

**SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.
M.Sc. END SEMESTER EXAMINATION APRIL/NOV - 2021
SEMESTER - II
20PCST2006 - Data Science using Python**

Total Duration : 3 Hrs	Total Marks : 75
MCQ : 30 Mins	MCQ : 15
Descriptive : 2 Hrs.30 Mins	Descriptive : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain the different string formats available in Python with examples.
2. Illustrate the different types of control flow statements available in Python with flowcharts.
3. Write a program to find the sum of all Odd and Even numbers up to a number specified by the user.
4. Write Python program to demonstrate the writing of data to a CSV file using DictWriter class.
5. List out the properties and methods of Data Frame objects with examples.
6. What is k-means algorithm? How does it work?
7. Distinguish classification and regression in machine learning.
8. Explain simple linear regression in machine learning.

Section C

Part A

Answer any **TWO** questions ($2 \times 10 = 20$ Marks)

9. Describe the need for catching exceptions using try and except statements.
10. Write a Python program to draw a line using given axis values taken from a text file, with suitable label in the x axis, y axis and a title.

Test Data:

test.txt
1 2
2 4
3 1

11. Explain decision tree algorithm in detail.
12. Describe feature selection technique in machine learning.

Contd...

Part B

Compulsory question ($1 \times 10 = 10$ Marks)

13. Write Python code to create a function named **move_rectangle()** that takes an object of **Rectangle** class and two numbers named **dx** and **dy**. It should change the location of the Rectangle by adding dx to the x coordinate of corner and adding dy to the y coordinate of corner.