

考試科目	經濟學	系所別	商學院共同科	考試時間	2月2日(五)第一節
------	-----	-----	--------	------	------------

### 一、Multiple Choice (1 point each)

Identify the letter of the choice that best completes the statement or answers the question.

1. Beef is a normal good. You observe that both the equilibrium price and quantity of beef have fallen over time. Which of the following explanations would be most consistent with this observation?

A. Consumers have experienced an increase in income, and beef-production technology has improved.

B. The price of chicken has risen, and the price of steak sauce has fallen.

C. New medical evidence has been released that indicates a negative correlation between a person's beef consumption and life expectancy.

D. Beef producers, concerned about the health of their customers, decided to produce relatively less beef.

2. Suppose a tax of \$4 per unit is imposed on a good, and the tax causes the equilibrium quantity of the good to decrease from 2,000 units to 1,700 units. The tax decreases consumer surplus by \$3,000 and decreases producer surplus by \$4,400. The deadweight loss of the tax is

A. \$ 200.

B. \$ 400.

C. \$ 600.

D. \$ 1,200.

3. When a tax is levied on sellers of tea, buyers of a good bear the larger share of the tax burden when the

(i) supply is more elastic than the demand for the product.

(ii) demand is more elastic than the supply for the product.

(iii) tax is placed on the sellers of the product.

(iv) tax is placed on the buyers of the product.

A. (i) only

B. (ii) only

C. (i) and (iii) only

D. (i) and (iv) only

備註

一、作答於試題上者，不予計分。  
二、試題請隨卷繳交。

考試科目	經濟學	系所別	商學院共同科	考試時間	2月2日(五)第一節
<p>4. The substitution effect of an increase in the interest rate will result in an increase in</p> <p>A. consumption when young and increase in savings when young.  B. consumption when old and an increase in savings when young.  C. consumption when young and an increase in savings when old.  D. savings when old and an increase in consumption when old.</p> <p>5. Assume that goods X and Y are not Giffen goods. If the price of good X falls, a consumer will definitely</p> <p>A. consume more of good X because her budget constraint has rotated outward.  B. consume more of good X because her budget constraint has shifted outward.  C. consume more of good Y because her budget constraint has rotated outward.  D. consume more of good Y because her budget constraint has shifted outward.</p> <p>6. Thirsty Thelma owns and operates a small lemonade stand. When Thelma is producing a small quantity of lemonade she has few workers and her equipment is not being fully utilized. Because she can easily put her idle resources to use,</p> <p>A. the marginal cost of an extra worker is large.  B. the marginal product of an extra worker is small.  C. The marginal cost of one more glass of lemonade is small.  D. Her lemonade stand is likely to be crowded with workers.</p> <p>7. When total revenue is less than total variable cost, a firm in a competitive market will</p> <p>A. shut down.  B. continue to operate as long as average revenue exceeds marginal cost.  C. continue to operate as long as average revenue exceeds average fixed costs.  D. always exit the industry.</p> <p>8. In a competitive market, a firm's supply curve dictates the amount it will supply. In a monopoly market</p> <p>A. the same is true.  B. the decision about how much to supply is impossible to separate from the demand curve it faces.</p>					
備註	<p>一、作答於試題上者，不予計分。  二、試題請隨卷繳交。</p>				

考試科目	經濟學	系所別	商學院共同科	考試時間	2月2日(五)第一節
------	-----	-----	--------	------	------------

- C. the supply curve conceptually makes sense, but in practice is never used.  
 D. the supply curve will have limited predictive capacity.
9. Equilibrium quantity in markets characterized by oligopoly are  
 A. lower than in monopoly markets and higher than in perfectly competitive markets.  
 B. lower than in monopoly markets and lower than in perfectly competitive markets.  
 C. higher than in monopoly markets and higher than in perfectly competitive markets.  
 D. higher than in monopoly markets and lower than in perfectly competitive markets.
10. In the long run, a profit-maximizing firm in a monopolistically competitive market operates at  
 A. efficient scale.  
 B. the point where demand equals marginal cost.  
 C. the point where revenue is also maximized.  
 D. some point along the downward sloping portion of its average total cost curve.
11. Which of the following statements is correct if a country has adopted fixed exchange rate regime?  
 A. If the currency is overvalued with respect to the fixed parity, the central bank has to intervene e.g. by increasing the interest rate.  
 B. The central bank has to offset the effects of capital outflow on the exchange rate e.g. by buying domestic currency and paying with foreign reserves.  
 C. If, in order to reduce excess supply of the domestic currency, the central bank buys domestic currency at the target exchange rate, this will necessarily cause inflation in the home country.  
 D. Measures taken by the central bank to keep the exchange rate fixed will not affect the domestic interest rate.
12. Take a graph with the unemployment rate on the horizontal axis and the inflation rate on the vertical axis. Which of the following will shift the Phillips curve towards the northeast?  
 A. A positive aggregate demand shock  
 B. Contractionary monetary policy  
 C. A negative aggregate supply shock  
 D. A decrease in expected inflation

備

註

- 一、作答於試題上者，不予計分。  
 二、試題請隨卷繳交。

考試科目	經濟學	系所別	商學院共同科	考試時間	2月2日(五)第一節
<p>13. Which of the following statements is necessarily false:</p> <p>A. Monetary policy can be conducted through open market operations, setting the minimum reserve requirement and through changing the refinancing rate at which banks can borrow money from the central bank.</p> <p>B. In the short run, an increase in money supply causes a proportional increase in prices. Over time the latter decrease again.</p> <p>C. Unemployment benefits are automatic stabilizers.</p> <p>D. The positive effect of expansionary fiscal policy on production is reduced by crowding out.</p> <p>14. According to the theory of sticky wages:</p> <p>A. prices adjust slowly to a decrease in nominal wages. Firms face lower wages and since prices stay high they increase the level of production and thus employment. This results in higher aggregate supply.</p> <p>B. wages adjust slowly to a decrease in prices. Firms face lower prices and since the costs of production stay high they have to decrease production and thus employment. This decreases aggregate supply.</p> <p>C. not all firms immediately adjust their prices in reaction to a decrease in the price level. These firms face higher prices and thus they increase production, which increases aggregate supply.</p> <p>D. prices react more than proportionally to increases in nominal wages. Producers face higher wages, but since prices increase more than wages they want to increase production. This results in higher aggregate supply.</p> <p>15. According to the AS-AD model an increase of public investment</p> <p>A. might decrease GDP in the short run because of crowding out.</p> <p>B. decreases prices in the short run which stimulates an economic recovery.</p> <p>C. does not change long run aggregate supply.</p> <p>D. increases aggregate supply which is depicted as a shift of the AS curve to the right.</p> <p>16. Which of the following is the most important variable for judging an economy's long-run performance?</p> <p>A. growth in nominal GDP</p> <p>B. growth in real GDP</p>					
備註	<p>一、作答於試題上者，不予計分。</p> <p>二、試題請隨卷繳交。</p>				

