**MATLAB CODE :**

% Additional Exercise ques-2

A = [ 1 2 0 1;

0 0 3 1;

0 3 1 1;

2 1 2 5;

1 0 3 2];

cmax = [100; 100; 100; 100; 100];

p = [3; 2; 7; 6];

pdisc = [2; 1; 4; 2];

q = [4; 10; 5; 10];

cvx\_begin

variable x(4)

maximize(sum(min(p.\*x,p.\*q+pdisc.\*(x-q))))

subject to

x >= 0;

A\*x <= cmax

cvx\_end

x

r = min(p.\*x,p.\*q+pdisc.\*(x-q))

total = sum(r)

avgPrice = r./x

**SOLUTIONS :**

Status: Solved

Optimal value (cvx\_optval): +192.5

x =

4.0000

22.5000

31.0000

1.5000

r =

12.0000

32.5000

139.0000

9.0000

total =

192.5000

avgPrice =

3.0000

1.4444

4.4839

6.0000