

**PreTerm-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 is module in python?  
(a) pandas (b) matplotlib (c) numpy (d) All of these
2. Python Pandas is used for  
(a) Graphic Designing (b) Animaion  
(c) Data Manipulation and Analysis (d) All of these
3. Series can be created by using  
(a) List (b) Tuple (c) Numpy (d) All of these
4. Series represents a  
(a) Single column in memory (b) Double columns in memory  
(c) Three columns in memory (d) Multi columns in memory
5. Given a Pandas series called “S”, the command which will display the last 4 rows is \_\_\_\_\_.  
(a) print(S.tail(4)) (b) print(S.Tail(4)) (c) print(S.tails(4)) (d) print(S.Tails(4))
6. Size and values of data of Series is

(a) Mutable,Immutable (b) Immutable,Mutable (c) Mutable,Mutable (d) Immutable,Immutable

7. The command used to draw a line graph is

(a) plt.line(x,y) (b) plt.linegraph(x,y) (c) plt. lineplot(x,y) (d) plt. plot(x,y)

8. Which command is correct to set upper left position of legend in line graph?

(a) pos=2 (b) position=2 (c) loc=2 (d) location =2

9. Method or function to add a new column in a data frame is:

(a) iloc() (b) insert() (c) join() (d) add()

10. What is the minimum number of arguments required for bar() function in matplotlib?

(a) 1 (b) 2 (c) 3 (d) 4

11.-----is made when information is collected from the user without the person knowing this is happening.

(a) active footprint (b) passive footprint (c) pass footprint (d) known footprint

12. Repeated posting of rumours online is the violation of

(a) Copyright (b) Cybercrime (c) plagiarism (d) None of these

13. 'O' in ODF stands for:

(a) Original (b) Open (c) Operating (d) Operator

14. Which of the following statement is correct to create series?

( a) s=Series(pd) (b) s=Series(pd) (c) s=pd.Series() (d) pd.Series()=s

15. \_\_\_\_\_includes sending, posting, or sharing negative, harmful, false, or mean content about someone else.

(a) Cyberbullying. (b) Spamming (c) Phishing (d) Plagiarism

16. A website is a collection of \_\_\_\_\_

(a) Web Servers (b) Web pages (c) Browsers (d) Hyperlinks

17. If you are deleting a column in dataframe using drop() function but same column name is not there, which type of error it will raise?

(a) Key Error (b) Syntax Error (c) Name Error (d) Value Error

18. Which of the following is suggested while on social media?

(a) Don't save password on other computers/phone (b) Don't share personal information  
(c) Don't use abusing language. (d) All of these

19. In a DataFrame, Axis= 0 represents the \_\_\_\_\_ elements.  
(a) row (b) column (c) true (d) false
20. Which of the following method can be used to change the name of column in dataframe?  
(a) colname (b) newname (c) rename (d) reindex
21. Which of the following statement is correct to set the value True to ignore\_index?  
(a) ignore.index:true (b) ignore\_index:True (c) ignore\_index=True (d) ignore\_index=true
22. Which of the following is incorrect statement to create DataFrame using list?  
(a) df=pd.DataFrame(data=['red','green','blue','yellow'])  
(b) df=pd.DataFrame(list=['red','green','blue','yellow'])  
(c) df=pd.DataFrame(['red','green','blue','yellow'])  
(d) all of these
23. Which of the following command is used to display all records having rollno>3?  
(a) print(df[df['Roll']>3]) (b) print(df['Roll']>3) (c) print(df.Roll>3) (d) print(df('Roll')>3)
24. Which function will be used to write data into dataframe from CSV file?  
(a) readcsv() (b) to\_csv() (c) read\_csv() (d) csv\_read()
25. Which of the following code will display the total number of rows?  
(a) print(len(stud.axes[0])) (b) print(stud.len(0))  
(c) print(stud.len[axes=0]) (d) print(len(stud.axes[row]))

## SECTION -B

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

26. What will be the output of the given code?

```
import pandas as pd
s =pd.Series(5, index=[0,1,2,3])
print(s)
```

(a) 0 5 (b) 0 1 2 3 5 (c) 0 0 (d) 00000  
1 5 1 5 11111  
2 5 2 10 22222  
3 5 3 15 33333