考試科目	經濟學	系所別	商學院共同科	考試時間	2月2日(五)第一節
<p>C. growth in real GDP per capita D. growth in potential GDP</p> <p>17. Assume that the currency-deposit ratio is 32%, the required reserve-deposit ratio is 7%, the excess reserve-deposit ratio is 1%, and total money supply is \$1,320 billion. What is the amount of high-powered money?</p> <p>A. \$132 billion B. \$165 billion C. \$330 billion D. \$400 billion</p> <p>18. When the central bank intervenes in the foreign exchange market by purchasing foreign currency, it also routinely engages in open market sales of government securities. Why?</p> <p>A. it has to sell securities to acquire the necessary funds B. to avoid a recession that may be caused by the reduction in money supply resulting from the purchase of foreign currency C. to prevent its intervention in the foreign exchange market from having a direct effect upon the domestic money supply D. it wants to isolate the domestic economy from foreign competition</p> <p>19. According to the Baumol-Tobin transaction demand model, money demand for transactions</p> <p>A. depends only on the level of income B. depends only on the cost of illiquidity C. varies inversely with both the interest rate and the level of income D. increases as the interest rate decreases or income increases</p> <p>20. Which are the three channels by which the Central Bank can reduce money supply?</p> <p>A. buy government securities, lower reserve requirements, and lower the discount rate B. buy government securities, raise reserve requirements, and raise the discount rate C. buy government securities, lower reserve requirements, and raise the discount rate D. sell government securities, raise reserve requirements, and raise the discount rate</p>					
備註	<p>一、作答於試題上者，不予計分。 二、試題請隨卷繳交。</p>				

考試科目	經濟學	系所別	商學院共同科	考試時間	2月2日(五)第一節
------	-----	-----	--------	------	------------

## 二、Problems and Short-essay Questions

Please answer the following questions IN SEQUENCE. All questions may be answered in either Chinese or English.

1. Suppose there is a railway that runs coal-burning steam locomotives through a farming area and caused fires in the crop fields at harvest time. The crop damage from each train run is \$200. To run trains, the railway company incurs a private marginal cost of  $\$100n$ , where  $n$  denotes the number of train runs. For simplicity, assume there are no fixed costs. The revenue from a train run is \$400.

A. (4 points) What is the socially optimal number of train runs?

B. (4 points) How many trains would the railway company run if no compensation is required for crop damage and the transaction cost is high enough to prevent the parties from bargaining? How much profit does the company make?

C. (6 points) How many trains would the railway company run if no compensation is required for crop damage but the negotiations between the company and the farmers are free of any transaction costs? How much profit does the company make?

D. (6 points) Now assume the railway company is legally liable for the damage caused. That is, it is required to pay the farmer \$200 for each train run. How many trains would the company run? How much profit does it make?

2. There are two large countries  $H$  and  $F$ . Each country can choose its trade policy between free trade and protection. If both countries choose free trade, the welfare is (welfare of  $H$ , welfare of  $F$ ) = (20, 20). If  $H$  chooses free trade but  $F$  chooses protection, according to the optimal tariff theory,  $F$  can obtain more gains from trade at the expense of  $H$ , so that (welfare of  $H$ , welfare of  $F$ ) = (-20, 30). On the contrary if  $H$  chooses protection while  $F$  chooses free trade, the welfare is (welfare of  $H$ , welfare of  $F$ ) = (30, -20). However, if both countries choose protection, the welfare level moves down toward that near autarky. Therefore, (welfare of  $H$ , welfare of  $F$ ) = (-10, -10). Answer the following questions.

A. (10 points) If two countries choose trade policy simultaneously, what is the possible policy combination they will choose?

B. (10 points) What is the value of a bilateral trade agreement?

備

註

一、作答於試題上者，不予計分。

二、試題請隨卷繳交。

考試科目	經濟學	系所別	商學院共同科	考試時間	2月2日(五)第一節
------	-----	-----	--------	------	------------

3. Consider an economy with the following aggregate demand and aggregate supply functions:

$$\begin{cases} \text{Aggregate Demand function: } Y = 100 + 0.5 \times \frac{M}{P}, \\ \text{Aggregate Supply function: } Y = \bar{Y} + 25 \times (P - P^e), \end{cases}$$

where  $Y$  represents the output,  $\bar{Y}$  is the potential output,  $P$  is the price level,  $P^e$  is the expected price level,  $M$  is the nominal money supply. Furthermore, assume that  $M = 400$  and  $\bar{Y} = 200$ .

A. (6 points) Compute the equilibrium price and the equilibrium output, given that the expected price level is exactly equal to the actual price level.

B. (7 points) Suppose that the central bank dramatically increases the nominal money supply to 750 while the general public maintains exactly the same expected price level, what would be the new equilibrium price and the new equilibrium output?

C. (7 points) Compute the equilibrium price and the equilibrium output if the aforementioned expansionary monetary policy of the central bank is fully anticipated by the public.

4. Consider the following structural macroeconomic model:

- Production function:  $Y = F(N, K)$ ;  $F_N > 0$ ,  $F_K > 0$ .
- Labor demand:  $\frac{W}{P} = F_N(N, K)$ ;  $F_{NN} < 0$ ,  $F_{KK} < 0$ .
- Consumption:  $C = C(Y - T, r)$ ;  $1 > C_y > 0$ ,  $C_r < 0$ .
- Investment:  $I = I(r, y)$ ;  $I_y > 0$ ,  $I_r < 0$ .
- Goods market equilibrium:  $Y = C + I + G$ .
- Money market equilibrium:  $\frac{M}{P} = m(r, y)$ ;  $m_r < 0$ ,  $m_y > 0$ .

The terms  $Y$  (nominal GDP),  $y$  (real GDP),  $N$  (employment level),  $P$  (price level),  $C$  (consumption),  $r$  (interest rate),  $I$  (investment) are endogenous variables while  $K$  (capital stock),  $W$  (nominal wage),  $T$  (tax),  $G$  (government purchase),  $M$  (money supply) are exogenous variables.

