1) Solve the problem under Graphical Method

under LPP :

Maximum = $5x_1 + 3x_2$

Subject to

$5x_1 + 2x_2 \leq 10 \rightarrow 1$

$3x_1 + 5x_2 \leq 15$

$x_1 + x_2 \geq 0$

① $5x_1 + 2x_2 = 10$

$5x0 + 2x_2 = 10$

$0 + 2x_2 = 10$

$2x_2 = 10$

$x_2 = 10/2$

$= 5$

(0, 5)

$5x_1 + 2x_2 = 10$

$5x_1 + 2x0 = 10$

$5x_1 + 0 = 10$

$5x_1 = 10$

$x_1 = 10/5$

$= 2$

(2, 0)

② $3x_1 + 5x_2 = 15$

$3x0 + 5x_2 = 15$

$0 + 5x_2 = 15$

$5x_2 = 15$

$x_2 = 15/5$

$= 3$

(0, 3)

$3x_1 + 5x_2 = 15$

$3x_1 + 5x0 = 15$

$3x_1 + 0 = 15$

$3x_1 = 15$

$x_1 = 15/3$

$= 5$

(5, 0)

Objective Function :

$5x_1 + 3x_2$

$5x0 + 3x0 = 0$

$5x2 + 3x0 =$

$10 + 0 = 10$

$5x1.2 + 3x2.3 =$

$6 + 6.9 = 12.9$

$5x0 + 3x3 =$

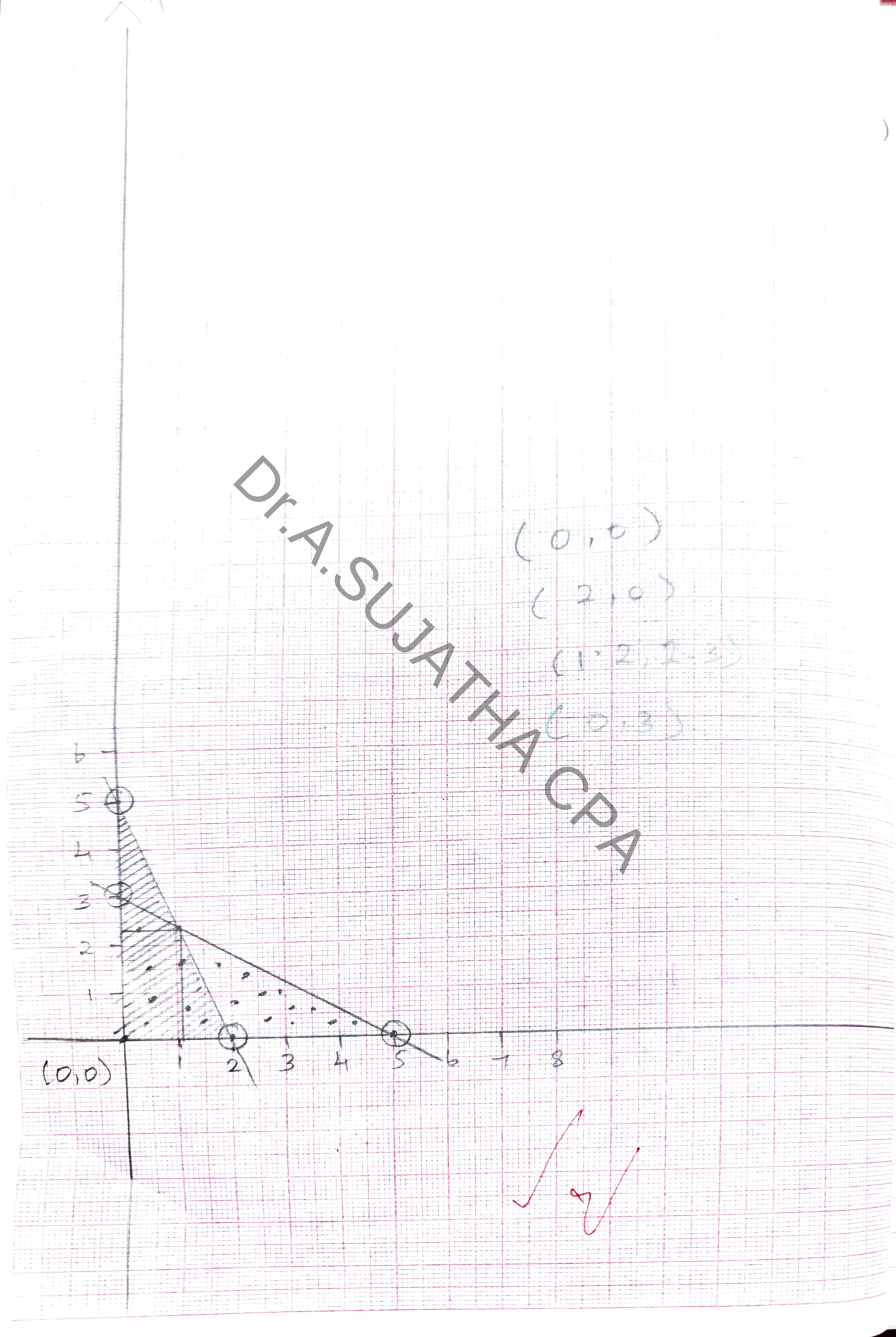
$0 + 9 = 9$

10

12.9

9

Maximum 12.9.


(0,0)
(2,0)
(1.2, 1.2)
(0,3)
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