Examination: 5016

Principles of Economics I

Summer Semester 2006

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You are allowed to use a non-programmable calculator (in accordance with the instructions given by the examination office) and a translating dictionary from your native language to English (without any notes written into it). **All** of the **ten** (10) exam questions must be answered (the estimated time to spend on each question is provided). This examination consists of **three** (3) pages and must be completed within 120 minutes.

Question 1 (20 Minutes)

Supply and Demand analysis is the single most important and useful tool in microeconomics.

(a) State the law of downward-sloping demand.

(b) Define the concept of the supply curve. Why is the Supply curve upward sloping?

(c) Explain why the price in competitive markets settles down at the equilibrium intersection of the supply and demand. Explain what happens if the market price starts out too high or too low.

(d) What does the following statement mean? "Great care must be taken not to confuse a change in demand with a change in the quantity demanded

Question 2 (15 Minutes)

In general, most demand curve have ranges that are price elastic, unit elastic, and inelastic. However, there are some special demand curves with constant price elasticity. Assume the world demand for crude oil has a constant price elasticity ($\varepsilon = -0.05$). If the price of oil rises world demand should decrease. Currently, world demand is about 86 million barrels per day and the price is around US$ 75 per barrel.

(a) If the crude oil price rose to US$ 100 per barrel, world demand would decrease to how many barrels per day?

(b) The price elasticity is a number between: $-\infty \leq \varepsilon \leq 0$. Explain why the price elasticity for crude oil is such a "large" number.

(c) When the crude oil price rises from US$ 75 to US$ 100, will world expenditure on this commodity increase or decrease. Explain your answer in detail with reference to the price elasticity.

Question 3 (5 Minutes)

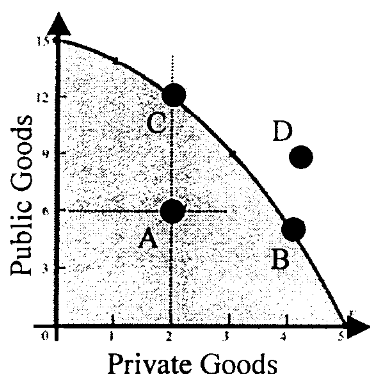
A century ago, Vilfredo Pareto developed what are now called indifference curves.

(a) What is the difference between Cardinal Utility and Ordinal Utility?

(b) Indifference curves slope downward from left to right. Why?

Please turn to Page 2

Question 4 (10 Minutes)



The Production Possibilities Frontier (PPF) represents the menu of goods and services available to a country.

(a) Describe in detail the situation depicted by points such as A and D.

(b) If the decision-makers in this economy make the choice to move from point B to point C, describe the opportunity cost involved in this decision.

(c) Is it possible for the PPF to change its location on the graph in any way? Explain your answer in detail.

Question 5 (10 Minutes)

Market equilibrium occurs at the equilibrium price where the quantity demanded equals the quantity supplied, $Q^d_X = Q^s_X$.

(a) Describe the situation that would prevail in a market if the price were to be fixed by the government below the free market equilibrium price. Show your analysis on a graph.

(b) When there is an increase in demand in a market, what happens to the equilibrium price and quantity?

(c) What do we mean by the term: The "Comparative Statics Analysis" of markets?

Question 6 (10 Minutes)

In determining factor incomes, it is important to understand the demand for the various factors of production. Assume that the producer is in a perfectly competitive market and the product sells for 10 € per unit.

Labor	Q^s_X	MP_L	MRP_L
0	0	~	~
1	120		
2	190		
3	240		
4	280		
5	300		

(a) What do we mean by the statement: "Factor demands are derived demands?"

(b) How much Labor would be employed if the wage rate were 500 € per week?

(c) If the selling price of the product increased to 25 €, Labor would now equal?

Please turn to Page 3

Question 7 (10 Minutes)

In a perfectly competitive market in the short run, if the price of a firm's product is less than:

(a) The minimum average total cost, the firm will consider its options and will consider?

(b) The minimum average variable cost, the firm will consider doing?

Question 8 (10 Minutes)

Consider all the following cost curves: ATC, AFC, AVC, and MC.

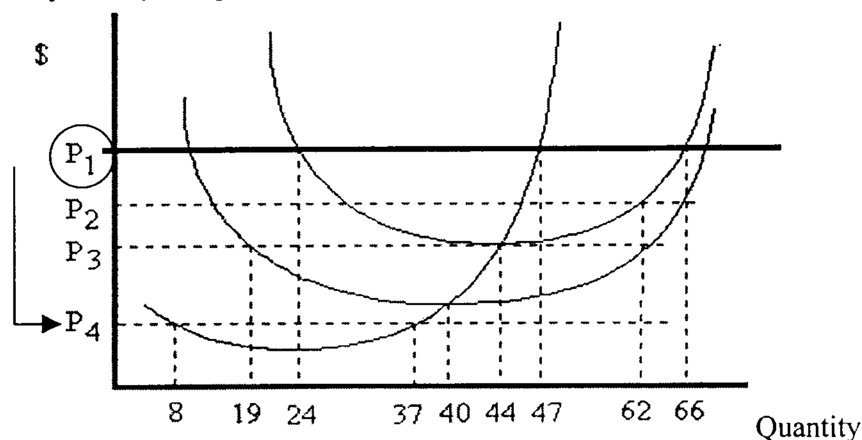
(a) Explain why these cost curves are all U-shaped except one?

(b) Explain the relationship between the ATC and AVC curves and MC.

(c) Why is it sometimes said that the AFC curve is not very interesting?

Question 9 (15 Minutes)

Consider the perfectly competitive firm depicted below facing a market price of P_1:



(a) What quantity would this firm produce and why?

(b) How much profit would this firm earn at the market price of P_1?

(c) If the market price fell to P_4, what would this firm do?

Question 10 (15 Minutes)

The production function specifies the maximum output that can be produced with a given quantity of inputs.

(a) What is the definition of the MRTS?

(b) What does it mean for a production function to have increasing, decreasing, or constant returns to scale?

This is the end of the examination.

<u>GOOD LUCK !!</u>