



QUESTION WORKBOOK

Transportation problems

Decision Mathematics 2 · Year FM

6 questions · 18 marks

NAVY SCREEN EDITION

SECTION A · Warm-up

- A1** A transportation problem has supplies of 40, 30 and 50, and demands of 35, 45 and 25. State what must be done before any method is applied, giving the figure involved. [2]

- A2** State how many cells a solution to a 4 by 5 transportation problem should use, and what it means if it uses fewer. [2]

SECTION B · Standard

- B1** Supplies are A 40, B 30, C 50 and demands are X 35, Y 45, Z 40. Costs per unit are AX 8, AY 5, AZ 6, BX 4, BY 9, BZ 7, CX 3, CY 6, CZ 5. Find the north-west corner solution and its cost. [5]

B2 For that solution, confirm the cell count is right and comment on the quality of the answer. [2]

B3 A source in a different problem cannot supply one particular destination at all. Explain how this is handled, and why a cost of zero would be wrong. [3]

SECTION C · Stretch

C1 A problem has supplies 20 and 30 with demands 20 and 30. Show that the north-west corner method produces a degenerate solution here, and say what has to be recorded. [4]