Operations Research Assignment 2

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# Q1) ans

Equations

Introducing Slack Variables

1. Taking as 0

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1. Taking as 0

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1. Taking as 0

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Maximising the values

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|  | 0 | 0 | 0 |
| 0 | 0 | 36 | 72 |
| 0 | 12 | 0 | 24 |
| 30 | 0 | 0 | 150 |
| ***36*** | ***0*** | ***0*** | ***180*** |
| 18 | 6 | 0 | 102 |
| 34 | 0 | 2 | 174 |

Thus maximum value is and occurs at

# Q2)

Ans

Minimize Subject to

Initial Simplex Tableau,

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Min Ratio

Exchanging , Dividing the row by 2, Dividing the column by -2, and other elements by we get

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As All Ratios in the IR is positive Maximum is 6

# Q4)

Ans

Minimize Subject to

Initial Simplex Tableau,

Min Ratio

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Exchanging , Dividing the row by 10, Dividing the column by -, and other elements by we get

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As values corresponding to the non-basic variable is 0.

One more iteration

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# Q5)

Ans

Minimize Subject to

Initial Simplex Tableau,

Min Ratio

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Exchanging , Dividing the row by 10, Dividing the column by -, and other elements by we get

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As values corresponding to the non-basic variable is 0.