注意：考試開始鈴響前，不得翻閱試題，並不得書寫、畫記、作答。

國立清華大學 109 學年度碩士班考試入學試題

系所班組別：計量財務金融學系
　　　　　　甲組(財務金融組)

科 目 代 碼：4901

考 試 科 目：經濟學

―作答注意事項―

1. 請核對答案卷（卡）上之准考證號、科目名稱是否正確。

2. 作答中如有發現試題印刷不清，得舉手請監試人員處理，但不得要求解釋題意。

3. 考生限在答案卷上標記「┏由此開始作答」區內作答，且不可書寫姓名、准考證號或與作答無關之其他文字或符號。

4. 答案卷用盡不得要求加頁。

5. 答案卷可用任何書寫工具作答，惟為方便閱卷辨識，請儘量使用藍色或黑色書寫；答案卡限用 2B 鉛筆畫記；如畫記不清（含未依範例畫記）致光學閱讀機無法辨識答案者，其後果一律由考生自行負責。

6. 其他應考規則、違規處理及扣分方式，請自行詳閱准考證明上「**國立清華大學試場規則及違規處理辦法**」，無法因本試題封面作答注意事項中未列明而稱未知悉。

I.　True/False 每題 2 分 (共 20 分)

請解釋原因。若解釋不正確即使答案正確也不計分。

1. There are 3 goods. The price of good 1 is -1, the price of good 2 is $+1$, and the price of good 3 is $+2$. It is physically possible for a consumer to consume any commodity bundle with nonnegative amounts of each good. A consumer who has an income of 10 could afford to consume some commodity bundles that include 5 units of good 1 and 6 units of good 2.

2. In a pure exchange economy with two goods, if there is a competitive equilibrium with prices p_1 = \$12 and p_2 = \$27, then there must also be a competitive equilibrium with prices p_1 = \$24 and p_2 = \$54.

3. In a competitive equilibrium, no matter how different their preferences may be, no two people with the same income will envy each other's consumption bundles.

4. Clara's utility function is $U(x, y) = (x + 2)(y + 1)$. If her consumption of both x and y are doubled, then her marginal rate of substitution between x and y remains constant.

5. If a consumer does not have convex preferences, then a point of tangency between her indifference curve and her bud get line must be an optimal consumption point.

6. For a good with network externalities, the number of people who are willing to buy a unit of the good is uniquely determined by the price.

7. A Pareto optimal amount of public goods is shown on a graph (with quantities of public goods on the x axis) by the point at which the horizontal sum of the marginal rate of substitution curves meets the marginal cost curve.

請寫下題號並依題目順序答題，若不依順序答題者，概不計分

8. In a market where there is signaling, a separating equilibrium occurs when economic agents separate their actions as consumers from their actions as producers.

9. Alec and Kim used to be much better friends than they are now. The problem is what to do about Christmas gifts? If they wait until Christmas morning and move simultaneously, their payoff matrix is

		Kim	
		Gift	No
Alec	Gift	6,6	6,1
	No	2,4	1,1

Under the circumstances, Alec should publicly announce at Thanksgiving that he is not buying a Christmas gift for Kim.

10. If preferences are quasilinear, then the delineation of property rights has no distributional consequences.

II.　　Multiple Choice 每題 2 分（共 30 分）

1. Use the chart and your own knowledge to answer this question.

Major Japanese Imports and Exports

Major Imports	Major Exports
• metals such as aluminum and lead • fossil fuels • minerals • foodstuffs	• automobiles • electronic equipment • high-tech equipment such as computers • high quality steel

Which of these best explains Japan's need for imports?

(A) An unskilled workforce in Japan

(B) A global scarcity of natural resources

(C) A surplus of electronics in other countries

(D) A shortage of natural resources in Japan

2. Why does a free market economy need some government intervention?

(A) To ensure that the government has the freedom to tax as needed

(B) To make sure consumers get an equal share of the resources

(C) To prevent businesses from becoming too profitable

(D) To provide for things that the marketplace does not address

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3. A mountain village owns a common pasture where villagers graze their goats. The cost to a goat owner of owning and caring for a goat is 4 groschens. The pasture gets overgrazed if too many goats share the pasture. The total revenue from all goats on the common pasture is $f(g) = 48g - 2g^2$, where g is the number of goats on the pasture. The town council notices that total profit from the pasture is not maximized if villagers are allowed to pasture goats for free. The council decides to allow a goat to use the common pasture only if its owner buys it a goat license. To maximize total profit (of villagers and council), how many groschens per goat should the council charge?

