

Module : Operations Research 1

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Exercise sheet 5

Assignment problem-Hungarian Method

Exercise 1: 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

Milk Trankers

	I	II	III	IV	V
A	25	24	20	10	12
B	55	25	15	12	14
C	12	14	56	33	25
D	44	33	8	18	44
E	19	38	26	17	34

Task: How the milk tankers should be assigned to the chilling centres so as to minimize the distance travelled?

Exercise 2:

A computer centre has four expert programmers and needs to develop four application programmes. The head of the computer centre, estimates the computer time (in minutes) required by the respective experts to develop the application programmes as follows:

Programs

	A	B	C	D
1	120	100	80	90
2	80	90	110	70
3	110	140	120	100
4	90	90	80	90

Task: Find the assignment pattern that minimises the time required to develop the application programmes.