**ECN-100 – Homework Week 6:**

**Economic Decisions in Competitive Market, Monopoly Market, Monopolistic Market, and Game Theory in Duopoly.**

**Competitive Market**

1. The following table shows total cost for a product of a competitive firm:

Q 0 1 2 3 4 5 6 7 8 9 10

TC 30 55 75 85 100 120 145 185 240 310 395

MC

VC

AVC

ATC

1. First calculate the other costs: MC, VC, AVC, ATC
2. What is the output level for a profit-maximizing firm if the market price is $20 per unit? Calculate the profit.
3. How does your answer change if price rises to $25? Calculate the profit.

2. Which of the following events will induce firms *to enter* an industry? Which will induce firms *to exit*? When will entry or exit *cease*?

1. A technological advance lowers the fixed cost of production of every firm in the industry.
2. The wages paid to workers in the industry go up for an extended period of time.
3. A permanent change in consumer tastes increases demand for the good.
4. The price of a key input rises due to a long term shortage of that input.

**Monopoly**

3. True of False?

a) A single-price monopolist company sells to some customers that a price-discriminating monopolist refuses to.

b) A price-discriminating monopolist creates more inefficiency than a single-price monopolist because it captures more of the consumer surplus.

c) Under price discrimination, a customer with highly elastic demand will pay a lower price than a customer with inelastic demand.

4. The following table represents the market for Corning Fiberglass, and Corning is the sole producer of fiberglass, so Corning can set the price as it wishes.

 Q 0 1 2 3 4 5 6

Price - 46 42 38 34 30 24

TC 60 65 81 111 145 189 249

TR

MR

MC

 AVC

1. first calculate: TR, MR, MC, AVC
2. Determine the profit-maximizing price and output of the firm.
3. What is the monopolist’s profit?
4. Suppose the consumer of fiberglass has high price elasticity of demand, so Corning now acts like a competitive firm, what is its output and price now? Remember that a competitive firm is a price-taker, so P=MR. Would this company stay in business (look at AVC)?

**Monopolistic Market**

5. True or False? If False, explain why.

1. Like a firm in a perfectly competitive industry, a monopolistically competitive firm is willing to sell a good at any price that equals or exceeds its marginal cost.
2. Fads and fashions are more likely to arise in monopolistic competition or oligopoly than in monopoly or perfect competition.
3. Suppose there is a monopolistically competitive industry in long-run equilibrium that possesses excess capacity. All the firms in the industry would be better off if they merged into a single firm and produced a single product, but whether consumers are made better off by this is ambiguous.
4. In the long run, it is impossible for firms in a monopolistically competitive industry to create a monopoly by joining together to form a single firm.
5. A successful brand name is like a barrier to entry.

**Oligopoly Market & Game Theory**

6. The following payoff matrix is for two firms in a duopoly markets, and Firm A and B can either choose Low Price or High Price strategy with the following results reflecting their actions.

Firm B:

**Low Price High Price**

Firm A: **Low Price** Firm A’s profit: $1,600 Firm A’s profit: $1,800

Firm B’s profit: $2,500 Firm B’s profit: $2,800

**High Price** Firm A’s profit: $1,800 Firm A’s profit: $2,000

Firm B’s profit: $2,200 Firm B’s profit: $2,400

a) If the two firms collude and decide jointly on their pricing strategy, with the goal of maximizing their joint profits, what combination of strategies, and what’s the amount of the greatest joint profit?

b) Which strategy is Firm A’s dominant strategy?

c) Which strategy is Firm B’s dominant strategy?

d) What is the Nash Equilibrium for this game?