A. (6 points) Is there an equilibrium in this model? If so, is it unique?

B. (7 points) Is there a stable equilibrium? If instability is possible, what is the sufficient condition for instability? (7%)

C. (7 points) What are the effects of an increase in government spending on  $y$ ,  $r$  and  $P$ ? What are the effects of an increase in money supply on  $y$ ,  $r$  and  $P$ ? (7%)

備註

- 一、作答於試題上者，不予計分。
- 二、試題請隨卷繳交。

考試科目	統計學	系所別	企業管理研究所(MBA) 甲組	考試時間	2月2日(五)第三節
------	-----	-----	--------------------	------	------------

1. (35%) The following table lists 12 universities according to the registration rates of their PhD programs in 2017.

University	Registration rate (%)
臺灣大學	73.00
成功大學	63.00
清華大學	81.93
交通大學	72.38
中央大學	83.89
陽明大學	72.22
中山大學	80.58
中興大學	74.49
臺灣師範大學	88.89
長庚大學	77.78
政治大學	66.26
臺灣科技大學	80.75

- (1) Draw a boxplot for the registration rates and interpret the resulting plot. (10%)
- (2) If five different universities are selected randomly from the list, what is the probability that three of them have registration rates between the first and third quartiles? (5%)
- (3) If six different universities are selected randomly from the list, what is the probability that two or fewer are universities in Taipei? (7%)
- (4) Suppose universities are being selected randomly from the list with replacement. If five universities are sampled, what is the probability that the sample will contain exactly two universities in Taipei? (5%)
- (5) Assume that the registration rates follow a normal distribution. Please construct a 95% confidence interval for mean of the registration rate. (8%)
2. (20%) Suppose a teller supervisor believes the distribution of random arrivals is Poisson distribution. The following data represent a distribution of frequency of arrivals during one-minute intervals at the bank.

備註

- 一、作答於試題上者，不予計分。  
二、試題請隨卷繳交。

考 試 科 目	統計學	系 所 別	企業管理研究所(MBA) 甲組	考 試 時 間	2月2日(五) 第三節
---------	-----	-------	--------------------	---------	-------------

Number of arrivals	Observed frequencies
0	7
1	18
2	25
3	17
4	12
$\geq 5$	5

- (1) Determine the estimated mean of the Poisson distribution. (3%)
- (2) Use  $\alpha=0.05$  to test these data to determine whether they are Poisson distribution. (12%)
- (3) What is the probability of getting exactly 6 customers during a 2-minute interval? (5%)

3. (30%) The following table lists a sample of automatic teller machine (ATM) customers: time (seconds) to complete their transaction, height (in inches), and gender (1=Male, 0=Female).

Time	Height	Gender
120	70	M
75	63	F
75	65	F
95	64	F
115	67	M
110	66	M
110	65	F
85	63	F
95	66	F
110	70	M
125	70	M
100	63	F
110	74	M
102	64	F
80	68	F

考試科目 統計學

系所別 企業管理研究所(MBA)  
甲組

考試時間 2月2日(五) 第三節

The computer printouts for regression analysis on the response variable, time to complete a transaction, are as follows.

Model A.

	Estimate	Std. Error
Intercept	90.778	3.537
Gender	24.222	5.592

Residual standard error: 10.610,  $F$ -statistic: 18.760

Model B.

	Estimate	Std. Error
Intercept	-82.722	74.584
Height	2.753	1.120

Residual standard error: 13.70,  $F$ -statistic: 6.046

Model C.

	Estimate	Std. Error
Intercept	110.534	90.641
Height	-0.306	1.403
Gender	25.735	9.048

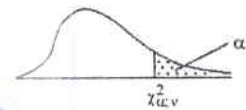
Residual standard error: 11.02,  $F$ -statistic: 8.717

- (1) Assume the variable *Time* follows a normal distribution. Use  $\alpha=0.05$  and apply the  $t$ -test to examine whether the means of *Time* for different genders are equal or not. (8%)
  - (2) Please construct an analysis of variance table for the regression model with Model C and interpret the results. (8%)
  - (3) Use  $\alpha=0.05$  to identify and explain which explanatory variables, *Height* and *Gender*, have significant effect on the response variable? (8%)
  - (4) Discuss which model should be the best among Models A, B, and C. (6%)
4. (15%) Suppose 65% of all companies give some training to their employees but this figure varies by company size. Suppose further that 18% of all companies using training are small companies and that 75% of all companies that do not use training are small companies. A company is randomly selected without regard to size.

考試科目	統計學	系所別	企業管理研究所(MBA) 甲組	考試時間	2月2日(五) 第三節
------	-----	-----	--------------------	------	-------------

- (1) What is the probability that the company uses testing? (2%)
- (2) What proportion of all company is not small? (5%)
- (3) Suppose it is determined that the selected company is not a small company. What is the revised probability that the company using training? (8%)

