Q Sol.

	D_1	D_2	D_3	a_i
O_1	5	1	8	12
O_2	2	4	0	14
O_3	3	6	7	4
b_j	9	10	11	

i) North-West Corner Rule

	D_1	D_2	D_3	a_i
O_1	9 | 5	3 | 1	8	12 (3) (0)
O_2	2	7 | 4	7 | 0	14 (7) (0)
O_3	3	6	4 | 7	4 (0)
b_j	9 (0)	10 (7) (0)	11 (4)	

no of basic variables $(m+n-1) = 3+3-1 = 5$

$x_{11} = 9,\ x_{12} = 3,\ x_{22} = 7\ \ x_{23} = 7\ \ x_{33} = 4$

Cost of Soln $= 9\times5 + 3\times1 + 7\times4 + 7\times0 + 4\times7$
$= 45 + 3 + 28 + 28$
$= 104$

ii) Vogels Approximation Method (VAM)

	D_1	D_2	D_3	a_i
O_1	5	1	8	12 (4)
O_2	2	4	11 | 0	14 (2) (3)
O_3	3	6	7	4 (3)
b_j	9 (1)	10 (3)	11 (7)	

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	D_1	D_2	
O_1	5	10 | 1	12 (4) (2)
O_2	2	4	3 (2)
O_3	3	6	4 (3)
	9 (1)	10 (3) (0)	

	D_1	
O_1	2 | 5	2 (0)
O_2	3 | 2	3 (0)
O_3	4 | 3	4 (0)
	9 (1)	

	D_1	D_2	D_3	a_i
O_1	2 | 5	10 | 1	8	12
O_2	3 | 2	4	11 | 0	14
O_3	4 | 3	6	7	4
b_j	9	10	11	

$x_{11} = 2 \quad x_{12} = 10$
$x_{21} = 3 \quad x_{23} = 11$
$x_{31} = 4$

no of ~~feasible~~ basic variables $= (m+n-1) = 5$

Cost of soln $: 2\times5 + 10\times1 + 3\times2 + 11\times0 + 4\times3$
$= 10 + 10 + 6 + 12$
$= 38$

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