

Experiment no 9

AIM -Plots of the exponential functions and comparison with the plots of their Taylor series expansion till first 10 terms

Apparatus - Scilab Software

Code-

```
clc;
clear;

disp("Prattayaya AMrit");
disp("13601");
disp("B.Sc (H) Electronics");
disp("Comparison with the plots of their Taylor Series expansion till
first 10 terms");

x = input("Enter the exponential power:- "); // value to evaluate
e^x
n = input("Enter the number of terms in the Taylor Series:- ");
result = 0;

for i = 0:n-1
    term = (x ^ i) / factorial(i);
    result = result + term;
end
disp("The result of the Taylor Series after " + string(n) + " terms
is", result);

a = (%e) ^ x
disp("The actual value of e^x is :-", a);
```

```
Scilab 6.0.2.1: Console
"Prattayaya Amrit"
"13601"
"B.Sc (H) Electronics"
"Comparison with the plots of their Taylor Series expansion till first 10 terms"
Enter the exponential power:- 7

Enter the number of terms in the Taylor Series:- 10

"The result of the Taylor Series after 10 terms is"
910.74938
Undefined variable: a

--> |
```