

Date: 06th October 2013
Time: 08:00 – 09:00 AM

Venue: V-LT1
Max Marks: 20

NOTE:

- CELL PHONE NOT ALLOWED EVEN IN SWITCHED OFF MODE. KEEP IT AWAY FROM YOU EITHER IN YOUR BAG OR HAND IT OVER TO THE INVIGILATOR DURING EXAMINATION.
- USE YOUR OWN CALCULATOR. EXCHANGE OF CALCULATORS IS NOT ALLOWED.

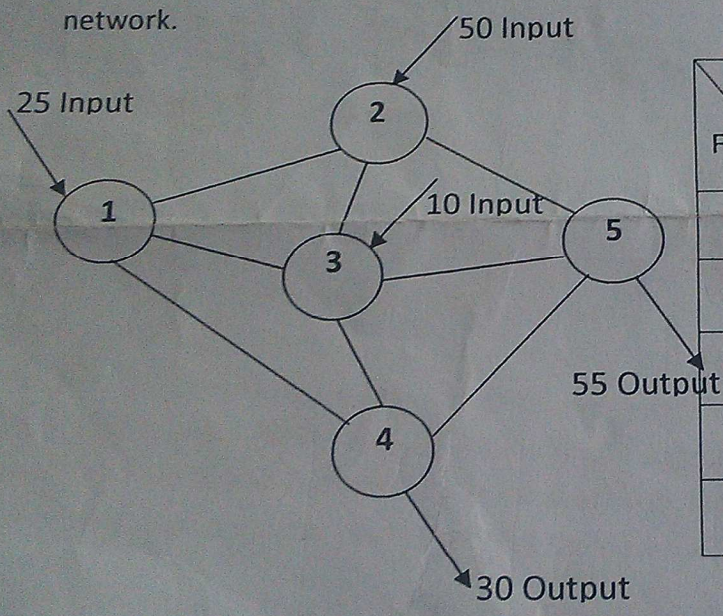
1. The owner of a new car dealership wishes to invest no more than ₹ 40 lakh in the purchase of three new models:

- Model A costs ₹ 4.0 lakh and sells for ₹ 4.50 lakh
- Model B costs ₹ 8.0 lakh and sells for ₹ 9.80 lakh
- Model C costs ₹ 6.0 lakh and sells for ₹ 7.20 lakh

The owner wishes to have at least one and no more than three of each model. Determine the buying strategy that maximizes the profit. (Note: 1 lakh = 100,000)

7 marks

2. The transportation and transshipment costs for the network given below are given alongside the network.



To \ FM	1	2	3	4	5
1	1	5	3	5	M
2	2	3	1	M	9
3	7	6	6	4	3
4	6	M	4	7	7
5	M	6	5	4	10

Route the inputs at nodes 1, 2, and 3 to nodes 4 and 5 such that the demands be fulfilled at a minimum cost. M stands for a large, positive cost coefficient.

6 marks

3. The company is spending Rs 1,200 on transportation of its units from three plants to four destination centres. The supply and demand of units with unit cost of transportation are given below. Suggest the maximum saving by optimal scheduling.

Plants	Destination centres				Supply
	A	B	C	D	
P1	20	30	50	17	7
P2	70	35	40	60	10
P3	40	12	60	25	18
Demand	5	8	7	15	