Questions for EE481 Midterm Examination

Instructions

1. Please answer all these 4 questions. Each of them would be graded equally.
2. Grade would be considered on how different and better of your answers compared to those of the rest of the class.
3. The answer sheets must be submitted in the class on October 11^{th}. The late answer sheet is not acceptable.
4. You must type your answers. Answer sheet in form of hand writing is not acceptable.

Question 1: Choose only one market that you are interested in, then analyze this market by following the S-C-P model.

Question 2: Consider the game that two sellers make the decision over the types of their cookies, crispy or sweet, at the same time. If both sellers decide to product the same type of cookies; for example, both decide to produce sweet cookies, they would compete in the same market and each would loss with negative 5 on the profits. But if they enter different markets by producing different types of cookies, each seller would enjoy the positive profits of 10.

a. Draw the payoff matrix of this game and explain the best response equations of each seller.
b. Explain how to find the Mixed Strategy Nash Equilibrium.

Question 3: Consider the market with three sellers producing the homogeneous products. Let the market demand is P = 100 – 2Q, where Q = q1+q2+q3. To make this question easy, let assume that there is no fixed cost and marginal costs are the same for all three sellers which is equal to 20.

a. Find the Cournot equilibrium (P*, Q*)).
b. Find Stackelberg equilibrium (P*, Q*), when the seller 1 is the price leader and seller 2 and seller 3 are the price followers.
c. Illustrate your answer by a graph.

Question 4: Normally, price discrimination can create more profit to a monopolist. However if there are two sellers in the market and both issue coupons at the same time, we may get different results. According to the article "Coupons and Oligopolistic Price Discrimination", by Bester and Petrakis (1994), explain why couponing increases competition and reduces profits to both sellers.