考試科目經濟學 所別俄羅斯 考試時間2月22日(六)第一節

- 1. (25 points) Suppose the inverse demand curve for good A is given by the equation  $P_A = 10 Q_A/10$ , and the supply curve is perfectly elastic (horizontal) at \$1. Good A is presently taxed at \$2 per unit. Good B (which is independent of good A) has an inverse demand curve,  $P_B = 5 Q_B/20$ , and is also perfectly elastic at \$1. Good B is untaxed.
  - (A) How much tax revenue is collected and what is the excess burden of the \$2 tax on good A? (10 points)
  - (B) How much revenue is collected if the tax on good A is reduced to \$1 per unit and good B is taxed at \$1 per unit? (5 points)
  - (C) What is the total excess burden of taxing both goods at \$1 per unit? (5 points)
  - (D) Which tax system (i.e., tax good A at \$2 per unit or tax both good A and B at \$1 per unit) is preferable from the point of view of economic efficiency? (5 points)
- 2. (15 points) Suppose the Central Bank's short-run response to any change in the economy is to change the money supply to maintain the existing real interest rate.
  - (A) What would happen to money supply if there were a reduction in government purchases? (3 points)
  - (B) Given the Central Bank's policy, what would happen in the very short run (before general equilibrium is restored) to output and the real interest rate? (6 points)
  - (C) What must happen to the *LM* curve and the price level to restore general equilibrium? (6 points)
- 3. (20 points)
  - (A) What is the *steady state* in the Solow growth model? (5 points)
  - (B) Take the Solow growth model and assume the economy is at the steady state. A natural disaster hits and some of the economy's capital is destroyed. Determine graphically the impact on the long-run quantity of capital per capita and output per capital. (15 points)

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- 4. (10 points) Use a Real Business Cycle model to trace out the macroeconomic effects of recent advances in information and communication technology.
- 5. (5 points) How many people are unemployed if the employment ratio is 75%, there are 90 million people employed, and there are 20 million people not in the labor force?
  - 6. (15 points) The Central Bank has three tools to control the money supply: open-market operations, the discount rate, and reserve requirements. Will the change of these tools affect the monetary base and/or the money multiplier?
  - 7. (10 points) Illustrate and state the condition for efficiency of the allocation of a public good.

