國立成功大學 106 學年度碩士班招生考試試題

系　　所：交通管理科學系

考試科目：經濟學

考試日期：0214，節次：1

※ 考生請注意：本試題不可使用計算機。　請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

The exam has 20 item questions in blank and each question is 5 points. There are 100 points in total.

Question 1. Consider a quantity-competition oligopolistic market. There are 9 firms and each firm has a cost $C(q)=0.28q+1.6$. Suppose that market demand is $Q=1{,}000-1{,}000P$. Answer the following questions. Find firm's output $q=$_____ and profit $\pi=$_____, market price $P=$_____ and output $Q=$_____.

Question 2. Consider a monopolistic market. Firm's cost is $TC(Q)= 0.5Q^2+2Q+6{,}000{,}000$ and market demand is $Q(P)=10{,}000- 2P$. Answer the following questions.

(a) Calculate monopoly quantity $Q_m=$_____, monopoly profit $\pi=$_____, and social surplus $SS_m=$_____.

(b) Under the first best pricing regulation, calculate monopoly quantity $Q_f=$_____, monopoly profit $\pi=$_____, and social surplus $SS_f=$_____.

Question 3. Consider a duopoly market. Firm's cost is $C(q_i)= 0.28q_i$ and $Q(P)=1{,}000-1{,}000P$. Answer the following questions.

(a) Suppose that these two firms compete in quantity (Cournot competition). Calculate firm's output $q_i=$_____, firm 1's profit $\pi_1=$_____.

(b) Suppose that these two firms collude in quantity (Cartel collusion). Calculate firm's output $q_i=$_____, firm 1's profit $\pi_1=$_____.

(c) Suppose that firm 1 is a quantity setter and firm 2 is a quantity follower (Stackelberg competition). Calculate firm 1's output $q_1=$_____ and profit $\pi_1=$_____.

Question 4. This is about a dominated oligopolistic market. Consider a dominant firm D with large market share and three fringe firms F with small market share. Dominant firm D is the price setter and three fringe firms F are price followers in the market. Market demand is $Q(P)=10{,}000-P$ and the supply of three fringe firms is $Q(P)=P-6{,}000$.

(a) Find the demand of dominant firm $D_d=$_____.

(b) Suppose marginal cost of dominant firm is $MC_d=5{,}000$. Find market price $P=$_____, the output of dominant firm $Q_d=$_____ and the output of fringe firms $Q_s=$_____.