ARMY PUBLIC SCHOOL ASC CENTRE & COLLEGE BANGALORE
TERM 1 – PREBOARD EXAMINATION (2021-22)
SUBJECT – INFORMATICS PRACTICES (065)
CLASS XII

Time: 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.
- There is no negative marking.
- All questions carry equal marks.

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

1. Which among the following statement is wrong
   a. Series is size immutable
   b. Data Frame values are mutable
   c. Series values are mutable
   d. Data Frame size is immutable

2. loc uses _____ to access Series Values
   a. Positional Index
   b. Labelled Index
   c. Both of the above
   d. None of the above

3. Which among the following can be used to remove a column from data frame
   a. pop()
   b. drop()
   c. del
   d. all of the above

4. Which among the following will create legends on the plot if pyplot is imported as plt
   a. plt.legent()
   b. plt.legend()
   c. plt.legends()
   d. legend(plt)

5. If SR is a series with no NaN values then SR.hasnans will give
   a. 0
   b. False
   c. True
   d. Error

6. Which among the following is used to rearrange columns in a data frame
   a. rename()
   b. reorder()
   c. reindex()
   d. rearrange()

7. Which among the following is not a library
   a. Pandas
   b. Matplotlib
   c. Pyplot
   d. Numpy

8. Which of the following cannot be used to create a Pandas data frame
   a. Scalar Value
   b. Numpy Array
   c. Dictionary
   d. None of the above

9. What is the correct statement to display a bar graph from data frame DF
   a. DF.plot('bar')
   b. DF.plot(kind='bar')
   c. DF.bar(kind='plot')
   d. DF.bar()

10. Which among the following is a valid argument in bar() function
    a. plotcolor
    b. edgecolor
    c. dotcolor
    d. linecolor

11. Which among the following is used to specify start and end point on x axis
    a. xpoints()
    b. xlength()
    c. xlim()
    d. xlimit()

12. Function can be used to fill missing values in pandas data frame
    a. addna( )
    b. fillna()
    c. dropna( )
    d. wipena()

13. RSI stands for:
   a. Repetitive Strain Injury
   b. Reactive Strain Injury
   c. Repeated Stress Incident
   d. Repetitive Stress Issue

14. _____ is the type of trails you leave while surfing internet without knowing you are doing so
   a. Active Digital Footprint
   b. Internet Foot Print
   c. Simple Digital Print
   d. Passive Digital Footprint

15. GPL is an example for _____ software license
   a. Copy Right
   b. Permissive
   c. Copy Left
   d. Free

16. OSI stands for _____
   a. Open Software Initiative
   b. Open Source Initiative
   c. Open Source Indicator
   d. Original Software Indicator

17. _____ is claiming sole authorship of a work that you know, written largely by someone else.
   a. Copy Right Infringement
   b. Intentional Plagiarism
   c. Unintentional Plagiarism
   d. Identity Theft

18. Which among the following argument is used in read_csv() to avoid particular rows while reading
   a. skiprow
   b. skip_row
   c. skiprows
   d. skip_rows

19. Which among the following statement will display row labels from Data Frame DF
   a. DF.rows
   b. DF.columns
   c. DF.index
   d. DF.rowlabels

20. Which among the following statement will update column DA of Data Frame Emp
   a. Emp.DA=0
   b. Emp.update(DA=0)
   c. Emp[DA]=[0]
   d. Emp(DA)=0

21. Which among the following is used to plot horizontal bar graph
    a. plt.bar(style=horizontal)
    b. plt.hbar()
    c. plt.barh()
    d. plt.bar(orientation=horizontal)

22. Which among the following is not covered under IPR
    a. Trademarks
    b. Inventions
    c. Remixed Songs
    d. None of the above

23. Which among the following command will display last 3 rows from Data Frame D
    a. D.head(3)
    b. D.trail(3)
    c. D.tail(3)
    d. D.last(3)

24. Which among the following substance make E-waste hazardous in nature
    a. copper
    b. plastic
    c. lead
    d. All of the above

25. Statement I : Freeware is software that is free to use. Unlike commercial software, it does not require any payment or licensing fee.
    Statement II: It is also known as Free Software
    a. Statement I is correct, II is incorrect
    b. Statement II is correct, I is incorrect
    c. Both I and II are correct
    d. Both I and II are incorrect