**27.** What will be the output of the given code?

```
import pandas as pd  
s=pd.Series([10,20,30,40,50],index =['a','b','c',0,1])  
print(s.iloc[1])
```

(a) 10 (b) 20 (c) 40 (d) 50

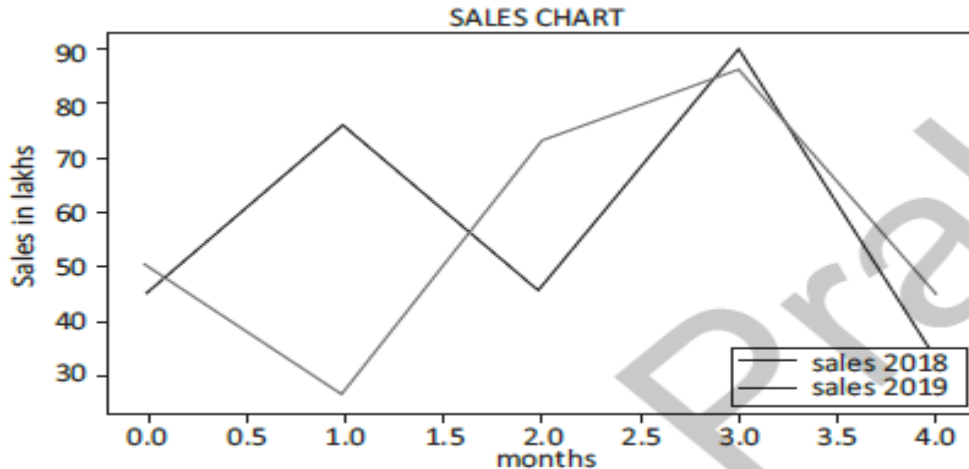
**28.** Write a single line command to calculate 10% from 'sale' column from dataframe df and assign to new column 'Commission'.

(a) `df.insert['Commission']=df.sale*10/100`  
(b) `df['Commission']=df.sale*10/100`  
(c) `df.loc['Commission']=df.sale*10/100`  
(d) `df['Commission',axis=1]=df.sale*10/100`

**29.** \_\_\_\_\_ refers to the proper manners and behaviour we need to exhibit while being online.

(a) Human Etiquets (b) Net Etiquettes  
(c) Web Etiquets (d) Online Etiquets

**30.** Observe the following figure and Identify the location of legend.



- (a) loc=1 (b) loc=2 (c) loc=3 (d) loc=4

31. Read the statements given below and identify the right option while draw a Line Chart.

**Statement A:** While making line chart, it is compulsory to give legend location.

**Statement B:** If single list or array is provided to the plot() command, matplotlib assumes it is a sequence of y values.

- (a) Both are correct  
 (b) Both are incorrect  
 (c) Statement A is correct, but Statement B is incorrect  
 (d) Statement A is incorrect, but Statement B is correct

32. The command used to draw a bar graph horizontally is \_\_\_\_\_.

- (a) p1.barhor(x,y) (b) p1.hbar(x,y) (c) p1.barh(x,y) (d) p1.graphbarh(x,y)

33. Which of the following not an Open Source software?

- (a) Linux (b) MS Windows (c) MySql (d) Python

34. Consider the following statements with reference to the plagiarism. Which of the following is not considered as plagiarism?

- (a) The practice of taking someone else's work or ideas and passing them off as one's own  
 (b) Copy data from internet  
 (c) Credit the original author in an in-text citation and reference list.

(d) Using graphs, charts, figures, or images without reference of source

**35.** Consider the following series named Result.

Rohan 90

Aman 60

Divya 34

Jeet 78

Raj 25

Jyoti 85

Gagan 32

Write the output of the command: `print(Result[:])`

(a)

Rohan 90

Aman 60

Divya 34

Jeet 78

Raj 25

Jyoti 85

Gagan 32

(b)

Gagan 32

Jyoti 85

Raj 25

Jeet 78

Divya 34

Aman 60

Rohan 90

(c) No output

(d) Error

**36.** Rajiv received a fake email from an unknown person who claimed that Rajiv won Lottery of `50 Lacs. They asked Rajiv to provide his personal information for verification. What do you think he should do?

