AW 6

6-1.

$$\min \sum_{i \in V} \sum_{j \in V} c_{ij} x_{ij}$$

A: (6) → (5) → (1) → (4) → (2) → (3) → (6)

Best objective: 7264

s.t.

$$\sum_{i \in \{V \setminus j\}} x_{ij} = 1, \quad \forall j \in V$$

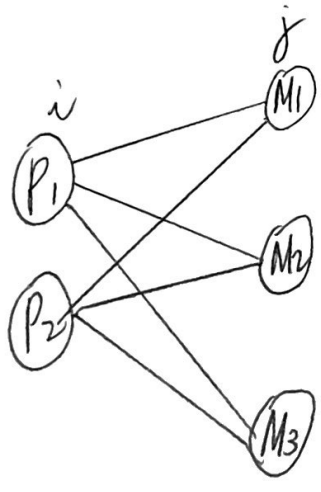
$$\sum_{j \in \{V \setminus i\}} x_{ij} = 1, \quad \forall i \in V$$

$$u_i - u_j + \underbrace{6}_{N} \cdot x_{ij} \leq \underbrace{6}_{N} - 1 = 5, \quad \forall i, j \in \{V \setminus N\} \text{ and } i \neq j$$

$$u_i \geq 0, \quad \forall i \in \{V \setminus N\}$$

x_{ij} binary, $\forall i, j \in V$

6-2.



A: Best objective: $153

$x_{11} = 7$ $x_{21} = 10$

$x_{12} = 8$ $x_{22} = 0$

$x_{13} = 0$ $x_{23} = 10$

$$\min \sum_{i,j} c_{ij} x_{ij}$$

s.t.

$$\sum_{j} x_{ij} \leq S_i, \text{ for all } i$$

$$\sum_{i} x_{ij} \geq d_j, \text{ for all } j$$

$$x_{ij} \geq 0$$