

Dr. Babasaheb Ambedkar Open University
Term End Examination July-2026

Course : Diploma Course Subject Code : DOR-02 Subject Name : Assignment and Transportation Problems	Date : 07/07/2026 Time : 11:30am to 01:45pm Duration : 02.15 Hours Max. Marks : 70
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Q-1 Solve the following problems so as to maximise the profit for Kush ltd. (Profit in Rs.) **14**

Workers	Jobs			
	A	B	C	D
P	11	12	13	14
Q	14	15	16	17
R	15	16	17	18
S	18	17	16	15

OR

Explain the Northwest Corner method with example.

Q-2 Solve the following problems so as to maximise the profit for Kiran Ltd. (Profit in Rs.) **14**

Workers	Jobs			
	A	B	C	D
P	12	14	13	11
Q	15	17	16	14
R	16	18	17	15
S	17	15	16	18

OR

Explain Vogel's Approximation method.

Q-3 Obtain a feasible solution of the following transportation problem by North-west corner rule for DigVijay Ltd.: **14**

Origin	Destinations				
	P	Q	R	S	Supply
A	1	5	2	6	13
B	9	10	3	8	17
C	5	4	7	3	5
Requirement	5	11	15	4	35

The expense matrix shows the transportation expense in Rs. per unit

OR

Discuss the Modi method of Transportation in detail.

Q-4 The expense price of a machine is Rs. 5,000 in Swastik Ltd. Its maintenance expense and the scrap value at the end of each year is given as follows. When should the machine be replaced? **14**

Year	1	2	3	4	5	6	7	8
Maintenance expense in Rs.	1,500	1,600	1,800	2,100	2,500	2,900	3,400	4,000
Scrap value in Rs.	3,500	2,500	1,700	1,200	800	500	500	500

OR

Explain the Mathematical model of Transportation problems.

Q-5 (A) Short notes (Any three) **09**

1. Multiple Optional Solution in the Assignment Problem
2. Unbalanced Assignment Problem
3. Travelling Salesman Problem
4. Least Cost Method of Transportation Problem
5. Maximisation Case in Assignment Problem

1. The disadvantage of using North-West Corner Rule to find initial solution to the transportation problem is that.
(A) It is complicated to use
(B) It does not take into account cost of transportation
(C) It leads to a degenerate initial solution
(D) All of the above
2. The method used to verify the optimality of the current solution of the transportation problem is _____.
(A) Least Cost Method (B) VAM
(C) Modified Distribution Method (D) All of the above
3. The transportation problem is basically a _____.
(A) Maximisation model (B) Minimisation model
(C) Trans-shipment problem (D) Iconic model
4. The row, which is introduced in the matrix to balance the rim requirement, is known as:
(A) Key row (B) Idle row (C) Dummy row (D) Slack row
5. VAM stands for:
(A) Value Added Method (B) Value Assessment Method
(C) Vogel Adam Method (D) Vogel's Approximation Method