- (a) ignore it and dont give any response
- (b) reply back to them and share his personal information
- (c) delete the mail and hope they'll leave him alone in future.
- (d) go to the cyber police and do register the complaint.

**37.** What is a correct syntax to return the values of last row of a Pandas DataFrame? Assuming the name of the DataFrame is df.

- (a) df[-1]
- (b) df.loc[-1]
- (c) df.loc[0]
- (d) df.iloc[0]

**38.** Python software come under \_\_\_\_\_ category.

- (a) Proprietary
- (b) FOSS
- (c) Freeware
- (d) Shareware

**39.** Difference between drop() and del (choose the correct one)

- (a) drop can operate on multiple items at a time; del operates only on one at a time.
- (b) Both can operate on multiple items at a time.
- (c) Both operates only on one at a time
- (d) delete can operate on multiple items at a time; drop operates only on one at a time.

**40.** Write the output of the given program:

```
import pandas as pd
S=pd.Series([10,20,30,40],index=['a','b','c','d'])
print(S-3)
```

(a)

```
a 7
b 17
c 27
d 37
dtype: int64
```

(b)

```
a-3 7
```

b-3 17  
c-3 27  
d-3 37  
dtype: int64

(c)

a-3 10  
b-3 20  
c-3 30  
d-3 40  
dtype: int64

(d)

abcd 97  
dtype: int64

**41.** A research student is expected to write a thesis on a topic. The student browses Internet for the topic and luckily finds it on the Internet. He copies and submits the entire thesis as his own research work. Which of the following activities appropriately categories the act of the writer:

(a) Spamming (b) Phishing (c) Plagiarism (d) Trojan

**42.** Consider the following dataframe df

	year	month	passengers
0	2010	Jan	25
1	2010	Mar	50
2	2012	Jan	35
3	2010	Dec	55
4	2012	Dec	65

Choose the correct statement/method for the required output: (5,3)

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

**43.** Write the output of the given command:

```
import pandas as pd
```



```
s=pd.Series([10,20,30,40,50],[1,2,3,4,5])
print(s+s)
```

(a)

```
1 20
2 40
3 60
4 80
5 100
```

(b)

```
2 20
4 40
6 60
8 80
10 100
```

(c)

```
2 10
4 20
6 30
8 40
10 50
```

(d) Error

**44.** Naman has created the following dataframe “Climate” to record the data about climatic conditions of four years.

Year	MaxTemp	MinTemp	Rainfall
2017	32	20	123
2018	33	22	140
2019	35	21	135
2020	34	23	160

Which of the following code snippets will return the MaxTemp and Rainfall for year 2018 and 2019?

- (a) `Climate[['MaxTemp','Rainfall']][1:3]` (b) `Climate['MaxTemp', 'Rainfall'][1:3]`  
(c) `Climate.iloc[1:3]` (d) `Climate.iloc[1:3,1:2]`

45. Photoshop software come under \_\_\_\_\_ category.

- (a) Proprietary (b) FOSS (c) Freeware (d) Shareware

46. Consider the dataframe df

empno	name	salary
A1 101	a	3000
A2 102	b	5000
A3 103	c	8000
A4 104	d	9000

Display the information of index value A1 and A3 from dataframe df.

- (a) `print(df.loc['A1','A3'])` (b) `print(df.loc[['A1','A3']])`  
(c) `print(df.loc[['A1':'A3']])` (d) `print(df['A1','A3'])`

47. Consider the following dataframe df

	name	marks
1	Nidhi	95
2	Gurjeet	97
3	Pahul	88
4	Divya	72

Which command will give the given output:

Output Required: 8

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

48. Consider the following data frame name df

	roll	name	marks
0	1	aman	25
1	2	bhavna	55
2	3	rahul	60

Write the output of the given command: `print(df.marks//2)`

(a)

0 12.5

1 27.5

2 30.0

(b)

0 12

1 27

2 30

(c)

12.5

27.5

30.0

(d)

roll name marks

0 1 aman 12.5

1 2 bhavna 27.5

2 3 rahul 30

**49.** Read the statements given below. Identify the right option from the following for series and dataframe

**Statement A:** Series is size immutable but value mutable.

**Statement B:** Dataframe is size and value mutable.

(a) Both statements are correct.

