18XW47 – MATHEMATICAL COMPUTING LAB

M.Sc-Software Systems
– IV SEMESTER

PROBLEM SHEET – 3

1. Plot using the following table

X:	1	2	3	4	5	6	7	8	9	10
Y:	2	5	6	7	8	10	13	15	18	19

2. Do the problem 1 with dotted red line, circle marker with green edge and yellow face, 2 units line width and 12 units marker size.

3. Create a vector X whose first element is -2, last element is 4 and increment 0.01. Then plot the function $y = 3.5^{-0.5x}\cos(6x), -2 \le x \le 4$.

4. Plot $x^2, x^3, \log(x), \frac{1}{x}$ if $1 \le x \le 10$.

5. Plot $\sin(x), \cos(x), \tan(x)$ if $0 \le x \le 2\pi$.

6. Using *fplot* command, plot the function $\frac{(x+5)^2}{4+3x^2}, -3 \le x \le 5$.

7. Using *plot* command, plot the function $y = 3x^3 - 26x + 10$, and its first and second derivatives, for $-2 \le x \le 4$, with different color lines and all in the same plot.

8. Do the problem 7 using *hold on* and *hold off* commands.

9. Do the problem 7 using *line*command.

10. Plot the function $y = \frac{95000}{x^2}$ as given in the following figure (some arrows are given in the figure but no need to create them) using *plot*, *xlabel*, *ylabel*, *title*, *axis*, *text* and *legend* commands.

Light Intensity as a Function of Distance
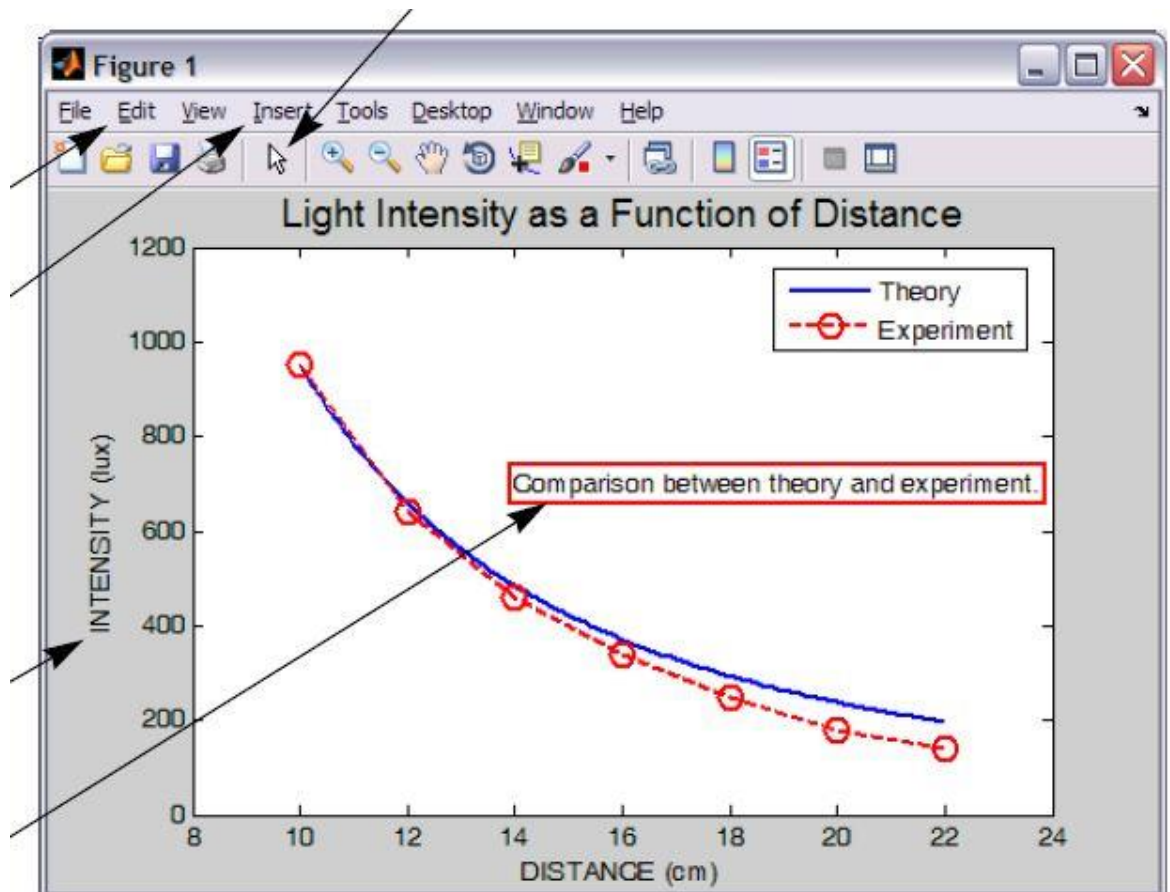
11. Plot the functions given in problem 4 as separate plots in a same page.
12. Make two separate plots of the function $f(x) = (x + 1)(x - 2)(2x - 0.25) - e^x$, one plot for $0 \le x \le 3$ and one for $-3 \le x \le 6$ in two different windows.