Department of Humanities & Social Sciences
Indian Institute of Technology Madras

Date: 06/09/2013 HS1050 Principles of Economics Time: 8-8.50 am

Quiz-1 Max. Marks: 20

1. Distinguish between positive and normative economics. Of the following statements which is positive and which is normative?
   (a) The health of poor people is worse than the health of rich people.
   (b) Rich countries should provide medicine more cheaply to Africa. (2+1=3 marks)

2. (a) Draw a production possibility frontier between clean environment and quantity of industrial output. What determines the shape of the PPF? Using the PPF explain the trade-off that the society faces.
   (b) Show a point that is impossible to achieve for the economy. Show a point that is feasible but inefficient.
   (c) Show what happens to the frontier if the engineers invent a new way of producing electricity that emits fewer pollutants. (3+1+1=5 marks)

3. There are 1000 identical individuals in the market for commodity X, each with a demand function
   $Q^{dx} = 26 - 2P_X$ and 500 identical producers of commodity X, each with a supply function given by $Q^{sx} = 40 + 2P_X$.
   (a) Calculate the market equilibrium price and quantity of X.
   (b) Explain, with diagram, the market outcome when the price increases by Rs.2 above the equilibrium price obtained from (a).
   (c) Suppose the Government imposes a price ceiling Re.1 below the equilibrium price. What would be the outcomes of this policy? (2+1+2=5 marks)

4. The price and income elasticities of demand for two goods are given below:

Elasticity	Rice	Consumer Durables
Price Elasticity	0.15	2.0
Income Elasticity	-0.19	1.5

Interpret the figures and explain their usefulness for business decisions. (3 marks)

5. Write short notes on **<u>any two</u>** of the following:
   (a) Principle of comparative advantage with example
   (b) Change in quantity supplied vs. change in supply
   (c) Real Flow vs Money Flow (2+2=4 marks)

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PART B **Max Mark 30**

Note: Questions 1 to 8 carry 3 marks each. Answer any 4 out of the 8

(4*3=12 marks)

1. What is Money? List the functions of money.
2. Explain the two noteworthy differences between monopolistic and perfectly competitive market structures.
3. What are the arguments for restricting free trade?
4. Explain what is meant by open market operations as a tool of monetary policy.
5. Why is GDP is not considered as a perfect measure of well being of any nation?
6. Analyse the effect of money growth on inflation.
7. Explain using diagram the relationship between tax size, tax revenue and deadweight loss.
8. A person working in a photocopying establishment for $15,000 per year decides to open a photocopying business of his own. He runs the business on his own without any hired help and invests no money of his own. The rent he pays is $10,000 per year for the premises and the machines for $30,000 per year. He spends $15,000 per year on paper, ink etc. During the year his gross earnings are $65,000. Calculate the accounting profit and economic profit of his business after a year.

Note: Answer all questions from 9-11

9. Two Airline Companies Spice Jet and Indigo can either charge a high price of Rs 10000 or a low price of Rs 4500. They follow a certain decision rule. If one company charges a low price, it earns a low profit if the other charges a low price and a high profit if the other one charges a high price. On the other hand, if one company charges high price, it will earn a very low profit if the other company charges low and a medium profit if the other one charges a high price as well.
   a. Present the decision rule in terms of a pay-off matrix.
   b. Find the dominant strategies for both the companies and the Nash Equilibrium of the game.
   c. Is there an outcome better than the Nash Equilibrium for both the companies? How can it be achieved? **(5 marks)**

10. Explain whether the following statements are true, false or uncertain.
    (a) If the government wants to minimize the effect on consumers when imposing an excise tax on a good, the government should tax the producers rather than consumers.
    (b) In prisoner's dilemma all players have an incentive to deviate from the cooperative equilibrium but then end-up worse ~~than if~~ they have had cooperated. **(2*2marks)**

11. Distinguish any **three** of the following: (3*3=9)
    (a) Diminishing returns to a factor and diminishing returns to scale
    (b) Human capital and Physical capital
    (c) Structural unemployment and Frictional unemployment
    (d) GDP and GNP
    (e) Commodity money and Fiat money

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II Quiz
HS 1050: Principles of Economics

Max. Marks: 20 Time: 8.00-8.50 am Date: 11.10.2013

Note: Answer all the questions.

1. In a competitive market, there is currently no tax, and the equilibrium price is Rs.40. The market has an upward-sloping supply curve. The government is about to impose a tax of Rs.5 per unit. In the new equilibrium with the tax, what price will producers receive and consumers pay if the demand curve is
(a) perfectly elastic? (b) perfectly inelastic? (c) What happens to the dead weight loss? Illustrate your answers graphically. (4 marks)

2. You are an employer seeking to fill a vacant position on an assembly line. Are you more concerned with the average product of labour or the marginal product of labour for the last person hired? If you observe that your average product is just beginning to decline, should you hire any more workers? What does this situation imply about the marginal product of your last worker hired? (3 marks)

3. Assume that in a perfectly competitive market, a firm's costs and revenue are
Marginal cost = average variable cost at Rs.20
Marginal cost = average total cost at Rs.30
Marginal cost = average revenue at Rs.25
(a) How will this firm determine the profit-maximizing level of output?
(b) What price will this firm charge? Explain how the firm determined this price.
(c) Should this firm produce in the short run? Why or why not?
(d) Will this firm earn a profit or incur a loss? Why? (4 marks)

4. A product has a demand curve $P = 210 - 4Q$ and initially it was supplied by a monopolist and later, in the long run, by perfectly competitive firms.
(a) The monopolist faces a constant marginal cost $MC = 10$. Calculate the profit-maximizing monopoly quantity and price.
(b) Suppose that all firms in a perfectly competitive equilibrium had a constant marginal cost $MC = 10$. Find the long run perfectly competitive industry price and quantity of each firm. (3 marks)

5. Monopolists try to sell the same good to different customers at different prices, even though the cost of producing for customers is the same. How do you explain this behaviour of monopolists? How does this practice affect consumer surplus, producer surplus and total surplus? (3 marks)

6. Long-run Average Total Cost (LATC) can never exceed Short-run Average Total Cost(SATC). Explain with diagram whether this statement is true or false.
(3 marks)