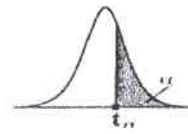
Table of the Chi-square Distribution



$\alpha =$	0.995	0.99	0.98	0.975	0.95	0.90	0.80	0.20	0.10	0.05	0.025	0.02	0.01	0.005	0.001	$=\alpha$
v = 1	0.0000393	0.000157	0.000628	0.000982	0.00393	0.0158	0.0642	1.642	2.706	3.841	5.024	5.412	6.635	7.879	10.827	v = 1
2	0.0100	0.0201	0.0404	0.0506	0.103	0.211	0.446	3.219	4.605	5.991	7.378	7.824	9.210	10.597	13.815	2
3	0.0717	0.115	0.185	0.216	0.352	0.584	1.005	4.642	6.251	7.815	9.348	9.837	11.345	12.838	16.268	3
4	0.207	0.297	0.429	0.484	0.711	1.064	1.649	5.989	7.779	9.488	11.143	11.668	13.277	14.860	18.465	4
5	0.412	0.554	0.752	0.831	1.145	1.610	2.343	7.289	9.236	11.070	12.832	13.388	15.086	16.750	20.517	5
6	0.676	0.872	1.134	1.237	1.635	2.204	3.070	8.558	10.645	12.592	14.449	15.033	16.812	18.548	22.457	6
7	0.989	1.239	1.564	1.690	2.167	2.833	3.822	9.803	12.017	14.067	16.013	16.622	18.475	20.278	24.322	7
8	1.344	1.646	2.032	2.180	2.733	3.490	4.594	11.030	13.362	15.507	17.535	18.168	20.090	21.955	26.125	8
9	1.735	2.088	2.532	2.700	3.325	4.168	5.380	12.242	14.684	16.919	19.023	19.679	21.666	23.589	27.877	9
10	2.156	2.558	3.059	3.247	3.940	4.865	6.179	13.442	15.987	18.307	20.483	21.161	23.209	25.188	29.588	10
11	2.603	3.053	3.609	3.816	4.575	5.578	6.989	14.631	17.275	19.675	21.920	22.618	24.725	26.757	31.264	11
12	3.074	3.571	4.178	4.404	5.226	6.304	7.807	15.812	18.549	21.026	23.337	24.054	26.217	28.300	32.909	12
13	3.565	4.107	4.765	5.009	5.892	7.042	8.634	16.985	19.812	22.362	24.736	25.472	27.688	29.819	34.528	13
14	4.075	4.660	5.368	5.629	6.571	7.790	9.467	18.151	21.064	23.685	26.119	26.873	29.141	31.319	36.123	14
15	4.601	5.229	5.985	6.262	7.261	8.547	10.307	19.311	22.307	24.996	27.488	28.259	30.578	32.801	37.697	15
16	5.142	5.812	6.614	6.908	7.962	9.312	11.152	20.465	23.542	26.296	28.845	29.633	32.000	34.267	39.252	16
17	5.697	6.408	7.255	7.564	8.672	10.085	12.002	21.615	24.769	27.587	30.191	30.995	33.409	35.718	40.790	17
18	6.265	7.015	7.906	8.231	9.390	10.865	12.857	22.760	25.989	28.869	31.526	32.346	34.805	37.156	42.312	18
19	6.844	7.633	8.567	8.907	10.117	11.651	13.716	23.900	27.204	30.144	32.852	33.687	36.191	38.582	43.820	19
20	7.434	8.260	9.237	9.591	10.851	12.443	14.578	25.038	28.412	31.410	34.170	35.020	37.566	39.997	45.315	20
21	8.034	8.897	9.915	10.283	11.591	13.240	15.445	26.171	29.615	32.671	35.479	36.343	38.932	41.401	46.797	21
22	8.643	9.542	10.660	10.982	12.338	14.041	16.314	27.301	30.813	33.924	36.781	37.659	40.289	42.796	48.268	22
23	9.260	10.196	11.293	11.688	13.091	14.848	17.187	28.429	32.007	35.172	38.076	38.968	41.638	44.181	49.728	23
24	9.886	10.856	11.992	12.401	13.848	15.659	18.062	29.553	33.196	36.415	39.364	40.270	42.980	45.558	51.179	24
25	10.520	11.524	12.697	13.120	14.611	16.473	18.940	30.675	34.382	37.652	40.646	41.566	44.314	46.928	52.620	25
26	11.160	12.198	13.409	13.844	15.379	17.292	19.820	31.795	35.563	38.885	41.923	42.856	45.642	48.290	54.052	26
27	11.808	12.879	14.125	14.573	16.151	18.114	20.703	32.912	36.741	40.113	43.194	44.140	46.963	49.645	55.476	27
28	12.461	13.565	14.847	15.308	16.928	18.939	21.588	34.027	37.916	41.337	44.461	45.419	48.278	50.993	56.893	28
29	13.121	14.256	15.574	16.047	17.708	19.768	22.475	35.139	39.087	42.557	45.722	46.693	49.588	52.336	58.302	29
30	13.787	14.953	16.306	16.791	18.493	20.599	23.364	36.250	40.256	43.773	46.979	47.962	50.892	53.672	59.703	30
40	20.706	22.164	23.838	24.433	26.509	29.051	32.345	47.269	51.805	55.759	59.342	60.436	63.691	66.766	73.402	40
50	27.991	29.707	31.664	32.357	34.764	37.689	41.449	58.164	63.167	67.505	71.420	72.613	76.154	79.490	86.661	50
60	35.535	37.485	39.699	40.482	43.188	46.459	50.641	68.972	74.397	79.082	83.298	84.580	88.379	91.952	99.607	60
70	43.275	45.442	47.893	48.758	51.739	55.329	59.898	79.715	85.527	90.531	95.023	96.388	100.425	104.215	112.317	70
80	51.171	53.539	56.213	57.153	60.391	64.278	69.207	90.405	96.578	101.880	106.629	108.069	112.329	116.321	124.839	80
90	59.196	61.754	64.634	65.646	69.126	73.291	78.558	101.054	107.565	113.145	118.136	119.648	124.116	128.299	137.208	90
100	67.127	70.065	73.142	74.222	77.929	82.358	87.945	111.667	118.498	124.342	129.561	131.142	135.807	140.170	149.449	100

考 試 科 目	統計學	系 所 別	企業管理研究所(MBA) 甲組	考 試 時 間	2 月 2 日(五) 第三節
---------	-----	-------	--------------------	---------	----------------

Percentage Points of the  $t$  Distribution;  $t_{v, \alpha}$   
 $P(T > t_{v, \alpha}) = \alpha$