(A) 12

(B) 20

(C) 24

(D) 22

4. Suppose AMD is considering cloning Intel's latest CPU chip. If AMD enters Intel's market, Intel can play Mean, expand its output, drop prices, and try to make AMD's profit as small as possible or play Nice by cutting back its output and sharing the market. AMD and Intel both know that after all moves are complete, the time-discounted profits of future chip production in billions of dollars are

		Intel	
		Mean	**Nice**
AMD	**In**	5, 1	8, 12
	Out	0, 8	0, 22

Assuming AMD moves first, which of the following is the Nash equilibrium for sequential play?

(A) (Out, Nice)

(B) (Out, Mean)

(C) (In, Nice)

(D) (In, Mean)

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5. A quiet town in Kansas has 2,000 people, all of whom have the same preferences. There is one private good and one public good. Each person I in town has utility $U(x_i, y) = x_i + 0.5y$, where x_i is private good for person i and y is the amount of public good that the town provides. If the private good costs $1 per unit and the public good costs $10 per unit, then the Pareto optimal amount of public good for the town to provide is:

    (A) 100 units.

    (B) 500 units.

    (C) 8,000 units.

    (D) 10,000 units.

6. Macroeconomics is based on microeconomics for *all* of the following reasons *except*:

    (A) when we study the economy as a whole, we must consider the decisions of individual economic actors.

    (B) aggregate variables are simply the sum of variables describing many individual decisions.

    (C) macroeconomic decision makers, when they make their choices, are required to maximize utility functions.

    (D) to understand the determinants of aggregate investment, we must think about a firm's deciding whether to build a new factory.

7. A woman marries her butler. Before they were married, she paid him $60,000 per year. He continues to wait on her as before (but as a husband rather than as a wage earner). She earns $1,000,000 per year both before and after her marriage. The marriage:

    (A) does not change GDP.

    (B) increases GDP by $60,000.

    (C) decreases GDP by $60,000.

    (D) increases GDP by more than $60,000.

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8. Financial intermediation is the process of:

    (A) settling disputes between borrowers and lenders.

    (B) advising corporations on whether to expand using debt or equity.

    (C) transferring funds from savers to borrowers.

    (D) converting from a barter economy to a money economy.

9. Based on the table below, what is the leverage ratio at the bank?

Bank Balance Sheet			
Assets		**Liabilities & Net Worth**	
Reserves	$ 10,000	Deposits	$100,000
Loans	100,000	Debt	20,000
Securities	40,000	Equity	30,000

    (A) 3

    (B) 4.67

    (C) 5

    (D) 10

10. Based on the table above, what is the reserve-deposit ratio at the bank?

    (A) 3%

    (B) 5%

    (C) 10%

    (D) 15%

11. Based on the table above, owners' equity will fall to zero if loan defaults reduce the value of total assets by _____ percent.

    (A) 10

    (B) 15

    (C) 20

    (D) 25

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12. The Solow model shows that a key determinant of the steady-state ratio of capital to labor is the:
    (A) level of output.
    (B) labor force
    (C) saving rate.
    (D) capital elasticity in the production function

13. In the Solow growth model with population growth and technological change, the break-even level of investment must cover:
    (A) depreciating capital.
    (B) depreciating capital and capital for new workers.
    (C) depreciating capital, capital for new workers, and capital for new effective workers.
    (D) depreciating capital and capital for new effective workers.

14. The assumption of adaptive expectations for inflation means that people will form their expectations of inflation by:
    (A) taking all information into account using the best economic model available.
    (B) asking the opinions of experts.
    (C) basing their opinions on recently observed inflation.
    (D) flipping a coin.

15. According to the neoclassical model of investment, business fixed investment does not depend on:
    (A) the marginal product of capital.
    (B) the interest rate.
    (C) the realized profits of firms.
    (D) tax rules affecting firms.

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系所班組別：計量財務金融學系碩士班 甲組、乙組

考試科目（代碼）：經濟學（4901）（5001）

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III. 問答題 (每題 25 分, 共 50 分)

1. 若一國家的經濟政策不確定性 (economic policy uncertainty) 增加時，對於 (I) 消費者 (II) 廠商 (III) 股價 (IV) 國家產出以及 (V) 失業率影響為何？ 請嘗試以總體模型回答。

2. 請概述目前中美貿易戰的近期消息，並依據模型說明中美貿易戰對臺灣產出以及股票大盤指數的影響效果並陳述你的論點。