國立成功大學

113學年度碩士班招生考試試題

編　號：239

系　所：國際企業研究所

科　目：經濟學

日　期：0202

節　次：第 3 節

備　註：不可使用計算機

※ 考生請注意：本試題不可使用計算機。　請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

I. True or False (2 points each, 20 points, please answer each question in either "T" or "F")

1. The major difference between gross domestic product and gross national income depends on net foreign income.

2. The Solow-Swan growth model is an economic growth model for the long-run and assumes the advance of an endogenous technology.

3. The Phillips curve is trying to resolve a short-run phenomenon in which there is a trade-off between unemployment rate and inflation rate before an economy reaches the non-accelerating inflation rate of unemployment.

4. Due to time inconsistency, the government with the intention of optimizing the policy effect on the economy might deviate from the policies once announced.

5. Ricardian equivalence says that the financing policy, either in debt or taxes, adopted by a government has nothing to do with the behavior of economic agents who act with rational expectations.

6. The households could modify their consumption levels in different time periods due to their preferences towards the physical consumption goods according to intertemporal substitutability in consumption.

7. The quantitative tightening policy is a monetary policy in which the money authority is trying to keep a lower interest rate while maintaining credit flows.

8. The transferability of inflation to the sales price depends on the willingness of sellers to do so within an economy.

9. In a Walrasian market, transaction orders within markets are collected in a batch and then are used to determine a market clearing price.

10. A lemon car phenomenon indicates that car sellers are trying to take advantage of car buyers through their relative information advantage.

II. Multiple Choice (Choose the Best One, 3 points each, 60 points)

1. The following table lists Kelsey's marginal utility about her consumption of candy and Jello.

	Candy	Jello
Quantity	Marginal Utility (MU)	Marginal Utility (MU)
1	120	110
2	105	96
3	104	80
4	100	70
5	96	60
6	84	56
7	80	50

What is the possible consumption quantity in equilibrium by Kelsey with an income of $15 once the price is $2 for both candy and Jello?

a. 9

b. 8

c. 7

d. 6

2. The following table lists Kelsey's marginal utility about her consumption of candy and Jello.

	Candy	Jello
Quantity	Marginal Utility (MU)	Marginal Utility (MU)
1	120	110
2	105	96
3	104	80
4	100	70
5	96	60
6	84	56
7	80	50

What is the possible consumption quantity in equilibrium by Kelsey once the price is $7 for candy and the price is $8 for Jello?

a. 9

b. 8

c. 7

d. 6

3. The following table lists Kelsey's marginal utility about her consumption of candy and Jello.

	Candy	Jello
Quantity	Marginal Utility (MU)	Marginal Utility (MU)
1	120	110
2	105	96
3	104	80
4	100	70
5	96	60
6	84	56
7	80	50

What is the total utility of candy consumption in equilibrium by Kelsey once the price is $7 for candy and the price is $8 for Jello?

a. 429

b. 525

c. 609

d. 689

4. The following table lists Kelsey's marginal utility about her consumption of candy and Jello.

	Candy	Jello
Quantity	Marginal Utility (MU)	Marginal Utility (MU)
1	120	110
2	105	96
3	104	80
4	100	70
5	96	60
6	84	56
7	80	50

What is the total utility of Jello consumption in equilibrium by Kelsey once the price is $7 for candy and the price is $8 for Jello?

a. 110

b. 206

c. 286

d. 356

5. The following table lists Kelsey's marginal utility about her consumption of candy and Jello.

	Candy	Jello
Quantity	Marginal Utility (MU)	Marginal Utility (MU)
1	120	110
2	105	96
3	104	80
4	100	70
5	96	60
6	84	56
7	80	50

What is the maximum of possible total utility in equilibrium by Kelsey once the price range varies from $5 to $7 for both candy and Jello?

   a.　965

   b.　975

   c.　1025

   d.　1161

6. There are two pairs of demand curve points of ($46.54,3) and ($44.94,8) for price and quantity combinations on a given linear demand curve. What is the price once the quantity is 12 according to this linear demand curve?

