DEPARTMENT OF HUMANITIES & SOCIAL SCIENCES

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3rd May 2007 Max.Marks: 40

Answer All Questions Max.Time: 2hrs.

SECTION A **(10marks)**

State whether TRUE or FALSE

1. If the income elasticity of demand is greater than 1, the commodity is a luxury.
2. If the MU of the last unit of X consumed is twice the MU of the last unit of Y consumed, the consumer is in equilibrium only if the price of X is equal to the price of Y.
3. If the indifference curve were horizontal, this would mean that the consumer is saturated with commodity Y only.
4. If, the $MRTS_{LK}$ equals 2, then the MP_K / MP_L is ½.
5. The cost that a firm incurs in purchasing or hiring any factor of production is referred to as variable cost.
6. The LAC curve is tangent to the lowest point on the SAC curve when the LAC curve is falling.
7. STC can never be less than LTC.
8. When demand curve is elastic, MR is positive.
9. Interest payment on the past borrowing is an example of variable cost.
10. The slope of the demand curve for Giffen goods is negative.

SECTION B **(6x5=30marks)**

Q1. In many different markets government uses price control to protect either the producer or the consumer. The government imposes price floors for agriculture sector to protect the farmers, and price caps in the utilities sector to protect the consumers. Show graphically that imposing price controls in a perfectly competitive market such as agriculture results in dead-weight loss, while imposing price controls in a monopoly market such as utilities may reduce dead-weight loss in the market. Support your graph with a brief explanation.

Q2. You are a self-employed profit maximization specializing in monopolies. Five firms are currently seeking your advice, and although the information they have supplied to you is incomplete, your expert knowledge allows you to go back and make a definitive recommendation in each case. Select one of the following recommendations for each firm in the short-run.

i) Remain at the current output level
ii) Increase output
iii) Reduce output
iv) Shut-down
v) Go back and recalculate your figures, they can't possibly be right.

Firm	P	MR	TR	Q	TC	MC	ATC	AVC
A	3.90	3.00	-	2,000	7400	2.90	-	3.24
B	5.90	-	-	10,000	-	5.90	4.74	4.24
C	-	9.00	48,000	4,000	-	9.00	11.90	10.74
D	35.90	37.90	-	5,000	-	37.90	35.90	-
E	35.00	-	3,990	1,000	3300	-	Min.	23.94

Q3. Consider the international market for commercial aircraft. The development and production of a new line of aircraft are subject to substantial economies of scale; it would not pay to develop a new aircraft unless a firm expected to sell many of them. Suppose that

Boeing and Airbus (a European consortium) is each considering developing a new aircraft. The ultimate pay-offs to each firm look like those in Table 1.

<u>Development Of A New Aircraft</u>

AIRBUS

		Produce	Don't Produce
BOEING	Produce	- 10 , - 10	100 , 0
	Don't Produce	0, 100	0 , 0

If the European governments commit to a subsidy of 20 to Airbus if it produces the plane regardless of what Boeing does, the pay-off matrix would change to the one in table 2.

<u>Development Of Aircraft After European Subsidy</u>

AIRBUS

		Produce	Don't Produce
BOEING	Produce	- 10 , - 10	100 , 0
	Don't Produce	0, 120	0 , 0

a) Do the firms have a dominant strategy? Will the game be played simultaneously?
b) If Boeing has a head start in the development process, what is the outcome of the game?
c) Does the subsidy change the outcome of the game?
d) Under what circumstances both companies can produce successfully?

Q4. A monopolist can produce at an average and marginal cost of AC = MC = Rs.5. it faces a market demand curve given by $Q = 53 - P$.

a) Calculate the profit maximizing price and quantity for the monopolist. Also calculate its profit.
b) Suppose a second firm enters the market. Let Q_1 be the output of the first firm and Q_2 be the output of the second. Market demand is now given by $Q_1 + Q_2 = 53 - P$. Assuming that this second firm has the same cost as the first firm, write the profits of each firm as a function of Q_1 and Q_2.
c) What are the resulting market prices and profits of each firm?

Q5. Use the analysis on markets to explain the following price behavior:
a) The market price must be equal to the marginal cost of production for all firms in the industry.
b) The same cinema hall charges all persons less for matinee shows than for evening shows.
c) Banks announce a widely publicized interest rate and change it occasionally.
d) All firms take account of the effects of their own action on the pricing and output decision of other firms.
e) Known persons pay less than unknown ones for identical houses.

Q6. Show how the OPEC oil cartel has succeeded in raising prices substantially over the competitive prices. What are the necessary conditions for successful cartelization?