

**MBA 603**

**MIDTERM**

**Instructor: Stephen Layson**

**Fall 2002**

- (10)**      **1.** The demand and supply of corn are given in the table below. Quantity is measured in millions of bushels per year.

Price per bushel (\$)	Quantity Demanded	Quantity Supplied
10	0	80
8	20	60
6	40	40
4	60	20
2	80	0

- (a)** What is the equilibrium price and output of corn? Given the demand and supply in table 1, explain what it means for the corn market to be in equilibrium.
- (b)** Illustrate the equilibrium above in a diagram.
- (c)** If the price is not at the equilibrium level found in part (a) what would happen?
- (d)** Calculate the total expenditure on corn assuming price and output are at their equilibrium levels.

(30) 2. Suppose that there is turmoil in Saudi Arabia, Kuwait, and Iraq. Production of oil from this region is substantially reduced for several years. Treating the world oil industry as a competitive industry what would be the short run and long run response to this cutback in the production of oil in the Middle East? Who would be harmed by this?

Who, if anyone, would benefit from this? In your answer distinguish between the short run and the long run. Are there any entry barriers that make it difficult to enter the oil industry? Do all firms in the oil industry have the same cost functions? What difference does this make in your analysis?

(20) 3. Assume the demand for cigarettes has a short run price elasticity of  $-0.3$  and a long run price elasticity is  $-0.7$ . The income elasticity of demand for cigarettes is  $0.5$ . A new federal excise tax is imposed that causes the price of cigarettes to rise by 20%. Before the excise tax, the consumption of cigarettes is 100 million packs a day and the average price of cigarettes is \$3 per pack.

(a) What is the short run effect of the excise tax on consumption? Explain.

(b) Forecast the short run tax receipts per day from this new excise tax.

(c) Forecast the long run tax receipts per day. Explain what assumptions you are making in arriving at your long run forecast of tax receipts. In particular what are you assuming about aggregate consumer income?

**(20) 4.** How does a price taking firm in a perfectly competitive industry maximize profit? How is market price determined in a perfectly competitive industry? Why is constant marginal cost at the firm level inconsistent with a perfectly competitive industry?

**(20) 5.** What is the purpose of supply and demand analysis?