

考試科目	個體經濟學	系所別	經濟學系	考試時間	2月4日(四) 第二節
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1. (25 分) 假設消費者的偏好滿足越多越好的假設， U 為效用值； X 和 Y 為財貨的數量， P_X 和 P_Y 為市場價格， I 為所得。同時

- 效用函數為 $U(X, Y)$ ，
- 間接效用函數為 $V(P_X, P_Y, I)$ ，
- 支出函數為 $E(P_X, P_Y, U)$ ，
- 需求函數為 $X(P_X, P_Y, I)$ 和 $Y(P_X, P_Y, I)$ ，
- 受補償需求函數為 $X^C(P_X, P_Y, U)$ 和 $Y^C(P_X, P_Y, U)$ 。

請解釋說明下列各小題的敘述為：真、偽或是不確定。

- (a) (5 分) 當 $P_X = 0$ 時，消費者效用極大化的問題沒有最適解。
- (b) (5 分) 當消費者的偏好滿足越多越好的假設時， X 和 Y 財貨必定是正常財。
- (c) (5 分) X 和 Y 財貨的受補償需求曲線的斜率一定是負數。
- (d) (5 分) $V(tP_X, tP_Y, tI) = tV(P_X, P_Y, I)$ ， $t > 0$ 。
- (e) (5 分) $\frac{\partial E(P_X, P_Y, U)}{\partial P_Y} \geq 0$ 。

2. (25 分) 假設完全競爭市場中的某一廠商其產量為 Q ，產出的市場價格為 P ； K 和 L 為要素投入的數量， v 和 w 為要素的市場價格。同時

- 生產函數為 $F(K, L)$ ，
- 成本函數為 $C(Q, v, w)$ ，
- 條件要素需求函數為 $K(Q, v, w)$ 和 $L(Q, v, w)$ ，
- 要素需求函數為 $K(P, v, w)$ 和 $L(P, v, w)$ ，
- 利潤函數為 $\pi(P, v, w)$ 。

請解釋說明下列各小題的敘述為：真、偽或是不確定。

- (a) (5 分) 當 $F(tK, tL) > tF(K, L)$ ， $t > 0$ 時，其邊際成本一定是在遞減的階段。
- (b) (5 分) 當此廠商利潤極大化時，其邊際成本一定是在遞增的階段。
- (c) (5 分) $C(tQ, tv, tw) = tC(Q, v, w)$ ， $t > 0$ 。
- (d) (5 分) 成本函數對要素價格的一階偏微分等於要素需求函數。
- (e) (5 分) $\frac{\partial \pi(P, v, w)}{\partial P} \geq 0$ 。

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註

- 一、作答於試題上者，不予計分。
- 二、試題請隨卷繳交。

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Please show all your work because (i) partial credit will sometimes be awarded and (ii) full credit will NOT be awarded for answers that appear without accompanying work. Please write your answers according to the order of the questions.

3. (Total 30 points) Bryan Beaver is about to build his dam and lodge. There are two rivers that he can choose from: Rainbow River and Rose River. At Rainbow River, there is a 50% chance of flash flood, but the view along the river is rather plain. Whereas, at Rose River, there is a magnificent view of the rose valley, but the probability of flash flood is 75%. His value of having his dam and lodge located at both rivers are given in the following table:

	Flash Flood	No Flood
Rainbow River	\$0	\$1000
Rose River	\$0	\$3600

- (a) (5 points) Suppose that Bryan's utility function is $u(x) = \sqrt{x}$. In this case, where should he build his dam and lodge? Please explain.

Now the River God is offering insurance to Bryan. Despite the location, the insurance that pays back \$1 costs \$0.8.

- (b) (10 points) Please use a graph with value on the horizontal axis and utility on the vertical axis to explain at which location Bryan would be willing to buy more insurance. What is the economic interpretation of your answer
- (c) (15 points) When insurance is available, where will Bryan choose to build his home?
[HINT: find the optimal insurance to buy for each location.]

4. (Total 20 points) Please compare perfect competition and monopolistic competition.

- (a) (2 points) What is their common characteristic?
- (b) (3 points) What is the main difference between them?
- (c) (10 points) Draw the long-run equilibrium of an individual firm in these two markets, with quantity on the x-axis and price on the y-axis. One graph for each type of market. Explain how they are different in the long-run equilibrium.
- (d) (5 points) How does the difference in the nature of these two types of markets drive the different long-run equilibria?

備

註

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二、試題請隨卷繳交。