MASTER OF ARTS (ECONOMICS)

Term-End Examination

June, 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. Suppose an economy has two consumers A and B and two commodities 1 and 2. The endowments of the two agents are respectively. $w_A = \left(w_A^1, w_A^2\right)$ and $w_B = \left(w_B^1, w_B^2\right)$.

The utility functions are Cobb-Douglas :

$$U_A = \left(x_A^1\right)^a \left(x_A^2\right)^{1-a} \text{ and}$$

$$U_B = \left(x_B^1\right)^b \left(x_B^2\right)^{1-b}$$

with $0 < a, \; b < 1$.

(a) Solve the consumers demand functions.

(b) Use the feasibility condition to solve for relative prices.

2. What do you mean by social welfare function ? Explain different approaches adopted in its construction. Which of these would you prefer ? Why ?

3. Discuss Baumol's static model of sales revenue maximisation. Why would you accept it as an alternative to the traditional models ?

4. What kind of moral hazard problem would you expect to be faced by insurance companies ? Why ? Suggest strategies to be adopted by these companies to tackle the problem of moral hazard. Give reasons in support of your answer.

SECTION B

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

5. Explain the two principles of justice formulated by Rawls.

6. What is meant by the Slutsky equation ? What are the signs of the terms in the Slutsky equation for x_1 if x_1 is a normal good ? What are the signs of the terms if x_1 is a Giffen good ?

7. Suppose there are two goods which you consume. In the year-1 you consume C_1 and in the year-2 C_2. The endowments in the two years are $m_1 = 75$ and $m_2 = 120$. If the interest rate $r = 20\%$ and your utility function is $U(C_1, C_2) = C_1^{0.8} C_2^{0.2}$, determine how much you plan to spend in each year and how much you would like to borrow or lend in the first year.

8. Suppose a price discriminating monopolist can separate the buyers into two groups. The demand curve for Group-1 is $P_1 = \frac{25}{3} - \frac{5}{12} Q_1$ and that of Group-2 is $P_2 = 10 - \frac{1}{2} Q_2$ where Q_1 and Q_2 indicate goods sold. Suppose the total costs are given by

$$C(Q) = 3 + 2Q + \frac{1}{6} Q^2 \text{ with } Q_1 + Q_2 = Q.$$

Determine the profit maximising prices and outputs in each market.

9. Define the concept of Nash equilibrium. Using the method of iterated elimination of strictly dominated strategies, find the Nash equilibrium of the following game :

		Player 2		
		left	middle	right
Player 1	up	(1, 0)	(1, 2)	(0, 1)
	down	(0, 3)	(0, 1)	(2, 0)

10. How do you determine the returns to scale when the production function is homogeneous ? When MP_L and MP_K can be shown to be functions of (K/L) if the production function is q = F(K, L) ? Show this result.

SECTION C

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

11. Define the following terms :

(i) CES Production Function

(ii) Self-Selection

(iii) Cartel

(iv) Stage game

(v) Limit Price Strategy

12. Answer as directed :

(i) Suppose that you are producing an inferior good. If the income level of the economy falls, what will happen to your level of profit ? Explain the process to reach your answer.

(ii) Your current wealth is 49. You are considering to participate in a gamble of tossing a fair coin. If head turns up, you get 15 otherwise you lose 13. If your utility function is $U = w^{0.5}$, would you participate in the gamble ? Explain your answer.

13. Write short notes on :

(i) Coumot model of duopoly

(ii) Envelope Theorem