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([3,6,9,12,14],index=['a','b','c','d','e'])
print(s['a']+s['c'])
```

    a.   12
    b.   39
    c.   NaN
    d.   Error

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

import pandas as pd
DF1=pd.DataFrame([2,4,6,8])
DF2=pd.DataFrame([4,6,8])
DF3=DF1+DF2
print(DF3.size)

   a. 3
   b. 4
   c. 7
   d. None of the above

28. Aryan created a Pandas data frame as follows. Now he wants to add a new column named **sec**. Choose the correct statement for this:
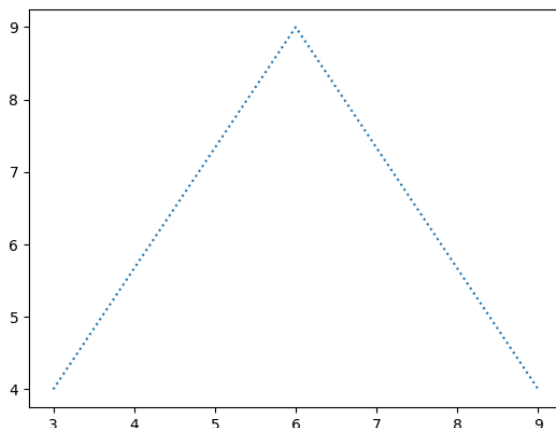
import pandas as pd
data={'fir':[11,12,13]}
DF1=pd.DataFrame(data)

   a.   DF1.add('sec'=[14,15,16])
   b.   DF1.sec=[14,15,16]
   c.   DF1.column=['fir','sec'']
   d.   DF1.append(sec)

29. _____ is a form of online fraud involving malicious code and fraudulent websites. Cybercriminals install malicious code on your computer or server. The code automatically directs you to bogus websites without your knowledge or consent.

   a. Hacking
   b. Phishing
   c. Cyber stalking
   d. Pharming

30. Observe the following figure. Identify the coding for obtaining this as output.

a. **import matplotlib.pyplot as plt**
   plt.plot([3,9],[4,4], linestyle=":")
   plt.show()
b. **import matplotlib.pyplot as plt**
   plt.plot([3,6,9],[4,9,4], linestyle="--")
   plt.show()
c. **import matplotlib.pyplot as plt**
   plt.plot([3,6,9],[4,9,4], linestyle=":")
   plt.show()
d. **import matplotlib.pyplot as plt**
   plt.plot([4,9,4], [3,6,9], linestyle=":")
   plt.show()

31. Read the statements given below and identify the right option
    Statement A: Matplotlib allows us to plot vertical and horizontal bar graphs
    Statement B: width argument is used in horizontal bar graph
    a. Only Statement A is correct
    b. Only Statement B is correct
    c. Both Statement A and B are correct
    d. Both Statement A and B are incorrect

32. Which among the following is punishable under IT ACT 2000
    a) Cyber Terrorism
    b) Sending Offensive Messages
    c) Child pornography
    d) All of the above

33. Consider the following statements with reference to netiquettes:
    Statement 1: Using UPPER CASE letters while writing e-mail
    Statement 2: Always fill subject line in e-mail with appropriate content
    Statement 3: Do not disclose others personal information without permission

    Which of the above statements are considered as good netiquettes?
    a. Statement 1 and Statement 2
    b. Statement 2 and Statement 3
    c. Statement 1 and Statement 3
    d. Statement 3 Only

34. Consider the following series named animal:

    ```
    a          apple
    b            bat
    c            cat
    d            dog
    e       elephant
    dtype: object
    ```
    Write the output of the command:
            print(**animal.iloc[3:4])**

a.
```
d    dog
e    elephant
dtype: object
```

b.
```
c    cat
d    dog
dtype: object
```

c.
```
c    cat
dtype: object
```

d.
```
d    dog
dtype: object
```

35. Which among the following command will delete column named class from data frame DF and return the deleted column
   a. DF.drop('class',axis=0)
   b. DF.pop('class')
   c. del DF['class']
   d. All of the above

36. Sending mail or message to a large number of people without their consent is called
   a. Eavesdropping
   b. Spamming
   c. Spoofing
   d. Phishing

37. Statement 1 : Ubuntu is a free and open source operating system
   Statement 2 : Photoshop is a proprietary software
   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

38. Consider the series S1 and S2. What will be the output of print(S1+S2)

S1
```
r1      4
r2      5
r3      6
r4      7
r5      8
dtype: int64
```

S2
```
r5      8
r3      6
r1      4
dtype: int64
```

a. r1 8
   r2 5
   r3 12
   r4 7
   r5 16

b. r1 12
   r2 5
   r3 12
   r4 7
   r5 12

c. r1 8
   r2 NaN
   r3 12
   r4 NaN
   r5 16

d. Index Error

39. Write output of the given code:
import pandas as pd
lst=[['arun',1000,'Savings'],['ankita',2000],['alan',1500,'Savings']]
df=pd.DataFrame(lst)
print(df[2].count())

a. **0**
b. **1**
c. **2**
d. **3**

40. Write output of the given code:
import pandas as pd
data=[10,11,25,26,30,33]
s=pd.Series(data,index=[1,2,3,4,5,6])
print(s%5==0)

a. 1   10
   3   25
   5   30

b. 1 True
   3 True
   5   True

c. 1 True
   2 False
   3 True
   4 False
   5 True
   6   False

d. 2   11
     4   26
     6   33

41. Anasuya wrote the following code to create pandas series. Now she wants to create a data frame from these series. Help her by identifying correct statement for data frame creation

import pandas as pd
name=pd.Series(['vinay','dhawan','devdath','neha'])
mark=pd.Series([60,69,70,68])

     a. df=pd.DataFrame(name,mark)
     b. df=pd.DataFrame({name:marks})
     c. df=pd.DataFrame({'name':name,'mark':mark})
     d. df=pd.DataFrame([name,marks],column=['name','marks'])

42. Consider the given data frame NDF

