| **Date:** 03/01/2025 | **Max. Marks:** 30 | **Duration:** 3 Hours |
|---|---|---|

Q1.     **Problem Solving using PANDAS & MATPLOTLIB**                          [**5 + 3 = 8**]

a)  **Write the code to create a DataFrame 'df' and answer the questions followed.**          **(5)**

|  | **Maths** | **Science** | **SST** |
|---|---|---|---|
| **Amit** | 100 | 100.0 | 60.0 |
| **Mohan** | 95 | 50.0 | 57.48 |
| **Sudha** | 85 | 90.0 | 53.58 |

i)   Write a command to add one column Total = Maths + Science + SST
ii)  Write a command to add one row T5 with values 75.6, 98.6, 56.0
iii) Write a command to print Score of Maths and Science only.
iv)  Write a command to update marks of Science of Sudha to 85.0
v)   Write a command to delete a row - Mohan

b)  **Write a Python program to display the given Result using a BAR CHART**          **(3)**

|  | **Maths** | **Science** | **SST** |
|---|---|---|---|
| **Amit** | 100 | 100.0 | 60.0 |
| **Mohan** | 95 | 100.0 | 57.48 |
| **Sudha** | 85 | 100.0 | 53.58 |

(i)   Set the title of graph is "Result Analysis"
(ii)  Display the legends.
(iii) Display the label of x axis to "Name" and y axis to "Score"

Q2     **SQL Queries:**                          **[7]**

**Table : Infant**

| ItemCode | Item | DatePurchase | UnitPrice | Discount |
|---|---|---|---|---|
| 101 | Frock | 2016-01-23 | 700 | 10 |
| 102 | Cot | 2015-09-23 | 5000 | 25 |
| 103 | Soft Toy | 2016-06-17 | 800 | 10 |
| 104 | Baby Socks | 2014-10-16 | 100 | 7 |
| 105 | Baby Suit | 2015-09-20 | 500 | 5 |

*Note : Discount column stores discount %.*

**Write the commands in SQL for (i) to (vi) and output for (vii) and (viii)**.
(i)     To list the names of items and their unit price that have unit price less than 800 and discount more than 5%.
(ii)    To display the number of items that have more than 10% as discount.
(iii)   To display item code and unit price in decreasing order of unit price.
(iv)    To increase the unit price of each item by 10% of their unit price.
(v)     To display the highest unit price of items.
(vi)    To display the names of items that have 'Baby' anywhere in their item names.

**Find Output :**
(vii)   SELECT MID (Item,1,2) FROM Infant;
(viii)  SELECT AVG(UnitPrice) FROM Infant WHERE DATEPURCHASE '2015–01–01';

| Q3 | Practical Records | **[5]** |
|---|---|---|
| Q4 | Project Work | **[5]** |
| Q5 | Viva voce | **[5]** |

| **External Examiner** | **Internal Examiner** |
|---|---|
| Name   : _____ | Name   : _____ |
| Sign    : _____ | Sign     : _____ |
| Examiner No: _____ | Examiner No: _____ |