**SVKM’s**

**DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING**

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

**SESSION: JULY’12 – DEC’12**

**NAME OF THE EXERCISE:** GAUSS SIEDEL METHOD

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

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

**QUESTION:**  Solve the following system of eqn.

10x-2y-3z=205; 2x-10y+2z=154; 2x+y-10z=-120

**PROGRAM:**

a=input('enter matrix element a=')

b=input('enter matrix element b=')

i=input('enter initial values i=')

for j=1:5

x=(b(1)-(a(1,2)\*i(2))-(a(1,3)\*i(3)))/a(1,1)

i(1)=x

y=(b(2)-(a(2,1)\*i(1))-(a(2,3)\*i(3)))/a(2,2)

i(2)=y

z=(b(3)-(a(3,1)\*i(1))-(a(3,2)\*i(2)))/a(3,3)

i(3)=z

end

disp(a,'a=')

disp(b,'b=')

disp(i,'x=[x y z]')

**INPUT:**

enter matrix element a=[10 -2 -3;2 -10 2;2 1 -10]

enter matrix element b=[205;154;-120]

**OUTPUT:**

a=

10. - 2. - 3.

2. - 10. 2.

2. 1. - 10.

b=

205.

154.

- 120.

x=[x y z]

23.814854 - 7.4343282 16.019538