(b) Both statements are incorrect.

(c) Statement A is correct, but Statement B is incorrect

(d) Statement A is incorrect, but Statement B is correct

### **SECTION - C**

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

Mr. Ankit is working in an University as data analyst. He uses Python Pandas and Matplotlib for the same. He got a dataset of the students for the year 2010 and 2011. His management wants

certain information from him, but he is facing some problems. Help him by answering few questions given below.

### CODE

```
import pandas as pd
df1 = pd.DataFrame({'mark1':[30,40,15,40],'mark2':[20,45,30,70]}; #values change
df2 = pd.DataFrame({'mark1':[10,20,20,50],'mark2':[15,25,30,30]};
print(df1)
print(df2)
```

	df1	
	mark1	mark2
0	10	15
1	40	45
2	15	30
3	40	70

	df2	
	mark1	mark2
0	30	20
1	20	25
2	20	30
3	50	30

**50.** He wants to add dataframes df1 and df2.

- (i) print(df1+df2)) (ii) print(df1.sum(df2))  
(iii) print(df1.append(df2)) (iv) print(df1.add(df2))

- (a) Only (i) is correct (b) Both (ii) and (iii) are correct  
(c) Both (iii) and (iv) are correct (d) Both (i) and (iv) are correct

**51.** He wants to subtract df2 from df1.

- (i) print(df1-df2)) (ii) print(subtract(df1,df2))  
(iii) print(df2.minus(df1)) (iv) print(df1.subtract(df2))

- (a) Only (i) is correct (b) Only (iv) is correct  
(c) Both (ii) and (iii) are correct (d) Both (i) and (iv) are correct

**52.** He wants to rename column mark1 as marks1 in dataframe df1.

- (a) df1.rename({'mark1':'marks1'}, inplace=True)  
(b) df1.rename(columns={'mark1':'marks1'}, inplace=True)  
(c) df1.rename(columns={'mark1':'marks1'}, inplace=True)  
(d) df1.rename(colnames={'mark1':'marks1'}, inplace=True)

**53.** He wants to change index label of df1 from 0 to zero and from 1 to one.

- (a) `df1.rename(index = {0: "zero", 1:"one"}, inplace = True)`
- (b) `df1.rename(row = {0: "zero", 1:"one"}, inplace = True)`
- (c) `df1.rename(rows = {0: "zero", 1:"one"}, inplace = True)`
- (d) `df1.rename(index {0: "zero", 1:"one"}, inplace = True)`

**54.** He wants to delete column mark2 from dataframe df1.

- (a) `df1.drop('mark2',axis=0,inplace=True)`
- (b) `df1.del('mark2',axis=1,inplace=True)`
- (c) `del df['marks',axis=1,inplace=True)`
- (d) `df1.drop('mark2',axis=1,inplace=True)`

**55.** Add new column Total in dataframe df2 which is the sum of mark1 and mark2.

- (a) `df2['Total']=df2.mark1+df2.mark2`
- (b) `df2.column['Total']=df2[mark1+mark2]`
- (c) `df2.add['Total']=df2[mark1+mark2]`
- (d) `df2.newcolumn['Total']=df2[mark1+mark2]`

ANSWERS:

1. (d) 2. (c) 3. (d) 4. (a) 5. (a) 6. (b) 7. (d) 8. (c) 9. (b) 10. (b)  
11. (b) 12. (b) 13. (b) 14. (c) 15. (a) 16. (b) 17. (a) 18. (d) 19. (a) 20. (c)  
21. (c) 22. (b) 23. (a) 24. (c) 25. (a) 26. (a) 27. (b) 28. (b) 29. (b) 30. (d)  
31. (d) 32. (c) 33. (b) 34. (c) 35. (a) 36. (d) 37. (b) 38. (b) 39. (a) 40. (a)  
41. (c) 42. (c) 43. (a) 44. (a) 45. (a) 46. (b) 47. (c) 48. (b) 49. (a) 50. (d)  
51. (d) 52. (b) 53. (a) 54. (d) 55. (a)