Answer all the questions

1 Write down the input and output command structures in python.   (2+2)

2. Explain the requirement of using while loop in python.   2

3. Define list, tuple and dictionary   3

4. Mention the necessity of '**break**' statement in python   1

5. Consider the following matrices

$A=\begin{pmatrix} 1 & 4 & 1 \\ 2 & 5 & 1 \end{pmatrix}$ and B=$\begin{pmatrix} 4 & 1 \\ 3 & 5 \\ 7 & 1 \end{pmatrix}$

Write a python programme to show whether A*B and B*A are equal or not

Also write a programme to calculate $(A * B)^T$ 5+3

6. Write down the structure of function definition in python.   2

7. Consider the following function

$$f(x) = x^2 \quad for \quad 0 \leq x < 1$$
$$= 1/x^2 \quad otherwise$$

Plot the above function in gnuplot and save your file with .gnu extension and save the figure in jpeg format . Write all the commands in your answerscripts.   7

8. Consider the following function

$$f(x) = exp(-x^2/2)$$

Plot the above function in gnuplot. Use range of x (-4,4), range of y (0,1.1) and plot the function with both line and point (circle) with width of line 2 and with red line.   3