```
   a  b  c
1  4  3  7
2  2  4  9
3  0  4  8
4  2  1  7
5  3  5  6
```

Which among the following will be the output of **print(NDF.loc[3,'b':'c'])**

     a. 4
     b. 4 9
     c. 4 8
     d. None of the above

43. Statement 1: Boolean values can be used as index for a data frame
Statement 2: Boolean indexed elements can be accessed with loc

     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

44. Which among the following will create a line graph with circle marker
import matplotlib.pyplot as plt
x=[2,4]
y=[4,6]

     a. plt.plot(x,y,marker='round')
     b. plt.plot(x,y,marker='c')
     c. plt.plot(x,y,marker='circle')
     d. plt.plot(x,y,marker='o')

45. Consider the data frame DF given

	InvoiceNo	Amount	GST
1	2567	39000	1700
2	2569	13000	750
3	2570	25000	1200

Which among the following command will give:

| 3 | 2570 | 25000 | 1200 |

- a. DF.tail(1)
- b. DF.iloc[2]
- c. DF.loc[3]
- d. All of the above

46. Vishesh is IT employee and he spend lot of time with computers. Which among the following advises will help Vishesh to reduce health issues with the use of technology
- a. Use uninterrupted power supply
- b. Install antivirus software in computer
- c. Use proper posture and right lighting
- d. Take proper back up of data

47. Mahesh is trying to save data frame Stud to a CSV file named Data. He don't want the column labels to be stored. Help him to choose the correct statement
- a. Stud.to_csv("Data.csv")
- b. Stud.to_csv("Data.csv",column=False)
- c. Stud.to_csv("Data.csv",columns=False)
- d. Stud.to_csv("Data.csv",header=False)

48. Which among the following argument is used in hist() to specify the number of intervals
- a. interval
- b. bin
- c. bins
- d. range

49. Which among the following statement will give number of rows and columns in data frame DFF

- a. DFF.size
- b. DFF.size()
- c. DFF.count
- d. DFF.shape

Section C
Consists of 6 Questions (50 to 55). Attempt any 5 questions.
Case Study

Azad created a data frame in pandas to store his and his friend's mark in 3 subjects as follows. Now he is having confusions in performing some operations on the data frame. Help him to perform those by choosing right commands:

Code:
```
import pandas as pd
data={'MTH':[39,23,34,28],'CHE':[30,35,24,38],'PHY':[40,25,27,28]}
df=pd.DataFrame(data,index=['azad','baishnav','kiran','varsha'])
df.name="UT1"
print(df)
```

Output:

```
          MTH   CHE   PHY
azad       39    30    40
baishnav   23    35    25
kiran      34    24    27
varsha     28    38    28
```

50. He wants to sort the values in the ascending order of maths marks. Choose right command to do so
    a. df.sort_values(by='mth')
    b. df.sortvalues(by='MTH')
    c. df.sort_values('MTH')
    d. df.sort(by='MTH')

51. He wants to add details of one more friend named alan. Choose right command to do so
    a. df.alan=[30,40,35]
    b. df.iloc[4]=[30,40,35])
    c. df['alan']= [30,40,35]
    d. df.loc['alan']= [30,40,35]

52. He wants to add a new column avg with mean of all marks. Choose right command to do so
    a. df['avg']=total/3
    b. df['avg']=df.mean()
    c. df['avg']=df.mean(1)
    d. df['avg']=mean(df)

53. He wants to remove first and third rows. Choose right command to do so
    a. df.drop([1,3])
    b. df.drop(['azad','varsha'])
    c. df.drop([0,2])
    d. df.drop(['azad','varsha'],axis=1)

54. What will be the output of given command
    print(df.size*2)

	MTH	CHE	PHY
azad	39	30	40
baishnav	23	35	25
kiran	34	24	27
varsha	28	38	28

a. 24
b. 32
c. 40
d. 8

55. What will be the output of given code

    df.columns=['Maths','Chemistry']
    print(df)

a.

	Maths	Chemistry	PHY
azad	39	30	40
baishnav	23	35	25
kiran	34	24	27
varsha	28	38	28

b.

	Maths	Chemistry	PHY
azad	39	30	NaN
baishnav	23	35	NaN
kiran	34	24	NaN
varsha	28	38	NaN

c.

	Maths	Chemistry
azad	39	30
baishnav	23	35
kiran	34	24
varsha	28	38

d. Error

****