(i)

(i) Let the amount of sourdough be x and amount of bagel be y

objective function:

$$Z = \frac{20}{100}x + \frac{30}{100}y$$

or $Z = 0.2x + 0.3y$; where Z = Total Profit

constraints:

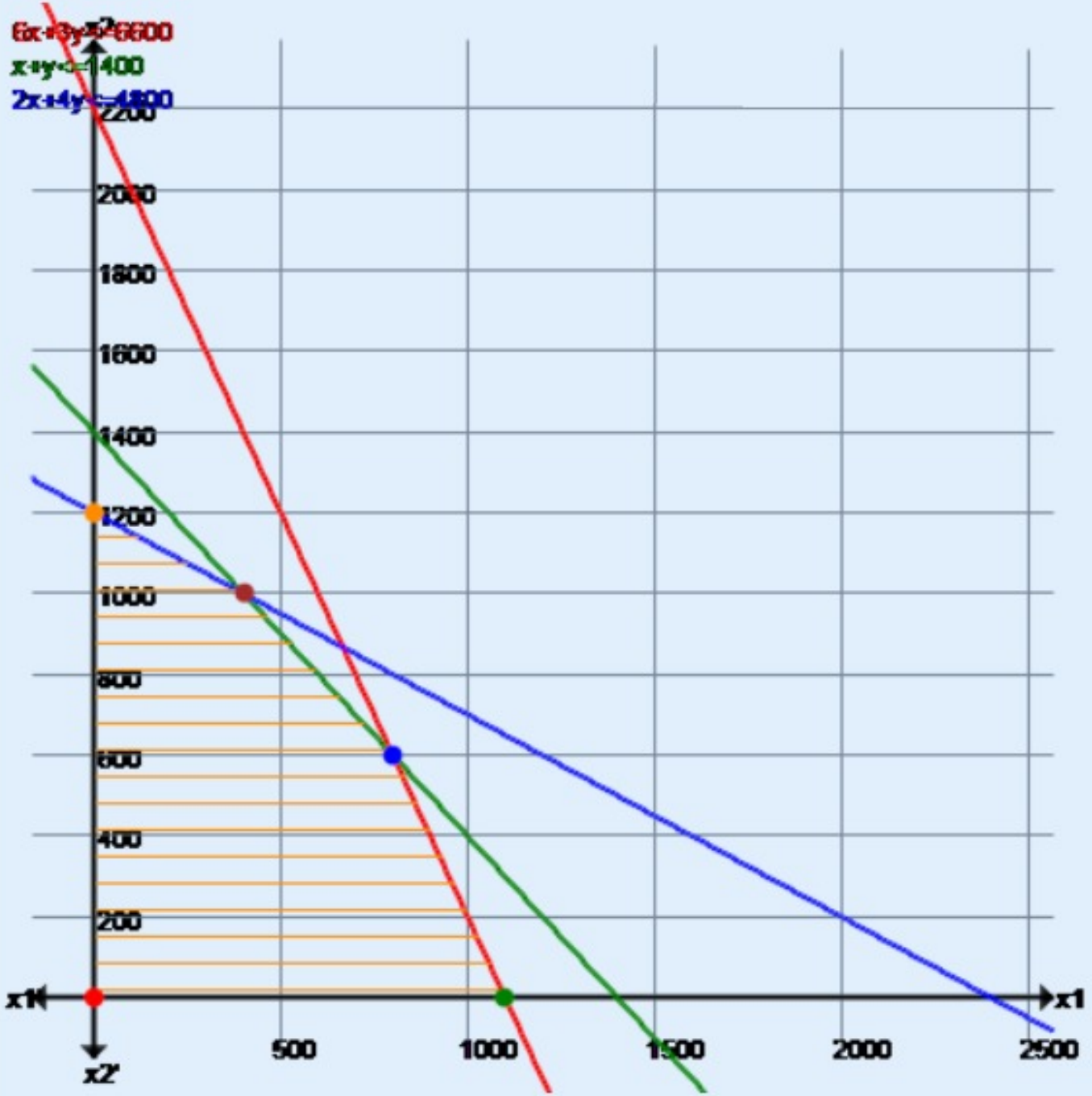
$$6x + 3y \leq 6600$$

$$x + y \leq 1400$$

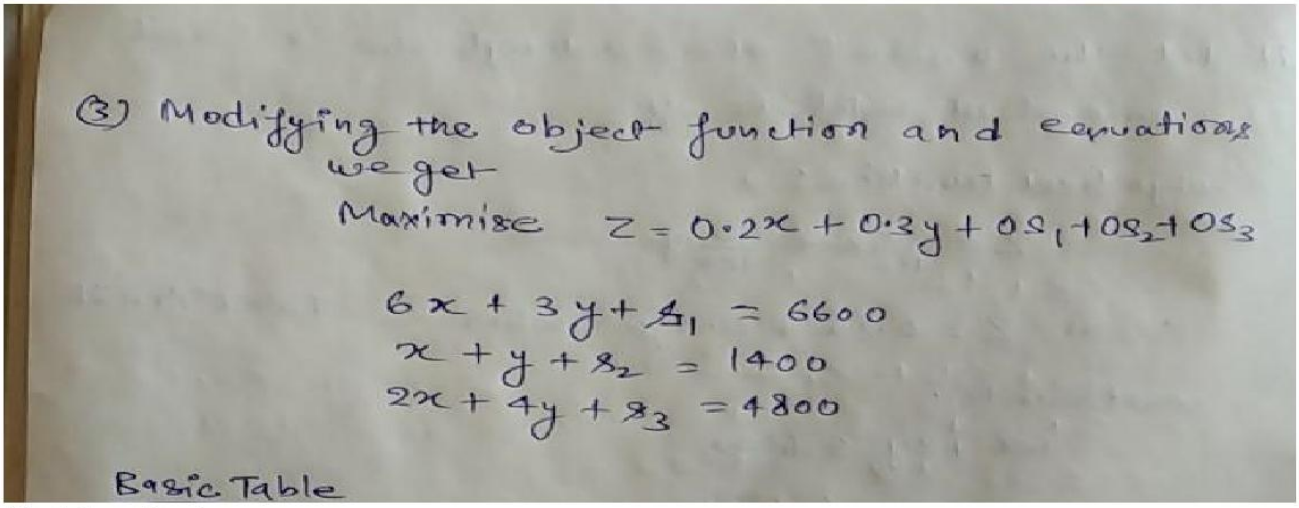
$$2x + 4y \leq 4800$$

$$x \geq 0 \; ; \; y \geq 0$$

(ii)



(iii)



First Iteration :

Xb0	Cb1	Basis2	X	Y	S1	S2	S3
6600	0	x2	6	3	1	0	0
1400	0	x3	1	1	0	1	0
4800	0	x4	2	4	0	0	1
		zj-cj->	-1/5	-3/10	0	0	0

Second Iteration :

Xb0	Cb1	Basis2	X	Y	S1	S2	S3
3000	0	x2	9/2	0	1	0	-3/4
200	0	x3	1/2	0	0	1	-1/4
1200	3/10	x1	1/2	1	0	0	1/4
		zj-cj->	-1/20	0	0	0	3/40

Not optimal after 2nd iteration

Third Iteration :

Xb0	Cb1	Basis2	X	Y	S1	S2	S3
1200	0	x2	0	0	1	-9	3/2
400	1/5	x0	1	0	0	2	-1/2
1000	3/10	x1	0	1	0	-1	1/2
		zj-cj->	0	0	0	1/10	1/20

Status: Optimal finite solution found after third iteration

Solution S1=1200, x=400, y=1000

for one day

so as $x = 400$

$y = 1000$

$s_1 = 1200$ $\Rightarrow$ Slack, in the usage of Flour = 1200 ounce

$s_2 = 0$

$s_3 = 0$

Z_{max} = Maximum Profit

$= 400 \times 0.2 + 0.3 \times 1000$

$= 380$ unit

so for one week (5 working days)

$x = 400 \times 5$

$= 2000$ units

$y = 1000 \times 5$

$= 5000$ units

$s_1 = 1200 \times 5$

$= 6000$ units

$Z_{max} = 380 \times 5$

$= 1900$ units