國立高雄第一科技大學 97 學年度 碩士班 招生考試 試題紙

系 所 別：運籌管理系　　組　別：一般管理組

考科代碼：3112　　考　科：經濟學

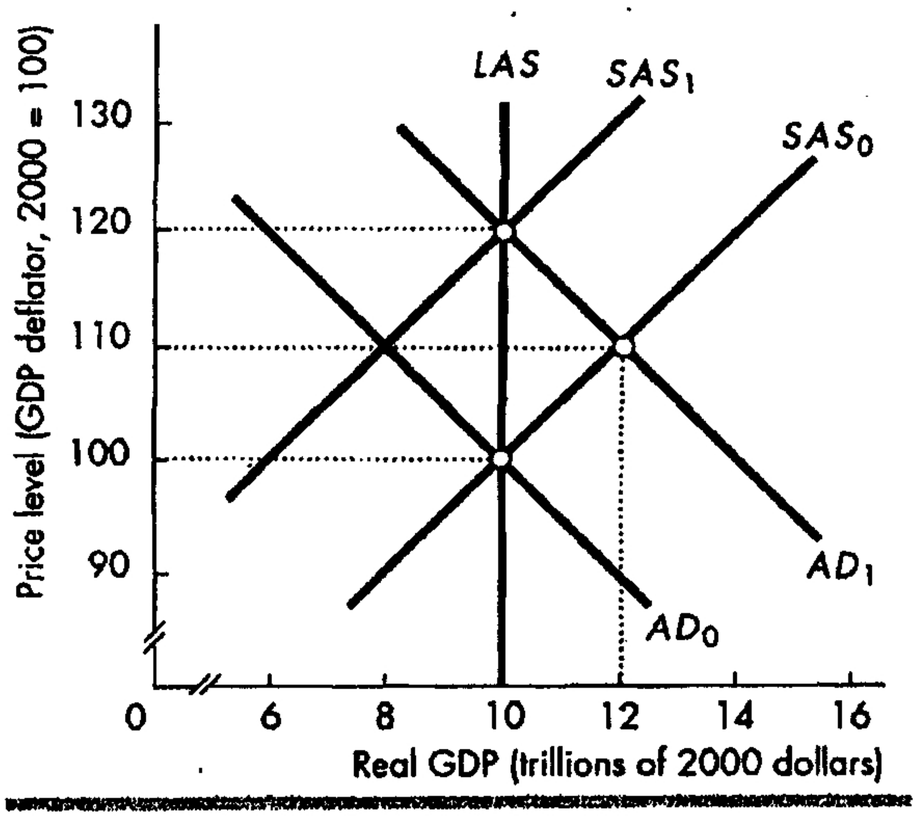
注意事項：

1、本科目可使用本校提供之電子計算器。

2、請於答案卷上規定之範圍作答，違者該題不予計分。

Answering the following questions:

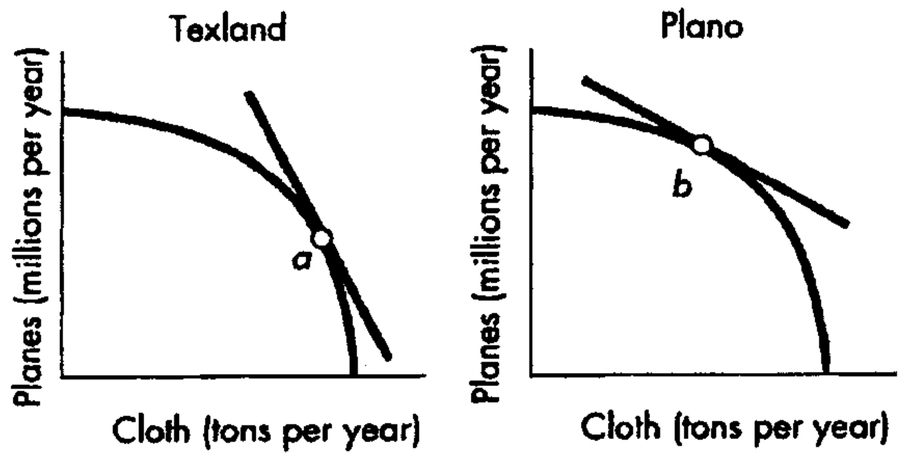
1.



