MASTER OF ARTS (ECONOMICS)

Term-End Examination

December, 2006

MEC-001 : MICROECONOMIC ANALYSIS

Time : 3 hours   *Maximum Marks : 100*

Note :   *Attempt questions from each section as directed.*

SECTION A

*Answer **two** questions from this section.*   *2×20*

1.   There are two people (1 and 2) in an economy. They consume two goods x_1^i and x_2^i (where 'i' stands for commodities). Their initial endowments are w_1^i and w_2^i. If you know that they have identical preference, compute the equilibria of the following :

$$\text{Max } \left(x_1^i\right)^{0\cdot6}\left(x_2^i\right)^{0\cdot4}$$

subject to $P_1x_1^i + P_2x_2^i = P_1w_1^i + P_2w_2^i$ where endowments of the agents are given as,

Agent 1 : $w_1^1 = 7$ $w_2^1 = 5$

Agent 2 : $w_1^2 = 3$ $w_2^2 = 7$

2. Discuss the major differences in the approach to welfare economics formulated by Pigou and Pareto. Which approach would you prefer ? Give reasons to support your answer.

3. Describe the Cournot model of duopoly. Using reaction functions, show that the Cournot equilibrium is a stable one.

4. What kind of adverse selection problems do you expect to be faced by insurance companies ? Explain the main reasons for such a problem. Do you think that this can lead to a lemons problem in the insurance market ? Give reasons to support your answer.

SECTION B

*Answer any **four** questions from this section.*   *4×10*

5. Explain the equity – efficiency trade-off in optimal resource use with welfare considerations.

6. What is the Slutsky equation ? Suppose there are only two goods x_1 and x_2. You know that x_2 is an inferior good. What can you conclude from the Slutsky equation about the slope of the demand curve for good x_1 ?

7. Suppose there are two goods of which your consumption in the year-1 is C_1 and consumption in year-2 is C_2. Endowments in the two years are $m_1 = 100$ and $m_2 = 100$. The interest rate is given as $r = 10\%$. If your utility function is $U(C_1, C_2) = \left(C_1^{0.75} \, C_2^{0.25} \right)$, determine how much you would like to borrow or lend in the first year.

8. Consider a monopolist operating in two separate markets. The demand functions in these are,

    $$P_1 = 96 - 2Q_1$$
    $$P_2 = 190 - 6Q_2$$

    If the total cost function is $C = 6 + 4Q + 2Q^2$ where $Q_1 + Q_2 = Q$, determine the profit maximising prices and quantities in each market.

9. What is Nash equilibrium ? Solve for the Nash equilibrium in the following game through elimination of dominated strategies :

Player 2

		Left	Middle	Right
	Up	(2, 0)	(1, 1)	(4, 2)
Player 1	Middle	(3, 4)	(4, 2)	(2, 3)
	Down	(1, 3)	(0, 2)	(3, 0)

10. Given a production function $q = A K^{\alpha} L^{1-\alpha}$, show that its elasticity of substitution through Allen's definition is equal to 1.

SECTION C

*Answer **two** questions from this section.*   *2×10*

11. Define the following terms :

(i)   CES Production function

(ii)   Cream skimming

(iii)   Merger

(iv)   Stage game

(v)   Basing-point price

12. Answer as directed :

(i)   Use two different Edgeworth box diagrams to illustrate the potential conflict between the objectives of equity and allocative efficiency.

(ii)   The vNM utility function of an individual is $u = m^{1/2}$. If her intitial wealth is 36, will she accept a gamble in which she wins 13 with probability of $\frac{2}{3}$ and lose 11 with probability of $\frac{1}{3}$?

13. Write short notes on :

(i)   Indirect utility function

(ii)   Stackelberg model of price leadership