) are true, but (R) is not correct explanation of (A) c. (A) is true but (R) is false. d. (A) is false but (R) is true.	
43	Assertion(A): Pyplot is a collection of methods within matplotlib library which allows user to construct 2D plots easily and interactively. Reason(R): A histogram is a statistical tool used to summaries discrete or continuous data. It provides a visual interpretation of numerical data by showing the number of data points that fall within a specified range of values (called bins).	
	a. both (A) and (R) are true, and (R) is the correct explanation of (A) b. both (A) and (R) are true, but (R) is not correct explanation of (A)	

	c. (A) is true but (R) is false. d. (A) is false but (R) is true.	
44	Assertion(A): histogram is a type of graph that provides a visual interpretation of numerical data by indicating the number of data points that lying within a range of value. Reason(R): The position argument of legend () provides the location of legend.	
	a. both (A) and (R) are true, and (R) is the correct explanation of (A) b. both (A) and (R) are true, but (R) is not correct explanation of (A) c. (A) is true but (R) is false. d. (A) is false but (R) is true.	
45	Freeware is copyrighted software that is freely available to use:	
	A. True B. False C. Error D. None of these	
46	Cyber-laws are incorporated for punishing all types of criminals.	
	A. True B. False C. Error D. None of these	
47	Deceptive attempting to acquire sensitive information of someone else using online means, is a cybercrime:	
	A. True B. False C. Error D. None of these	
48	Freeware and free software mean the same thing	
	A. True B. False C. Error D. None of these	
49	Excessive use of internet and social media is termed as disorder.	
	A. True B. False C. Error D. None of these	

Section - C

Section C consists of 6 Question (50 to 55). Attempt any 5 questions.

Case Study

	Naman has created the following dataframe 'Climate' to record the data about climate conditions of four years.	
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		Year	MaxTemp	MinTemp	Rainfall		
		2017	32	20	123		
		2018	33	22	140		
		2019	35	21	135		
		2020	34	23	160		
50	Which of the following code snippets will return the MaxTemp, MinTemp and Rainfall for year 2018 and 2019?						
	<ul style="list-style-type: none"> a. Climate[['MaxTemp', 'Rainfall']][1:3] b. Climate['MaxTemp', 'Rainfall'][1:3] c. Climate.iloc[1:3] d. Climate.iloc[1:3,1:2] 						
51	Display the temperature difference between MaxTemp and MinTemp for all the rows an the dataframe Climate.						
	<ul style="list-style-type: none"> a. Climate=Climate['MaxTemp']-Climate['MinTemp'] b. print(Climate['Maxt']-Climate['Mint']) c. print(Climate['MaxTemp']-Climate['MinTemp']) d. print(Climate. Climate['MaxTemp']-Climate['MinTemp']) 						
52	To display 2 rows from the top in the dataframe, which of the following statement is correct?						
	<ul style="list-style-type: none"> a. print(Climate.head(=2)) b. print(Climate.head()==2) c. print(Climate.head(range(2))) d. print(climate.head(2)) 						
53	Which of the following statement/s will give the exact number of values in each column of the dataframe?						
	<ul style="list-style-type: none"> (i) print(climate.count()) (ii) print(climate.count(0)) (iii) print(climate.count) (iv) print(climate.count(axis= 'index')) 						
	<ul style="list-style-type: none"> a. Both (i) and (ii) b. Only (ii) c. (i) , (ii) and (iii) d. (i), (ii) and (iv) 						
54	To display 2 rows from the bottom in the dataframe, which of the following statement is correct?						
	<ul style="list-style-type: none"> a. print(climate.tail(=2)) b. print(climate.tail()==2) c. print(climate.tail(range(2))) d. print(climate.tail(2)) 						
55	What is the command to get the highest rainfall?						
	<ul style="list-style-type: none"> a. Climate['Rainfall'].max() b. Climate.max()['Rainfall'] 						

	<p>c. <code>Climate ['Rainfall'].max()</code> d. all of these</p>	
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