



UNIVERSITY OF ENGINEERING AND TECHNOLOGY TAXILA
Department of Industrial Engineering
Assignment # 1

Course Name: Operations Research
Semester: 5th(Entry 2011 Fall)

Course Code: IE-313

Transcribe the following problems into standard form and then solve them using the graphical method:

Q #: 1 Maximize $x_1 + 2x_2$

 Subject to: $2x_1 + x_2 \leq 4$

 $x_1, x_2 \geq 0$

Q #: 2 Maximize $x_1 + 3x_2$

 Subject to: $x_1 + 4x_2 \geq 48$

 $5x_1 + x_2 \geq 50$

 $x_1, x_2 \geq 0$

Q #: 3 Maximize $5x_1 + 10x_2$

 Subject to: $10x_1 + 5x_2 \leq 50$

 $5x_1 - 5x_2 \geq -20$

 $x_1, x_2 \geq 0$

Q #: 4 Minimize $3x_1 + x_2$

 Subject to: $2x_1 + 4x_2 \leq 21$

 $5x_1 + 3x_2 \leq 18$

 $x_1, x_2 \geq 0$

Q #: 5 Minimize $3x_1 + 6x_2$

 Subject to: $-3x_1 + 3x_2 \leq 2$

 $4x_1 + 2x_2 \leq 4$

 $-x_1 + 3x_2 \geq 1$