（1）An economy is at potential GDP and the price level is 100 in the figure above. If aggregate demand unexpectedly increases so that the aggregate demand curve shifts to AD_1, the inflation rate is _____ percent a year. （5 points）

（2）An economy is in long-run equilibrium and the price level is 100 in the figure above. Aggregate demand increases and the aggregate demand curve shifts to AD_1. If the increase in aggregate demand is expected, then the inflation rate is _____ percent a year. （5 points）

2.



（1）In the figure above, the slope of the production possibilities frontier at point *a* in Texland is 150 planes per ton of cloth; the slope of the production possibilities frontier at point *b* in Plano is 30 planes per ton of cloth. Without trade between the nations, what is the opportunity cost of a ton of cloth Texland? （5 points）

（2）In the above figure, the slope of the production possibilities frontier at point *a* in Texland is 150 planes per ton of cloth; the slope of the production possibilities frontier at point *b* in Plano is 30 planes per ton of cloth. Without trade between the nations, what is the opportunity cost of a ton of cloth in Plano? （5 points）

3.

Year	Price index	Inflation rate (percent)
1	100	
2	117	A
3	125	B
4	120	C
5	D	8.3
6	150	E

（1） In the table above, what inflation rate belongs in space E? （5 points）

（2） In the table above, what inflation rate belongs in space C? （5 points）

4.

Price level	Real GDP demanded (dollars)	Real GDP supplied	
		Short run (dollars)	Long run (dollars)
90	700	300	600
100	600	400	600
110	500	500	600
120	400	600	600

（1） The table above gives the aggregate demand and aggregate supply schedules in Lotus Land. Lotus Land is in short-run macroeconomic equilibrium. In the long run, Lotus Land will return to full-employment as _____. （5 points）

（2） The table above gives the aggregate demand and aggregate supply schedules in Lotus Land. In short-run equilibrium, there is _____. （5 points）

5.

Quantity of leisure (billions of hours per year)	Real GDP (trillions of 2000 dollars per year)
100	9.5
150	9.0
200	8.0
250	6.5
300	4.5

（1）The table above shows the relationship between leisure and real GDP in the country of Progress. The citizens of Progress have 400 billion hours each year to spend between leisure and labor. When the citizens of Progress decide to decrease leisure, the marginal product of labor ____. （5 points）

（2）The table above shows the relationship between leisure and real GDP in the country of Progress. The citizens of Progress have 400 billion hours each year to spend between leisure and labor. If the quantity of labor increases from 150 billion hours to 200 billion hours a year, the marginal product of labor is ____ an hour. （5 points）

6.

Price (100 NT dollars per Kilogram)	Quantity demanded (Kilograms)
10	0
9	2
7	6
5	10
3	14
1	18
0	20

The above table gives the demand schedule for sausages made by some butcher in a local market.

（1）What is the elasticity of demand for these sausages over the price range of 300 to 100 NT dollars per kilogram? （5 points）

（2）What price is the demand for the sausage unit elastic? （5 points）

7.

Products\Elasticities	Price elasticity of supply	Price elasticity of demand
Sweetened Green Tea	1.2	1.8
Milk Tea	1.7	1.4
Pearl Milk Tea	2.0	0.8
Sweetened Black Tea	1.5	1.6

You are in the business of producing and selling cold drinks. Now the government is considering imposing a tax on all sweetened drinks to reduce the sugar consumption in the country.

（1） Base on the elasticities in the above table, as a profit-maximizing business person, which good would you **most** prefer to have taxed? Why? （5 points）

（2） Base on the elasticities in the above table, on which good would your customer **most** like a tax? Why? （5 points）

8.

Techniques for making 100 automobiles		
Method	Labor (units)	Capital (units)
I	200	12
II	80	20
III	10	70
IV	85	30

The table above shows three production methods to produce 100 automobiles per day.

（1） Which method is **not** technologically efficient? Why? （5 points）

（2） Which method is economically efficient if the cost for capital is $20 per unit and for labor is $15 per unit? Show your work. （5 points）

9.

Labor (units)	Total product (units)	Marginal product	Average product
0	0		
1		3	
2			5
3	14		
4		2	
5	18		
6		1	

The above (incomplete) table provides information about the relationships between labor and various product measures.

（1） What is the level of labor that maximizes the marginal product of labor? （5 points）

（2） What is the level of average product for the fourth unit of labor? （5 points）

10.

Price (dollars per unit)	Quantity (1000 units)	Total cost (1000 dollars)
30	0	100
25	10	200
20	20	250
15	30	400
10	40	600
5	50	850

The table above shows the cost and demand data for a monopolist.

（1） How many units will a profit maximizing firm produce? （5 points）

（2） How much profit will this firm earn? （5 points）