   a.　44.15

   b.　44.62

   c.　43.98

   d.　43.66

7. There are two pairs of demand curve points of ($45.58,6) and ($45.26,7) for price and quantity combination on a given linear demand curve. What is the demand elasticity of this linear demand curve? (Hint: using the midpoints of prices and quantity for elasticity calculation)

   a.　-21.8365

   b.　-23.1258

   c.　-0.3512

   d.　-0.4458

8. A demand curve has combination of price and quantity points for ($45.58,6) with an income level of $300 and ($45.58,10) with an income level of $600 on a given linear demand curve. What is the income elasticity of this demand curve? (Hint: using the midpoints of quantity and income for elasticity calculation)

   a. 0.65

   b. 0.75

   c. 0.85

   d. 0.95

9. There are two pairs of demand curve points of ($46.54,3) and ($44.94,8) for price and quantity combinations on a given linear demand curve. What is the consumer surplus once the current equilibrium price is $44.3?

   a. 12

   b. 14

   c. 16

   d. 18

10. The demand quantity of candy is 5 once the price of candy wrappers is $20.24 while the demand quantity of candy is 3 once the price of candy wrappers is $22.24. What is the cross-price elasticity of demand in candy in response to the price change of candy wrappers? (Hint: using the midpoints of prices and quantity for elasticity calculation)

   a. -4.67

   b. -4.35

   c. -5.31

   d. -5.24

11. The city government is trying to resolve issues regarding the morning traffic jams and street noise around the train station. City residents have benefits using public facilities around the train station and the benefits can be described as $p = 200 - 0.25q$ where q is the usage frequency of public facilities around the train station. The cost for the traffic jams is $q_{jam} = 2.6p$ where q_{jam} is the usage frequency of traffic jams while the cost for street noise is estimated as $q_{noise} = 1.4p$ where q_{noise} is the usage frequency of street noise. What are the equilibrium benefits, p, for charging the traffic vehicles using public facilities around the train station?

   a. 100

   b. 105

   c. 110

   d. 115

12. The city government is trying to resolve issues regarding the morning traffic jams and street noise around the train station. City residents have benefits using public facilities around the train station and the benefits can be described as $p = 200 - 0.25q$ where p represents the benefits using public facilities and q is the usage frequency of public facilities around the train station. The cost for the traffic jams is $q_{jam} = 2.6p$ where q_{jam} is the usage frequency of traffic jams while the cost for street noise is estimated as $q_{noise} = 1.4p$ where q_{noise} is the usage frequency of street noise. What is the total cost in equilibrium for these issues of the morning traffic jams and street noise around the train station?

    a. 10,000

    b. 20,000

    c. 30,000

    d. 40,000

13. The city government is trying to resolve issues regarding the morning traffic jams and street noise around the train station. City residents have benefits using public facilities around the train station and the benefits can be described as $p_r = 112 - 0.25q$ where p_r represents the benefits of residents using public facilities and q represents the usage frequency of public facilities around the train station. The cost for the traffic jams is $q_{jam} = 2.6p$ where q_{jam} is the usage frequency of traffic jams while the cost for street noise is estimated as $q_{noise} = 1.4p$ where q_{noise} is the usage frequency of street noise. What are the equilibrium benefits, p, for charging the traffic vehicles using public facilities around the train station once the marginal external benefit using public facilities around the train station is $p_e = 0.15q$ where p_e is the marginal external benefit?

    a. 50

    b. 60

    c. 70

    d. 80

14. The city government is trying to resolve issues regarding the morning traffic jams and street noise around the train station. City residents have benefits using public facilities around the train station and the benefits can be described as $p_r = 112 - 0.25q$ where p_r represents the benefits of residents using public facilities and q represents the usage frequency of public facilities around the train station. The cost for the traffic jams is $q_{jam} = 2.6p$ where q_{jam} is the usage frequency of traffic jams and p represents the cost while the cost for street noise is estimated as $q_{noise} = 1.4p$ where q_{noise} is the usage frequency of street noise and p represents the cost. What is the total cost in equilibrium for these issues of the morning traffic jams and street noise around the train station once the marginal external benefit using public facilities around the train station is $p_e = 0.15q$ where p_e is the marginal external benefit?

a. 32,800

b. 16,400

c. 25,600

d. 12,800

15. The city government is trying to resolve issues regarding the morning traffic jams and street noise around the train station. City residents have benefits using public facilities around the train station and the benefits can be described as $p_r = 281 - 0.25q$ where p_r represents the benefits of residents using public facilities and q represents the usage frequency of public facilities around the train station. The cost for the traffic jams is $q_{jam} = 2.6p$ where q_{jam} is the usage frequency of traffic jams while the cost for street noise is estimated as $q_{noise} = 1.4p$ where q_{noise} is the usage frequency of street noise. What is the total cost excluding taxes in equilibrium for these issues of the morning traffic jams and street noise around the train station once the marginal external benefit using public facilities around the train station is $p_e = 0.15q$ where p_e is the marginal external benefit and the city government imposes a 5% levy on usage of public facilities?

