

7.	<p>Maximize <math>z = 50x + 60y</math> subject to</p> $5x + 8y \leq 180, \quad 10x + 8y \leq 240, \quad x \geq 0, \quad y \geq 0.$ <p>Maximum profit is ₹ 1500 when 12 units of type A and 15 units of type B is produced.</p>	(ISC 2014)
8.	<p>Minimize <math>z = 24x + 36y</math> subjects to the constraints</p> $x + 2y \geq 10, \quad x + y \geq 6, \quad 3x + y \geq 8, \quad x \geq 0, \quad y \geq 0.$ <p>Least cost is ₹ 192 and is obtained when 2 kg of food X is mixed with 4 kg of food Y.</p>	(ISC 2015)
9.	<p>Maximize <math>z = 40x + 50y</math> subject to the constraints</p> $3x + y \leq 9, \quad x + 2y \leq 8, \quad x \geq 0, y \geq 0$ <p>Maximum profit is ₹ 230, when 2 units of type A and 3 units of type B are produced.</p>	(ISC 2016)
10.	<p>Minimize <math>z = 5x + 8y</math> subject to the constraints</p> $2x + y \geq 140, \quad 3x + 5y \geq 350 \quad x \geq 0, y \geq 0$ <p>Minimum cost is ₹ 570 and is obtained when 50 kg of fertilizer A is mixed with 40 kg of fertilizer B.</p>	(ISC 2017)
11.	<p>Maximize <math>z = 80x + 120y</math> subject to the constraints</p> $3x + 4y \leq 60, \quad x + 3y \leq 30, \quad x \geq 0, y \geq 0$ <p>Maximum profit is ₹ 1680 and is obtained when 12 units of type A and 6 units of type B is produced per week.</p>	(ISC 2018)
12.	<p>Maximize <math>z = 48x + 40y</math> subject to the constraints :</p> $2x + y \leq 90, \quad x + 2y \leq 80, \quad x + y \leq 50, \quad x \geq 0, y \geq 0$ <p>Maximum gross income is ₹ 2,320. For maximum gross income the carpenter should make 40 units of product A and 10 units of product B.</p>	(ISC 2019)
13.	<p>Maximize <math>z = x + 1.50y</math> subject to the constraints:</p> $x + 2y \leq 40, \quad 2x + y \leq 40, \quad x + y \leq 25, \quad x \geq 0, y \geq 0.$ <p>Maximum profit is ₹ 32.5 and 10 half sleeve shirts and 15 full sleeves shirts should be made per week to maximize profit.</p>	(ISC 2020)
14.	<p>Maximize Profit (in ₹), <math>z = 30x + 20y</math></p> <p>Subject to the constraints</p> $12x + 6y \leq 360 \quad \text{or} \quad 2x + y \leq 60$ $6x + 9y \leq 360 \quad \text{or} \quad 2x + 3y \leq 120$ $x \geq 0, y \geq 0$ <p>When 15 toys of type A and 30 toys of type B are manufactured per day, Profit is maximum and maximum profit is ₹ 1050.</p>	(ISC 2022)