**SVKM’s**

**DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING**

**SUBJECT: APPLIED MATHEMATICS – I (SCILAB PROGRAMMING)**

**SESSION: JULY’12 – DEC’12**

**NAME OF THE EXERCISE: CURVE FITTING (METHOD OF LEAST SQUARES)**

**NAME: VED HETA DIV. & ROLL NO.: H 115**

**SAP ID No.: 60002120117 BRANCH: EXTC**

**QUESTION:** Fit a straight line y=ax+b to the following data

X: 74 75 76 77 78 79 80 81 ; y: 12 14 26 42 40 50 52 53

**PROGRAM:**

x=input('enter the matrix elements x=')

y=input('enter the matrix elements y=')

n=length(x)

sx=sum(x)

sy=sum(y)

sxy=sum(x.\*y)

sx2=sum(x^2)

a=[n sx;sx sx2]

b=[sy;sxy]

c=linsolve(a,-b)

disp(x,'x=')

disp(y,'y=')

disp(n,'n=')

disp(c,'for straight line y=a+bx,a & b are respectively')

**INPUT:**

enter the matrix elements x=[74 75 76 77 78 79 80 81]

enter the matrix elements y=[12 14 26 42 40 50 52 53]

**OUTPUT:**

x=

74. 75. 76. 77. 78. 79. 80. 81.

y=

12. 14. 26. 42. 40. 50. 52. 53.

n=

8.

for straight line y=a+bx,a & b are respectively

- 468.54762

6.5119048