

計算、問答與申論題（請依題目順序作答於答案紙上，不須抄題目）

(15分) 1.

Suppose a perfectly competitive industry can produce Roman candles at a constant marginal cost of \$10 per unit. Once the industry is monopolized, marginal costs rise to \$12 per unit because \$2 per unit must be paid to lobbyists to ensure that only this firm receives a Roman candle license. Suppose the market demand for Roman candles is given by

$$Q_D = 1,000 - 50P$$

and the marginal revenue curve by

$$MR = 20 - Q/25.$$

- Calculate the perfectly competitive and monopoly outputs and prices.
- Calculate the total loss of consumer surplus from monopolization of Roman candle production.
- Graph your results.

(15分) 2.

Suppose the demand for labor is given by

$$L = -50w + 450$$

and the supply is given by

$$L = 100w$$

where L represents the number of people employed and w is the real wage rate per hour.

- What will be the equilibrium levels for w and L in this market?
- Suppose the government wishes to raise the equilibrium wage to \$4 per hour by offering a subsidy to employers for each person hired. How much will this subsidy have to be? What will the new equilibrium level of employment be? How much total subsidy will be paid?
- Suppose instead the government declared a minimum wage of \$4 per hour. How much labor would be demanded at this price? How much unemployment would there be?

(10分) 3.

假定效用函數與預算限制分別為

$$TU = 2X + 4Y + XY + 8$$

$$5X + 10Y = 50$$

- 試依據拉格朗日乘數法求取消費者均衡狀態下之 X 與 Y 值。
- 消費者均衡狀態下之總效用為多少？

(10分) 4.

假定市場需求函數及市場供給函數分別為

$$P = 10 - Q - Q^2$$

與

$$P = Q + 2$$

試求均衡價格之下的消費者剩餘。

(背面仍有題目,請繼續作答)

(15分) 5. Given a three-sector income determination model in which

$$Y = C + I_0 + G_0 \quad Y_d = Y - T \quad C_0, I_0, G_0, T_0 > 0 \quad 0 < b, t < 1$$

$$C = C_0 + bY_d \quad T = T_0 + tY$$

determine the magnitude and direction of a change in (a) government spending, (b) lump-sum taxation, and (c) the tax rate on the equilibrium level of income. In short, calculate the *government multiplier*, the *autonomous tax multiplier*, and the *tax-rate multiplier*.

spending

(15分) 6. (a) The rate of net investment is $I = 40t^{2.5}$ and capital stock at $t = 0$ is 75. Find the capital function $K(t)$.

(b) With $C = f(Y)$, the marginal propensity to consume is given by $MPC = dC/dY = f'(Y)$. If the $MPC = 0.8$ and consumption is 40 when income is zero, find the consumption function.

(c) If world population grows at 2.6 percent, how long will it take to double?

(20分) 7. 申論題

- (1) 請針對「政府以調降證交稅及免徵金融營業稅的政策來挽救股市的持續重挫」的效果及其他重要影響作一利弊分析。
- (2) 若新台幣未來有大幅貶值的趨勢，這將對台灣的進口產業、出口產業、加權股價指數及物價水準有何影響或趨勢？請加以分析之。