v	$\alpha$													
	0.40	0.30	0.20	0.15	0.10	0.05	0.025	0.02	0.015	0.01	0.0075	0.005	0.0025	0.0005
1	0.325	0.727	1.376	1.963	3.078	6.314	12.706	15.895	21.205	31.821	42.434	63.657	127.322	636.590
2	0.289	0.617	1.061	1.386	1.886	2.920	4.303	4.849	5.643	6.965	8.073	9.925	14.089	31.598
3	0.277	0.584	0.978	1.250	1.638	2.353	3.182	3.482	3.896	4.541	5.047	5.841	7.453	12.924
4	0.271	0.569	0.941	1.190	1.533	2.132	2.776	2.999	3.298	3.747	4.088	4.604	5.598	8.610
5	0.267	0.559	0.920	1.156	1.476	2.015	2.571	2.757	3.003	3.365	3.634	4.032	4.773	6.869
6	0.265	0.553	0.906	1.134	1.440	1.943	2.447	2.612	2.829	3.143	3.372	3.707	4.317	5.959
7	0.263	0.549	0.896	1.119	1.415	1.895	2.365	2.517	2.715	2.998	3.203	3.499	4.029	5.408
8	0.262	0.546	0.889	1.108	1.397	1.860	2.306	2.449	2.634	2.896	3.085	3.355	3.833	5.041
9	0.261	0.543	0.883	1.100	1.383	1.833	2.262	2.398	2.574	2.821	2.998	3.250	3.690	4.781
10	0.260	0.542	0.879	1.093	1.372	1.812	2.228	2.359	2.527	2.764	2.932	3.169	3.581	4.587
11	0.260	0.540	0.876	1.088	1.363	1.796	2.201	2.328	2.491	2.718	2.879	3.106	3.497	4.437
12	0.259	0.539	0.873	1.083	1.356	1.782	2.179	2.303	2.461	2.681	2.836	3.055	3.428	4.318
13	0.259	0.538	0.870	1.079	1.350	1.771	2.160	2.282	2.436	2.650	2.801	3.012	3.372	4.221
14	0.258	0.537	0.868	1.076	1.345	1.761	2.145	2.264	2.415	2.624	2.771	2.977	3.326	4.140
15	0.258	0.536	0.866	1.074	1.341	1.753	2.131	2.249	2.397	2.602	2.746	2.947	3.286	4.073
16	0.258	0.535	0.865	1.071	1.337	1.746	2.120	2.235	2.382	2.583	2.724	2.921	3.252	4.015
17	0.257	0.534	0.863	1.069	1.333	1.740	2.110	2.224	2.368	2.567	2.706	2.898	3.222	3.965
18	0.257	0.534	0.862	1.067	1.330	1.734	2.101	2.214	2.356	2.552	2.689	2.878	3.197	3.922
19	0.257	0.533	0.861	1.066	1.328	1.729	2.093	2.205	2.346	2.539	2.674	2.861	3.174	3.883
20	0.257	0.533	0.860	1.064	1.325	1.725	2.086	2.197	2.336	2.528	2.661	2.845	3.153	3.850
21	0.257	0.532	0.859	1.063	1.323	1.721	2.080	2.189	2.328	2.518	2.649	2.831	3.135	3.819
22	0.256	0.532	0.858	1.061	1.321	1.717	2.074	2.183	2.320	2.508	2.639	2.819	3.119	3.792
23	0.256	0.532	0.858	1.060	1.319	1.714	2.069	2.177	2.313	2.500	2.629	2.807	3.104	3.768
24	0.256	0.531	0.857	1.059	1.318	1.711	2.064	2.172	2.307	2.492	2.620	2.797	3.091	3.745
25	0.256	0.531	0.856	1.058	1.316	1.708	2.060	2.167	2.301	2.485	2.612	2.787	3.078	3.725
26	0.256	0.531	0.856	1.058	1.315	1.706	2.056	2.162	2.296	2.479	2.605	2.779	3.067	3.707
27	0.256	0.531	0.855	1.057	1.314	1.703	2.052	2.158	2.291	2.473	2.598	2.771	3.057	3.690
28	0.256	0.530	0.855	1.056	1.313	1.701	2.048	2.154	2.286	2.467	2.592	2.763	3.047	3.674
29	0.256	0.530	0.854	1.055	1.311	1.699	2.045	2.150	2.282	2.462	2.586	2.756	3.038	3.659
30	0.256	0.530	0.854	1.055	1.310	1.697	2.042	2.147	2.278	2.457	2.581	2.750	3.030	3.646
40	0.255	0.529	0.851	1.050	1.303	1.684	2.021	2.123	2.250	2.423	2.542	2.704	2.971	3.551
60	0.254	0.527	0.848	1.045	1.296	1.671	2.000	2.099	2.223	2.390	2.504	2.660	2.915	3.460
120	0.254	0.526	0.845	1.041	1.289	1.658	1.980	2.076	2.196	2.358	2.468	2.617	2.860	3.373
$\infty$	0.253	0.524	0.842	1.036	1.282	1.645	1.960	2.054	2.170	2.326	2.432	2.576	2.807	3.291

考試科目	管理學	系所別	企業管理研究所(MBA)考試時間 甲組·乙組	2月2日(五)第三節
------	-----	-----	---------------------------	------------

共計四題申論題，每題 25 分。

請標題號並按題號順序作答，以利閱卷。

作答時不可參考任何紙張、書本、筆記、及工具等，並以中文作答。

專有名詞需加註英文原名，以利閱卷。

- 一、 企業經理人常需檢視各策略事業單位(Strategic Business Unit)的狀況進行資源分配，並找出競爭優勢(competitive advantage)；此外，經理人亦常使用新產品發展策略追求獲利成長。請問：
- (1) 根據波士頓顧問團隊矩陣(Boston Consulting Group matrix)，策略事業單位可分為哪四種不同類型？請列出(加註英文原名)並解釋之。(8%)
  - (2) 策略大師波特(Michael Eugene Porter)指出，競爭優勢可經哪三種一般性策略(three generic strategies)達成？請列出(加註英文原名)並解釋之(6%)；請解釋何謂「進退維谷(stuck in the middle)」？(1%)
  - (3) 新產品發展策略中的一個重要決策為命名，而命名新產品有兩種方式：利用現有的舊品牌名稱，或取一個新的品牌名稱。請說明企業使用此兩種命名方式的各三個優點(6%)；另，從顧客思考購買的角度來分析時，此兩種命名方式各自的適用時機為何？請解釋之。(4%)
- 二、 近年層出不窮的公司弊案，使社會大眾開始重視上市公司的公司治理議題。在上市公司的公司治理議題中，其中最受關注的為代理人問題(agency problem)。請問：
- (1) 何謂上市公司的代理人問題？(5%)
  - (2) 上市公司的代理人問題常伴隨代理成本(agency cost)，試問代理成本包含哪三種成本(專有名詞請加註英文)？(6%)
  - (3) 為了減少代理人問題，公司設計不同治理機制來減少代理人問題，試列舉和說明上市公司如何以內部公司治理機制(internal corporate governance mechanisms)和外部公司治理機制(external corporate governance mechanisms)來解決代理人問題(專有名詞請加註英文)？(14%)

