1. A plant manager has four subordinates, and four tasks to be performed. The subordinates differ in efficiency and the tasks differ in their intrinsic difficulty. This estimate of the times each man would take to perform each task is given in the effectiveness matrix below.

|  | I | II | III | IV |
| :--- | :--- | :--- | :--- | :--- |
| A | 8 | 26 | 17 | 11 |
| B | 13 | 28 | 4 | 26 |
| C | 38 | 19 | 18 | 15 |
| D | 19 | 26 | 24 | 10 |

How should the tasks be allocated, one to a man, so as to minimize the total man hours?
2. A dairy plant has five milk tankers I, II, III, IV \& V. These milk tankers are to be used on five delivery routes A, B, C, D, and E. The distances (in kms) between dairy plant and the delivery routes are given in the following distance matrix

|  | I | II | III | IV | V |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A | 160 | 130 | 175 | 190 | 200 |
| B | 135 | 120 | 130 | 160 | 175 |
| C | 140 | 110 | 155 | 170 | 185 |
| D | 50 | 50 | 80 | 80 | 110 |
| E | 55 | 35 | 70 | 80 | 105 |

How the milk tankers should be assigned to the chilling centers so as to minimize the distance travelled?

