國立彰化師範大學 97 學年度碩士班招生考試試題

系所：<u>行銷與流通管理研究所碩士班</u>　　　　　　　　科目：<u>經濟學</u>

一、選擇題，作答時請在答案紙上標明題號依序作答。（14%）

1.　The production function $Q = 0.25X^{0.5}Y$ exhibits:
　　　a.　constant returns to scale.
　　　b.　increasing returns to scale.
　　　c.　increasing and then diminishing returns to scale.
　　　d.　diminishing returns to scale.

2.　The law of diminishing returns:
　　　a.　deals specifically with the diminishing marginal product of fixed input factors.
　　　b.　states that the marginal product of a variable factor must eventually decline as increasingly more is employed.
　　　c.　can be derived deductively.
　　　d.　states that as the quantity of a variable input increases, with the quantities of all other factors being held constant, the resulting output must eventually diminish.

3.　A new production function results following:
　　　a.　a new wage agreement following collective bargaining.
　　　b.　a surge in product demand.
　　　c.　a decrease in the availability of needed inputs.
　　　d.　the successful completion of a training program that enhances worker productivity.

4.　The relation between output and the variation in all inputs taken together is the:
　　　a.　factor productivity of a production system.
　　　b.　law of diminishing returns.
　　　c.　returns to scale characteristic of a production system.
　　　d.　returns to factor characteristic of a production system.

5.　When $P_X = \$100$, $MP_X = 10$ and $MR_Q = \$5$, the marginal revenue product of X equals:
　　　a.　$100.
　　　b.　$50.
　　　c.　$10.
　　　d.　$5.

6. The returns to scale characteristic of a production system:
   a. is measured by the way in which inputs can be varied in an unbroken marginal fashion rather than incrementally.
   b. illustrates the distinct, or "lumpy," pattern of input combination.
   c. shows the relation between output and the variation in all inputs.
   d. is the relation between output and variation in only one of the inputs employed.

7. The marginal product concept is:
   a. used to describe the relation between output and variation in all inputs in a production function.
   b. the change in output associated with a one-unit change in an individual factor.
   c. total product divided by the number input units employed.
   d. the complete output from a production system.

二、計算題，作答時須標明題號且顯示計算過程，並在數據答案下方畫線。（86%）

1. Restaurant Marketing Services, Inc., offers affinity card marketing and monitoring systems to fine dining establishments nationwide. Fixed costs are $600,000 per year. Sponsoring restaurants are paid $60 for each card sold, and card printing and distribution costs are $3 per card. This means that RMS's marginal costs are $63 per card. Based on recent sales experience, the estimated demand curve and marginal revenue relations for are　　　　　　　　　　　　　　(16%)

   P = $130 - $0.000125Q
   MR (marginal revenue) = $130 - $0.00025Q

   A. Calculate (1) output, (2) price, (3) total revenue, and (4) total profit at the revenue-maximizing activity level.
   B. Calculate (1) output, (2) price, (3) total revenue, and (4) total profit at the profit-maximizing activity level.

2. Better Buys, Inc., is a leading discount retailer of wide-screen digital and cable-ready plasma HDTVs. Revenue and cost relations for a popular 55-inch model are:　　　　(20%)

TR (total revenue) = $4,500Q - $0.1Q^2$

MR (marginal revenue) = $4,500 - $0.2Q$

TC (total cost) = $2,000,000 + $1,500Q + $0.5Q^2$

MC (marginal cost) = $1,500 + $1Q.

　A. Calculate (1) output, (2) marginal cost, (3) average cost, (4) price, and (5) profit at the average cost-minimizing activity level.

　B. Calculate (1) output, (2) marginal cost, (3) average cost, (4) price, and (5) profit at the profit-maximizing activity level.

3. An individual possesses $\bar{L}$ units of labor and uses labor as the single input in production to produce the two commodities X_1 and X_2. The unit labor requirements for producing one unit of X_1 and one unit of X_2 are denoted by l_1 and l_2, respectively, which are assumed to be constant in production. The preference of the individual can be represented by $U(X_1, X_2) = X_1 X_2$. Let p_1 and p_2 represent the market prices of X_1 and X_2, respectively, which are assumed to be constant with the individual as a price taker. Show graphically and verbally the revenue-maximizing output combination and the utility-maximizing consumption combination for $p_1 / p_2 > l_1 / l_2$ in the X_1–X_2 plane with X_1 represented along the horizontal axis. (25%)

4. In the *IS-LM* framework and the *AD-AS* framework, discuss verbally and graphically the effects of successive decreases in the discount rate on the money market and the entire economy with a stagflation taking place as a result of increases in the world prices of energy inputs. (25%)