備 註

- 一、作答於試題上者，不予計分。
- 二、試題請隨卷繳交。

考試科目	管理學	系所別	企業管理研究所(MBA) 甲組·乙組	考試時間	2月2日(五)第三節
<p>三、以下題目與決策(decision making)有關。</p> <p>(1) 管理者在做決策時(decision making)，常會面臨風險(risk)和不確定性(uncertainty)，請解釋何謂風險和不確定性，並說明兩者有何差異(專有名詞請加註英文)。(10%)</p> <p>(2) 何謂理性決策(5%)? 並請以理性決策的步驟說明您曾經採用的理性決策的例子。(10%)</p> <p>四、</p> <p>(1) 創業家精神(entrepreneurship)為近年來受關注的議題，然而創業家精神並不限於新創公司當中，在上市公司也可以進行公司內部創業(corporate entrepreneurship or internal new venturing)，試問何謂公司內部創業(corporate entrepreneurship or internal new venturing)(專有名詞請加註英文)?(10%)</p> <p>(2) 請以台積電為例，舉例說明其可能進行的內部創業活動和可能帶來的結果?(15%)</p>					
備註	一、作答於試題上者，不予計分。 二、試題請隨卷繳交。				

考試科目	經濟學	系所別	商學院共同科	考試時間	2月2日(五)第一節
------	-----	-----	--------	------	------------

### 一、Multiple Choice (1 point each)

Identify the letter of the choice that best completes the statement or answers the question.

1. Beef is a normal good. You observe that both the equilibrium price and quantity of beef have fallen over time. Which of the following explanations would be most consistent with this observation?

A. Consumers have experienced an increase in income, and beef-production technology has improved.

B. The price of chicken has risen, and the price of steak sauce has fallen.

C. New medical evidence has been released that indicates a negative correlation between a person's beef consumption and life expectancy.

D. Beef producers, concerned about the health of their customers, decided to produce relatively less beef.

2. Suppose a tax of \$4 per unit is imposed on a good, and the tax causes the equilibrium quantity of the good to decrease from 2,000 units to 1,700 units. The tax decreases consumer surplus by \$3,000 and decreases producer surplus by \$4,400. The deadweight loss of the tax is

A. \$ 200.

B. \$ 400.

C. \$ 600.

D. \$ 1,200.

3. When a tax is levied on sellers of tea, buyers of a good bear the larger share of the tax burden when the

(i) supply is more elastic than the demand for the product.

(ii) demand is more elastic than the supply for the product.

(iii) tax is placed on the sellers of the product.

(iv) tax is placed on the buyers of the product.

A. (i) only

B. (ii) only

C. (i) and (iii) only

D. (i) and (iv) only

備註

一、作答於試題上者，不予計分。  
二、試題請隨卷繳交。

考試科目	經濟學	系所別	商學院共同科	考試時間	2月2日(五)第一節
<p>4. The substitution effect of an increase in the interest rate will result in an increase in</p> <p>A. consumption when young and increase in savings when young.  B. consumption when old and an increase in savings when young.  C. consumption when young and an increase in savings when old.  D. savings when old and an increase in consumption when old.</p> <p>5. Assume that goods X and Y are not Giffen goods. If the price of good X falls, a consumer will definitely</p> <p>A. consume more of good X because her budget constraint has rotated outward.  B. consume more of good X because her budget constraint has shifted outward.  C. consume more of good Y because her budget constraint has rotated outward.  D. consume more of good Y because her budget constraint has shifted outward.</p> <p>6. Thirsty Thelma owns and operates a small lemonade stand. When Thelma is producing a small quantity of lemonade she has few workers and her equipment is not being fully utilized. Because she can easily put her idle resources to use,</p> <p>A. the marginal cost of an extra worker is large.  B. the marginal product of an extra worker is small.  C. The marginal cost of one more glass of lemonade is small.  D. Her lemonade stand is likely to be crowded with workers.</p> <p>7. When total revenue is less than total variable cost, a firm in a competitive market will</p> <p>A. shut down.  B. continue to operate as long as average revenue exceeds marginal cost.  C. continue to operate as long as average revenue exceeds average fixed costs.  D. always exit the industry.</p> <p>8. In a competitive market, a firm's supply curve dictates the amount it will supply. In a monopoly market</p> <p>A. the same is true.  B. the decision about how much to supply is impossible to separate from the demand curve it faces.</p>					
備註	<p>一、作答於試題上者，不予計分。  二、試題請隨卷繳交。</p>				

考試科目	經濟學	系所別	商學院共同科	考試時間	2月2日(五)第一節
------	-----	-----	--------	------	------------

- C. the supply curve conceptually makes sense, but in practice is never used.  
 D. the supply curve will have limited predictive capacity.
9. Equilibrium quantity in markets characterized by oligopoly are  
 A. lower than in monopoly markets and higher than in perfectly competitive markets.  
 B. lower than in monopoly markets and lower than in perfectly competitive markets.  
 C. higher than in monopoly markets and higher than in perfectly competitive markets.  
 D. higher than in monopoly markets and lower than in perfectly competitive markets.
10. In the long run, a profit-maximizing firm in a monopolistically competitive market operates at  
 A. efficient scale.  
 B. the point where demand equals marginal cost.  
 C. the point where revenue is also maximized.  
 D. some point along the downward sloping portion of its average total cost curve.
11. Which of the following statements is correct if a country has adopted fixed exchange rate regime?  
 A. If the currency is overvalued with respect to the fixed parity, the central bank has to intervene e.g. by increasing the interest rate.  
 B. The central bank has to offset the effects of capital outflow on the exchange rate e.g. by buying domestic currency and paying with foreign reserves.  
 C. If, in order to reduce excess supply of the domestic currency, the central bank buys domestic currency at the target exchange rate, this will necessarily cause inflation in the home country.  
 D. Measures taken by the central bank to keep the exchange rate fixed will not affect the domestic interest rate.
12. Take a graph with the unemployment rate on the horizontal axis and the inflation rate on the vertical axis. Which of the following will shift the Phillips curve towards the northeast?  
 A. A positive aggregate demand shock  
 B. Contractionary monetary policy  
 C. A negative aggregate supply shock  
 D. A decrease in expected inflation

