$$\text{(MKP)} \qquad \text{maximize} \quad \sum_{i=1}^{m}\sum_{j=1}^{n} p_j x_{ij} \tag{10.1}$$

$$\text{subject to} \quad \sum_{j=1}^{n} w_j x_{ij} \leq c_i\,, \quad i = 1,\ldots,m, \tag{10.2}$$

$$\sum_{i=1}^{m} x_{ij} \leq 1, \quad j = 1,\ldots,n, \tag{10.3}$$

$$x_{ij} \in \{0,1\}, \quad i = 1,\ldots,m, \quad j = 1,\ldots,n,$$

where variable $x_{ij} = 1$ if item j is assigned to knapsack i and zero otherwise. Due