



Class-XII
Sub-Informatics Practises
UT-I
(June, 2020)

Time allowed: 40 mins

M.Marks: 30

1 (a): Find the output of following program. **(2)**

```
import numpy as np
d=np.array([10,20,30,40,50,60,70])
print(d[-4:])
```

(b) What is series? Explain with the help of an example. **(2)**

(c) Write a NumPy program to create a 3x3 identity matrix, with all values as zero. **(2)**

(d) _____ method in Pandas can be used to change the index of rows and columns of a Series or Dataframe :

(i) rename() (ii) reindex() (iii) reframe() (iv) none of the above **(2)**

(e) CSV stands for _____ . **(2)**

Q.2 Consider the following table and answer the Queries:- **(10)**

Emp

EmpID	EmpName	Designation	DOJ	Sal	Comm	DeptID
8369	SMITH	CLERK	18-12-1990	1050.00	200.00	10
8499	ANYA	SALESMAN	20-02-1991	1600.00	300.00	20
8566	MAHADEVAN	MANAGER	02-04-1991	2985.00	NULL	30
8654	MOMIN	SALESMAN	28-09-1991	1250.00	400.00	20
8698	BINA	MANAGER	05-01-1991	2850.00	250.00	30
8882	SHIVANSH	MANAGER	09-06-1991	2450.00	NULL	10
8888	SCOTT	ANALYST	09-12-1992	3000.00	150.00	10
8839	AMIR	PRESIDENT	18-11-1991	5000.00	NULL	20
8844	KULDEEP	SALESMAN	08-04-1992	1500.00	0.00	30

a) Write a query to display the name of employee whose name contains “A” as third alphabet in ascending order of employee names.

b) Show the average salary for all departments with more than 5 working people.

c) List the count of Employees grouped by DeptID.

d) Display the maximum salary of employees in each Department.

e) Increase the salary of managers by 15%.

Q.3 (a) Hitesh wants to display the last four rows of the dataframe df and has written the following code :

df.tail()

But last 5 rows are being displayed. Identify the error and rewrite the correct code so that last 4 rows get displayed. (2)

(b) Write the command using Insert () function to add a new column in the last place(3rd place) named “Salary” from the list Sal=[10000,15000,20000] in an existing dataframe named EMP already having 2 columns. (2)

(c) Write a small python code to drop a row from dataframe labelled as 0. (2)

(d) Write a python code to create a dataframe with appropriate headings from the list given below : ['S101', 'Amy', 70], ['S102', 'Bandhi', 69], ['S104', 'Cathy', 75], ['S105', 'Gundaho', 82] (2)

(e) Define Matplotlib? (2)