備

註

- 一、作答於試題上者，不予計分。  
 二、試題請隨卷繳交。

考試科目	經濟學	系所別	商學院共同科	考試時間	2 月 2 日 (五) 第一節
<p>13. Which of the following statements is necessarily false:</p> <p>A. Monetary policy can be conducted through open market operations, setting the minimum reserve requirement and through changing the refinancing rate at which banks can borrow money from the central bank.</p> <p>B. In the short run, an increase in money supply causes a proportional increase in prices. Over time the latter decrease again.</p> <p>C. Unemployment benefits are automatic stabilizers.</p> <p>D. The positive effect of expansionary fiscal policy on production is reduced by crowding out.</p> <p>14. According to the theory of sticky wages:</p> <p>A. prices adjust slowly to a decrease in nominal wages. Firms face lower wages and since prices stay high they increase the level of production and thus employment. This results in higher aggregate supply.</p> <p>B. wages adjust slowly to a decrease in prices. Firms face lower prices and since the costs of production stay high they have to decrease production and thus employment. This decreases aggregate supply.</p> <p>C. not all firms immediately adjust their prices in reaction to a decrease in the price level. These firms face higher prices and thus they increase production, which increases aggregate supply.</p> <p>D. prices react more than proportionally to increases in nominal wages. Producers face higher wages, but since prices increase more than wages they want to increase production. This results in higher aggregate supply.</p> <p>15. According to the AS-AD model an increase of public investment</p> <p>A. might decrease GDP in the short run because of crowding out.</p> <p>B. decreases prices in the short run which stimulates an economic recovery.</p> <p>C. does not change long run aggregate supply.</p> <p>D. increases aggregate supply which is depicted as a shift of the AS curve to the right.</p> <p>16. Which of the following is the most important variable for judging an economy's long-run performance?</p> <p>A. growth in nominal GDP</p> <p>B. growth in real GDP</p>					
備註	<p>一、作答於試題上者，不予計分。</p> <p>二、試題請隨卷繳交。</p>				

考試科目	經濟學	系所別	商學院共同科	考試時間	2月2日(五)第一節
------	-----	-----	--------	------	------------

C. growth in real GDP per capita

D. growth in potential GDP

17. Assume that the currency-deposit ratio is 32%, the required reserve-deposit ratio is 7%, the excess reserve-deposit ratio is 1%, and total money supply is \$1,320 billion. What is the amount of high-powered money?

A. \$132 billion

B. \$165 billion

C. \$330 billion

D. \$400 billion

18. When the central bank intervenes in the foreign exchange market by purchasing foreign currency, it also routinely engages in open market sales of government securities. Why?

A. it has to sell securities to acquire the necessary funds

B. to avoid a recession that may be caused by the reduction in money supply resulting from the purchase of foreign currency

C. to prevent its intervention in the foreign exchange market from having a direct effect upon the domestic money supply

D. it wants to isolate the domestic economy from foreign competition

19. According to the Baumol-Tobin transaction demand model, money demand for transactions

A. depends only on the level of income

B. depends only on the cost of illiquidity

C. varies inversely with both the interest rate and the level of income

D. increases as the interest rate decreases or income increases

20. Which are the three channels by which the Central Bank can reduce money supply?

A. buy government securities, lower reserve requirements, and lower the discount rate

B. buy government securities, raise reserve requirements, and raise the discount rate

C. buy government securities, lower reserve requirements, and raise the discount rate

D. sell government securities, raise reserve requirements, and raise the discount rate

備註

一、作答於試題上者，不予計分。

二、試題請隨卷繳交。

考試科目	經濟學	系所別	商學院共同科	考試時間	2月2日(五)第一節
------	-----	-----	--------	------	------------

## 二、Problems and Short-essay Questions

Please answer the following questions IN SEQUENCE. All questions may be answered in either Chinese or English.

1. Suppose there is a railway that runs coal-burning steam locomotives through a farming area and caused fires in the crop fields at harvest time. The crop damage from each train run is \$200. To run trains, the railway company incurs a private marginal cost of  $\$100n$ , where  $n$  denotes the number of train runs. For simplicity, assume there are no fixed costs. The revenue from a train run is \$400.

A. (4 points) What is the socially optimal number of train runs?

B. (4 points) How many trains would the railway company run if no compensation is required for crop damage and the transaction cost is high enough to prevent the parties from bargaining? How much profit does the company make?

C. (6 points) How many trains would the railway company run if no compensation is required for crop damage but the negotiations between the company and the farmers are free of any transaction costs? How much profit does the company make?

D. (6 points) Now assume the railway company is legally liable for the damage caused. That is, it is required to pay the farmer \$200 for each train run. How many trains would the company run? How much profit does it make?

2. There are two large countries  $H$  and  $F$ . Each country can choose its trade policy between free trade and protection. If both countries choose free trade, the welfare is (welfare of  $H$ , welfare of  $F$ ) = (20, 20). If  $H$  chooses free trade but  $F$  chooses protection, according to the optimal tariff theory,  $F$  can obtain more gains from trade at the expense of  $H$ , so that (welfare of  $H$ , welfare of  $F$ ) = (-20, 30). On the contrary if  $H$  chooses protection while  $F$  chooses free trade, the welfare is (welfare of  $H$ , welfare of  $F$ ) = (30, -20). However, if both countries choose protection, the welfare level moves down toward that near autarky. Therefore, (welfare of  $H$ , welfare of  $F$ ) = (-10, -10). Answer the following questions.

A. (10 points) If two countries choose trade policy simultaneously, what is the possible policy combination they will choose?

B. (10 points) What is the value of a bilateral trade agreement?

備

註

一、作答於試題上者，不予計分。

二、試題請隨卷繳交。

考試科目	經濟學	系所別	商學院共同科	考試時間	2月2日(五)第一節
------	-----	-----	--------	------	------------

3. Consider an economy with the following aggregate demand and aggregate supply functions:

$$\begin{cases} \text{Aggregate Demand function: } Y = 100 + 0.5 \times \frac{M}{P}, \\ \text{Aggregate Supply function: } Y = \bar{Y} + 25 \times (P - P^e), \end{cases}$$

where  $Y$  represents the output,  $\bar{Y}$  is the potential output,  $P$  is the price level,  $P^e$  is the expected price level,  $M$  is the nominal money supply. Furthermore, assume that  $M = 400$  and  $\bar{Y} = 200$ .

A. (6 points) Compute the equilibrium price and the equilibrium output, given that the expected price level is exactly equal to the actual price level.

B. (7 points) Suppose that the central bank dramatically increases the nominal money supply to 750 while the general public maintains exactly the same expected price level, what would be the new equilibrium price and the new equilibrium output?

C. (7 points) Compute the equilibrium price and the equilibrium output if the aforementioned expansionary monetary policy of the central bank is fully anticipated by the public.

