



**ST. MARGARET SR. SEC. SCHOOL**  
**MIDTERM EXAMINATION 2024-25 (SAMPLE PAPER)**  
**INFORMATICS PRACTICES (065) – CLASS XII**

**Time: 3 Hrs**

**M.M: 70**

**INSTRUCTIONS:**

1. Question no 1 to 18 are 1 mark each.
2. Question no 19 to 25 are 2 marks each.
3. Question no 26 to 30 are 3 marks each.
4. Question no 31 to 32 are 4 marks each.
5. Question no 33 to 35 are 5 marks each.

**Question no 1 to 18 are 1 mark each.**

**Q 1.** pandas was developed by :

- a. Guido Von Rossum      b. Wes McKinney      c. Alan Turing      d. Elon Musk

**Q 2.** Identify the data type not supported by Python-

- a. str      b. float64      c. None      d. All of above

**Q 3.** CSV stands for:

- a. Column Separated Value      b. Class Separated Value  
c. Comma Separated Value      d. Comma Segregated Value

**Q 4.** \_\_\_\_\_ is not a FOSS tool.

- a. Libre Office      b. Mozilla Firefox      c. Google Chrome      d. Python

**Q 5.** Copyright, Patent and Trademark comes under:

- a. Intellectual Property Right      b. Individual Property Right  
c. Industrial Property Right      d. International Property Right

**Q 6.** Identify the attribute of Dataframe to return transpose of dataframe-

- a. trans      b. T      c. count      d. Transpose

**Q 7.** Which of the following command will show the last 3 rows from a Pandas Series named NP?

- a. NP.Tail( )      b. NP.tail(3)      c. NP.TAIL(3)      d. All of the above

**Q 8.** In Python Pandas, while performing mathematical operations on series, index matching is implemented and all missing values are filled in with `_by` default.

- a. Null      b. Blank      c. NaN      d. Zero

**Q 9.** Sakshi has a dataframe Teacher with the following details (t\_code, tname, dept, salary) of teachers. Write python statements for her to-

- a. Show teacher name with their Salary.
- b. Show names and salary of teachers in Science department.

**Q 10.** By restricting the server and encrypting the data, a software company's server is unethically accessed in order to obtain sensitive information. The attacker blackmails the company to pay money for getting access to the data, and threatens to publish sensitive information unless price is paid. This kind of attack is known as:

- a. Phishing      b. Identity Theft      c. Plagiarism      d. Ransomware

**Q 11.** 'O' in FOSS stands for:

- a. Outsource    b. Open    c. Original    d. Outstanding

**Q 12.** When e-waste such as electronic circuit boards are burnt for disposal, the elements contained in them create a harmful chemical called \_\_\_\_\_ which causes skin diseases, allergies and an increased risk of lung cancer.

- a. Hydrogen    b. Beryllium    c. Chlorine    d. Oxygen

**Q 13.** Collection of hyper linked documents available on the internet is known as \_\_\_\_\_

- a. Website    b. Webpage    c. Web Server    d. Web Hosting

**Q 14.** Rows, columns in a DataFrame can be deleted using-

- a. add()    b. loc[]    c. drop()    d. insert()

**Q 15.** \_\_\_\_\_ is the trail of data we leave behind when we visit any website (or use any online application or portal) to fill-in data or perform any transaction.

- a. Offline phishing    b. Offline footprint    c. Digital footprint    d. Digital phishing

**Q 16.** \_\_\_\_\_ is a non-profit organization that aims to build a publicly accessible global platform where a range of creative and academic work is shared freely.

- a. Creative Cost    b. Critical Commons    c. Creative Commons    d. Creative Common

**Q17 and 18 are ASSERTION AND REASONING** based questions. Mark the correct choice as:

- a) Both A and R are true and R is the correct explanation for A  
b) Both A and R are true and R is not the correct explanation for A  
c) A is True but R is False  
d) A is false but R is True

**Q 17.** Assertion (A):- MODEM stands for modulator-demodulator.

Reasoning (R): - It is device that converts data from a digital format to analog and vice versa.

**Q 18.** Assertion (A):- To use the Pandas library in a Python program, one must import it.

Reasoning (R): - The only alias name that can be used with the Pandas library is pd.