a. 153,900

b. 162,000

c. 173,500

d. 182,000

16. The current account of a country has an export amount of $2,143 billion and an import amount of $1,890 billion. Moreover, the financial and capital account has a net balance of $1,347 billion. What is the national income (unit: billions) if the marginal propensity to consume is 0.2 and there is no other change for the rest of components in national income?

    a. 4,304
    b. 5,380
    c. 2,000
    d. 2,400

17. The current account of a country has an export amount of $2,143 billion and an import amount of $1,890 billion. Moreover, the financial and capital account has a net balance of $1,347 billion. What is the amount of nominal money demand (unit: billions) if the marginal propensity to consume is 0.2, there is no other change for the rest of components in national income, and the money demand function is $M^d = 0.65 \times Y$ where M^d is nominal money demand and Y is the nominal national income?

    a. 2,798
    b. 3,497
    c. 1,300
    d. 1,560

18. The current account of a country has an export amount of $2,143 billion and an import amount of $1,890 billion. Moreover, the financial and capital account has a net balance of $1,347 billion. What is the nominal interest rate if the marginal propensity to consume is 0.2, there is no other change for the rest of components in national income, and the money demand function is $M^d = 0.65 \times Y - 200r$ where M^d is the amount of nominal money demand of $1,288 billion, Y is the nominal national income, and r is the nominal interest rate?

    a. 5%
    b. 6%
    c. 7%
    d. 8%

19. The current account of a country has an export amount of $2,143 billion and an import amount of $1,890 billion. Moreover, the financial and capital account has a net balance of $1,347 billion. What is real interest rate under the inflation rate of 1.5% if the marginal propensity to consume is 0.2, there is no other change for the rest of components in national income, and the money demand function is $M^d = 0.5 \times Y - 200r$ where M^d is the amount of nominal money demand of $985 billion, Y is the nominal national income, and r is the nominal interest rate?

    a.　5%

    b.　6%

    c.　7%

    d.　8%

20. The current account of a country has an export amount of $2,143 billion and an import amount of $1,890 billion. Moreover, the financial and capital account has a net balance of $1,347 billion. What is the unemployment rate under the Phillips curve of $\pi = 2\% - 2(U - 3.5\%)$ where π is the inflation rate and U is the unemployment rate if the marginal propensity to consume is 0.2, there is no other change for the rest of components in national income, and the money demand function is $M^d = 0.5 \times Y - 200r$ where M^d is the amount of nominal money demand of $985 billion, Y is the nominal national income, and r is the nominal interest rate with a real interest rate of 2.5%?

    a.　5%

    b.　6%

    c.　7%

    d.　8%

III. Computation Question: (4 points each, 20 points)

1. The following table lists bookkeeping records in national accounts of 2021 and 2022. The inflation indices are 100 and 120 for 2021 and 2022, respectively:

(unit: millions)

	2021	2022
Corporate Profits	120	135
Undistributed Income from Corporations	95	87
Compensation of Employees	50	60
Rental and Interest Income	45	30
Property and Royalty Income	80	70
Depreciation	50	50
Industrial Equipment Purchase	42	50
Sales Taxes	40	52
Subsidies from Government	12	11
Domestic Income earned by Foreigners	31	28
Foreign Income earned by Domestic Citizens	75	80
Statistical Discrepancy	7.25	5.38

(1) What is the real Gross Domestic Product in 2021?

(2) What is the real Gross National Income in 2022?

(3) What is the percentage growth rate in the real Gross Domestic Product in 2022 compared to 2021?

2. The following table lists the demand (bid) and supply (ask) schedule for pairs of size and price. An equilibrium is defined as a price which maximizes the quantity matched by the bids and asks within the demand and supply schedule.

Price (Dollars)	Bid Size (Tons)	Ask Size (Tons)
$100		78
$95		64
$90	7	58
$85	15	42
$80	25	33
$75	31	35
$70	43	12
$65	51	5
$60	62	
$55	80	

(1) What is the equilibrium price of this demand and supply schedule?

(2) What is the equilibrium quantity of this demand and supply schedule?