4. Consider the following structural macroeconomic model:

- Production function:  $Y = F(N, K)$ ;  $F_N > 0$ ,  $F_K > 0$ .
- Labor demand:  $\frac{W}{P} = F_N(N, K)$ ;  $F_{NN} < 0$ ,  $F_{KK} < 0$ .
- Consumption:  $C = C(Y - T, r)$ ;  $1 > C_y > 0$ ,  $C_r < 0$ .
- Investment:  $I = I(r, y)$ ;  $I_y > 0$ ,  $I_r < 0$ .
- Goods market equilibrium:  $Y = C + I + G$ .
- Money market equilibrium:  $\frac{M}{P} = m(r, y)$ ;  $m_r < 0$ ,  $m_y > 0$ .

The terms  $Y$  (nominal GDP),  $y$  (real GDP),  $N$  (employment level),  $P$  (price level),  $C$  (consumption),  $r$  (interest rate),  $I$  (investment) are endogenous variables while  $K$  (capital stock),  $W$  (nominal wage),  $T$  (tax),  $G$  (government purchase),  $M$  (money supply) are exogenous variables.

A. (6 points) Is there an equilibrium in this model? If so, is it unique?

B. (7 points) Is there a stable equilibrium? If instability is possible, what is the sufficient condition for instability? (7%)

C. (7 points) What are the effects of an increase in government spending on  $y$ ,  $r$  and  $P$ ? What are the effects of an increase in money supply on  $y$ ,  $r$  and  $P$ ? (7%)

備註

- 一、作答於試題上者，不予計分。
- 二、試題請隨卷繳交。

考試科目	微積分	系所別	企管研究所 (MBA) 乙組	考試時間	2月2日(五)第三節
------	-----	-----	-------------------	------	------------

**Question 1 (30 points)**

A media company is producing DVDs. It costs \$12,000 to set up machines to make the copies. The marginal cost for producing  $q$  copies is  $5 + \frac{q}{5000}$ . In addition, based on the market research, the highest price at which the company can sell all  $q$  copies is  $\$20 - \frac{q}{10000}$ . How many DVD should this media make and sell to be financially benefited?

**Question 2 (30 points)**

A new cell phone is introduced. The company estimates that they will sell 200 thousand phones. After 1 month they have sold 20 thousand. How many will they have sold after 9 months?

**Question 3 (40 points)**

A toy retailer sells three models (type A, B, and C). Annual demand are  $D_A = 12000$  units for type A,  $D_B = 1200$  units for type B, and  $D_C = 120$  units for type C. Each model's procurement cost is \$500. A fixed transportation cost of \$4000 is incurred each time an order is delivered. For each model ordered and delivered on the same truck, an additional fixed cost of \$1000 is incurred for receiving and storage. This retailer incurs an annual holding cost: 20 percent of the unit procurement cost (e.g.,  $\$500 \cdot 0.2 = \$100$  per unit kept in the backyard for one year). In the following questions, consider this retailer's annual procurement cost, holding cost, and transportation cost.

- Consider the case that three types of models are ordered independently. What is the minimum total cost? (20 points)
- Consider the case that three types of models are aggregated each time this retailer places an order. What is the minimum total cost? Comparing to (a), will this retailer save money or spend extra money? (20 points)

備註

- 作答於試題上者，不予計分。
- 試題請隨卷繳交。

考試科目	管理學	系所別	企業管理研究所(MBA)考試時間 甲組·乙組	2月2日(五)第三節
------	-----	-----	---------------------------	------------

共計四題申論題，每題 25 分。

請標題號並按題號順序作答，以利閱卷。

作答時不可參考任何紙張、書本、筆記、及工具等，並以中文作答。

專有名詞需加註英文原名，以利閱卷。

- 一、 企業經理人常需檢視各策略事業單位(Strategic Business Unit)的狀況進行資源分配，並找出競爭優勢(competitive advantage)；此外，經理人亦常使用新產品發展策略追求獲利成長。請問：
- (1) 根據波士頓顧問團隊矩陣(Boston Consulting Group matrix)，策略事業單位可分為哪四種不同類型？請列出(加註英文原名)並解釋之。(8%)
  - (2) 策略大師波特(Michael Eugene Porter)指出，競爭優勢可經哪三種一般性策略(three generic strategies)達成？請列出(加註英文原名)並解釋之(6%)；請解釋何謂「進退維谷(stuck in the middle)」？(1%)
  - (3) 新產品發展策略中的一個重要決策為命名，而命名新產品有兩種方式：利用現有的舊品牌名稱，或取一個新的品牌名稱。請說明企業使用此兩種命名方式的各三個優點(6%)；另，從顧客思考購買的角度來分析時，此兩種命名方式各自的適用時機為何？請解釋之。(4%)
- 二、 近年層出不窮的公司弊案，使社會大眾開始重視上市公司的公司治理議題。在上市公司的公司治理議題中，其中最受關注的為代理人問題(agency problem)。請問：
- (1) 何謂上市公司的代理人問題？(5%)
  - (2) 上市公司的代理人問題常伴隨代理成本(agency cost)，試問代理成本包含哪三種成本(專有名詞請加註英文)？(6%)
  - (3) 為了減少代理人問題，公司設計不同治理機制來減少代理人問題，試列舉和說明上市公司如何以內部公司治理機制(internal corporate governance mechanisms)和外部公司治理機制(external corporate governance mechanisms)來解決代理人問題(專有名詞請加註英文)？(14%)

備 註

- 一、作答於試題上者，不予計分。
- 二、試題請隨卷繳交。

考試科目	管理學	系所別	企業管理研究所(MBA) 甲組·乙組	考試時間	2月2日(五)第三節
<p>三、以下題目與決策(decision making)有關。</p> <p>(1) 管理者在做決策時(decision making)，常會面臨風險(risk)和不確定性(uncertainty)，請解釋何謂風險和不確定性，並說明兩者有何差異(專有名詞請加註英文)。(10%)</p> <p>(2) 何謂理性決策(5%)? 並請以理性決策的步驟說明您曾經採用的理性決策的例子。(10%)</p> <p>四、(1) 創業家精神(entrepreneurship)為近年來受關注的議題，然而創業家精神並不限於新創公司當中，在上市公司也可以進行公司內部創業(corporate entrepreneurship or internal new venturing)，試問何謂公司內部創業(corporate entrepreneurship or internal new venturing)(專有名詞請加註英文)?(10%)</p> <p>(2) 請以台積電為例，舉例說明其可能進行的內部創業活動和可能帶來的結果?(15%)</p>					
備註	<p>一、作答於試題上者，不予計分。</p> <p>二、試題請隨卷繳交。</p>				