**Question no 19 to 25 are 2 marks each.**

**Q 19.** Name the data structures supported by pandas.

**Q 20.** Complete the given Python code to get the required output as: **Rajasthan**

```
import ____ as pd
di = {'Corbett': 'Uttarakhand', 'Sariska': 'Rajasthan', 'Kanha': 'Madhya Pradesh', 'Gir': 'Gujarat'}
NP = ____ . Series( ____ )
print(NP[ ____ ])
```

**Q 21.** The python code written below has syntactical errors. Rewrite the correct code and underline the corrections made.

```
Import pandas as pd
df = {"Technology": ["Programming", "Robotics", "3D Printing"], "Time(in months)": [4, 4, 3]}
df= Pd.dataframe(df)
Print(df)
```

**Q 22.** Differentiate between the active digital footprint and passive digital footprints.

**Q 23.** Predict the output of the given Python code:

```
import pandas as pd
list1=[-10,-20,-30]
ser = pd.Series(list1*2)
print(ser)
```

**Q 24.** What do you understand by Patent , What are its characteristics,explain .

**Q 25.** Explain the difference between max( ) and imax ( ) functions used with series.

**Question no 26 to 30 are 3 marks each.**

**Q 26.** Consider the given DataFrame 'Genre':

Type	Code
1. Fiction	F
2. Non Fiction	NF
3. Drama	D
4. Poetry	P

Write suitable Python statements for the following:

- Add a column called Num\_Copies with the following data: [300,290,450,760].
- Add a new genre of type 'Folk Tale' having code as "FT" and 600 number of copies.
- Rename the column 'Code' to 'Book\_Code'.

**Q 27.** Richa, recently started using her social media account. Within a few days, she befriends many people she knows and some that she does not know. After some time, she starts getting negative comments on her posts. She also finds that her pictures are being shared online without her permission. Based on the given information, answer the questions given below.

- Identify the type of cybercrime she is a victim of.
- Under which act, she can lodge a complaint to the relevant authorities?
- Suggest her any two precautionary measures which she should take in future while being online to avoid any such situations.

**Q 28.** Explain the usage and significance of CSV files , in PYTHON, specially with DataFrames, How does it help you, Explain in detail.

**Q 29.** Write the purpose of iterrows() on DataFrames with an example.

**Q 30.** Give the meaning of following in context of Dataframes-

- Axis
- inplace
- iloc.

**Question no 31 to 32 are 4 marks each.**

**Q 31.** Consider the data frame **FOOD**, Write commands to display -

- Food of people between age of 6 to20.
- First two records
- List of all people from NY state.
- All indexes of df2b

**Q 32.** Consider the DataFrame DF, write the command to display-

1. Delete all records of Texas(TX) state.
2. Update the score of 'Penelope' to 5.7
3. List the number of data values in df2b
4. Delete column color from DataFrame.

**Question no 33 to 35 are 5 marks each.**

**Q 33.** Create a DataFrame in Python from the given list:

3+1+1=5

```
[['Divya','HR',95000],['Mamta','Marketing',97000],['Payal','IT',980000],['Deepak','Sales',79000]]
```

Also give appropriate column headings as shown below:

```
      Name Department  Salary
0   Divya           HR   95000
1   Mamta  Marketing   97000
2   Payal           IT  980000
3  Deepak           Sales  79000
```

- a. Create the data frame with name df2b
- b. Add a row with values of your choice.
- c. Add a column Incentives to be storing half of salary column.

**Q 34.** Ekam, a Data Analyst with a multinational brand has designed the DataFrame **df** that contains the four quarter's sales data of different stores as shown below:

```
      Store  Qtr1  Qtr2  Qtr3  Qtr4
0  Store1   300   240   450   230
1  Store2   350   340   403   210
2  Store3   250   180   145   160
```

Answer the following questions:

- i. Predict the output of the following python statement:
  - a. `print(df.size)`
  - b. `print(df[1:3])`
- ii. Delete the last row from the DataFrame.
- iii. Write Python statement to add a new column Total\_Sales which is the addition of all the 4 quarter sales.
- iv. Export the DataFrame to a CSV file named data.csv stored at D: drive.

**Q 35.** Explain the following terms with respect to Cyber Security :

- a. Digital Footprints
- b. Worm
- c. e Waste
- d. Spyware
- e. Junkmails