Dr. Babasaheb Ambedkar Open University
Term End Examination January – 2018

Course	**:**	**DOR**	**Date**	**:**	**21/01/2018**
Subject Code	**:**	**DOR-02**	**Time**	**:**	**3:00pm to 6:00pm**
Subject Name	**:**	**Assignment and Transportation Problams**	**Duration**	**:**	**3 Hours**
			Max. Marks	**:**	**70**

Q-1 Explain Travelling Salesman Problem. **(14)**

OR

Explain Assignment Problem.

Q-2 Obtain a basic feasible solution of the following transportation problem by North-West corner rule for Amar Ltd. **(14)**

Destination:

Origins		**D1**	**D2**	**D3**	**D4**	**D5**	**Supply**
	Q1	3	4	6	8	9	20
	Q2	2	0	1	5	8	30
	Q3	7	11	20	40	3	15
	Q4	2	1	9	14	16	13
Demand		40	6	8	18	6	78

OR

Obtain a basic feasible solution of the following transportation problem by North-West corner rule for Ankit Ltd.

Destination:

Origins		**D1**	**D2**	**D3**	**D4**	**D5**	**Supply**
	Q1	2	11	10	3	7	4
	Q2	1	4	7	2	1	8
	Q3	3	9	4	8	12	9
Requirment		3	3	4	5	6	21

Q-3 Solve the following transportation problem for Raman Ltd. By Vogel's Method and find total expense. **(14)**

Origins		**D1**	**D2**	**D3**	**D4**	**Supply**
	Q1	1	2	1	4	30
	Q2	3	3	2	1	50
	Q3	4	2	5	9	20
Requirement		20	40	30	10	100

OR

Obtain a feasible solution of the following transportation problem by Matrix Minima Method for Akruti Ltd.

Sales Centers:

Godowns		X	Y	Z	W	Supply
	A	8	9	6	3	18
	B	6	11	5	10	20
	C	3	8	7	9	18
Demand		15	16	12	13	56

Q-4 In Map Ltd. Two purchase price of an item is Rs. 7000. Annual Operating expenses is Rs. 300 for the first year and then increase by Rs. 1500 every year. After how many years should the item be replaced? **(14)**

OR

Solve the following assignment problem to minimize the total expense for Raj Ltd.

Destination

Origins	D1	D2	D3	D4	D5
Q1	3	5	4	6	5
Q2	8	5	7	9	5
Q3	3	10	9	11	5
Q4	9	7	13	8	5
Q5	3	9	6	9	9

Q-5 Write Short any two: **(14)**

1. North-West corners Method.
2. Restrictions on Assignments.
3. Least Cost Method.
4. Problem of Replacement
