SUMMER HOLIDAYS HOMEWORK
Informatics Practices

SOLVE THE FOLLOWING QUESTIONS:

Q1:	What does the head () function do in a Pandas Series?	1
Q2:	What is the use of Python Pandas library?	1
Q3:	If S1 is a series object object then how will len(S1) and S1. count () behave?	1
Q4:	What do these attributes of series signify? (a) size (b) itemsize (c) nbytes	1
Q5:	What type of error is returned by the following statement? import pandas as pa pa.Series([1,2,3,4],index=['a','b','c']) (i) Value Error (ii) Syntax Error (iii) Name Error (iv) Logical Error	1
Q6:	Which attribute is not used with DataFrame? (i) Size (ii) Type (iii) Empty (d) Columns	1
Q7:	To delete a row from a DataFrame, you may use ____ statement. (i) remove (b) del (c) drop (d) cancel	1
Q8:	Given a DataFrame df: Age Name Weight 0 15 Arnav 42 1 22 Charles 75 2 35 Guru 66 Write a program to display the Weight of first and third rows	1
Q9:	Create a Series using a scalar value and define custom indices for it.	2

Q10:	Given: s = pd.Series([100, 200, 300, 400, 500], index=['a', 'b', 'c', 'd', 'e']) - Select elements at index 'b' and 'd' - Perform a slicing operation from 'a' to 'c' - Multiply the Series by 2 and display the result	3
Q11:	Consider the given DataFrame ‘health’: Diseasename Agent 0 Common Cold Virus 1 Chickenpx Virus 2 Cholera Bacteria 3 Tuberculosis Bacteria Write suitable Python Statements for the following: (a) Remove the row containing details of disease named Tuberculosis. (b) Add a new disease named ‘Malaria’ caused by ‘Protozoa’. (c) Display the last two rows	3
Q12:	Write a program to: - Create a Series using a dictionary with student names as keys and marks as values. - Display the top 2 elements using head() - Display the last element using tail() - Perform indexing to fetch a specific student's marks	4

Q13:	Create the following DataFrame Sales containing year wise sales figures for five sales persons in INR. Use the years as column labels, and sales person names as row labels. 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 100000 80000 Shruti 40000 45000 125000 90000 a) Display the row labels of Sales. b) Display the column labels of Sales. c) Display the data types of each column of Sales. d) Display the dimensions, shape, size and values of Sales. e) Display the last two rows of Sales. f) Display the first two columns of Sales. g) Create a dictionary using the following data. Use this dictionary to create a DataFrame Sales2. 2018 Madhu 16000 Kusum 110000 Kinshuk 500000	10

	Ankit 340000 Shruti 900000 h) Check if Sales2 is empty or it contains data	

Q14:	Use the DataFrames created in Question 13 above to do the following: a) Append the DataFrame Sales2 to the DataFrame Sales. b) Change the DataFrame Sales such that it becomes its transpose. c) Display the sales made by all sales persons in the year 2017. d) Display the sales made by Madhu and Ankit in the year 2017 and 2018. e) Display the sales made by Shruti 2016. f) Add data to Sales for salesman Sumeet where the sales made are [196.2, 37800, 52000, 78438, 38852] in the years [2014, 2015, 2016, 2017, 2018] respectively. g) Delete the data for the year 2014 from the DataFrame Sales. h) Delete the data for sales man Kinshuk from the DataFrame Sales. i) Change the name of the salesperson Ankit to Vivaan and Madhu to Shailesh. j) Update the sale made by Shailesh in 2018 to 100000	10

2. COMPLETE THE PRACTICAL FILE AND STUDY THE PROJECT FILE WORK FOR 2025-26 (TOPIC AS PER CBSE LIST, TITLE PAGE,INDEX CERTIFICATE ETC) ON CBSE WEBSITE.

3. REVISE THE SYLLABUS THAT HAS BEEN DONE IN THE CLASS AND COLLECT AND STUDY THE CBSE BOARD EXAMINATION PAPERS AND SAMPLE PAPERS FOR THE YEARS 2022-2023,2023-24 AND 2024-2025.(TOTAL-6).