Part III Examination in Bachelor of Commerce - 2003
COM 404 Managerial Economics (Repeat)

Answer all questions.

Time: 3 hrs.

1. Analyse the factors that determine the quantity of a product in view of commercial perspective.

   (20 marks)

2. A monopolist's demand function is $Q = 800 - 8P$. The costs of the two plants of the product are $C_1 = 40Q_1$ and $C_2 = Q_2^2$.

   Find is the optimum production of each plant and the profit maximising solution.

   Where
   $Q = Q_1 + Q_2$
   Q_1 = First plant production
   Q_2 = Second plant production
   P = Price of the product
   C_1 = Total Cost of the first plant
   C_2 = Total Cost of the second plant

   (20 marks)

3. Write Short notes on the following.
   a) Iso-cost curve.
   b) Break-even point.
   c) Activity-on-node in Network diagram
   d) Slack variable in linear programming.

   (20 marks)

4. The following information are available to you with regard to a project.

Activity	Preceding activity	Duration (days)	Cost (Rs. '000)
A	-	10	11
B	-	7	6
C	-	8	6
D	A	11	13
E	A, B. C	12	12
F	C	4	7
G	D, E, F	6	5

There is a fixed cost of Rs. 600/= per day. Each activity can be crashed to save two days as maximum and the additional cost per day saved is 10% of normal cost of the activity.

You are required to find:
a) Normal duration, cost, and the critical path of the project.
b) Minimum duration and its associated cost of the project.

(20 marks)

5. A firm intends to supply its product to different markets (M1, M2, and M3) from its factories (F1, F2, and F3). The profit/unit to be gained from each market in accordance with unit cost of the factories, the markets' demand, and the factories' supply are given below.

Find the minimum profit of the firm by using matrix base for initial allocation and MODI method for optimality testing.

Market Factory	Profit /unit			Supply (in '000 units)
	M1	M2	M3	
F1	4	3	5	60
F2	2	6	6	90
F3	2	3	4	50
Demand (in '000 units)	60	80	60	200

(20 marks)