

EXAMINATION

Please complete the following :

Course Code : Econ 3123.

Course Title : Econ.

Date of Examination : 10.10.2025.

Student Number : 21009956

Student Name : CHEN, Wanjia.

THE HKUST ACADEMIC HONOR CODE

Honesty and integrity are central to the academic work of HKUST. Students of the University must observe and uphold the highest standards of academic integrity and honesty in all the work they do throughout their program of study.

As members of the University community, students have the responsibility to help maintain the academic reputation of HKUST in its academic endeavors.

Sanctions will be imposed on students, if they are found to have violated the regulations governing academic integrity and honesty.

Declaration of Academic Integrity

I confirm that I have answered the questions using only materials specifically approved for use in this examination, that all the answers are my own work, and that I have not received any assistance during the examination.

Student's Signature :

CHEN, Wanjia.

Answer Book

Instructions :

1. Write your answers on the **RIGHT-HAND** page. Use the left-hand page only for rough work. Any work that appears on the left-hand page will **NOT** be marked.
2. Begin **EACH** question on a **NEW** page. Write down the question number at the top of each page.
3. No supplementary sheets may be submitted, unless allowed by the examiner.
4. No part of this answer book is to be taken away from the examination.

Enter the question numbers below in the **SAME ORDER** as you have answered the questions :

Question No.	For use by the examiner	
	Marks	
Total marks	75	

No. of answer books used : _____

Checked by Yang Lu.

Q1.



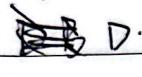
Q2.



Q3.



Q4.



12

Q5.



B C.

Q6.

(a.)

$$Y = C + I + G$$

$$= C_0 + C_1 Y_0 + b_0 + b_1 Y - b_2 i + G.$$

$$= C_0 + C_1 (Y - T) + b_0 + b_1 Y - b_2 i + G.$$

$$= C_0 + C_1 Y - C_1 T + b_0 + b_1 Y - b_2 i + G.$$

$$Y - C_1 Y - b_1 Y = C_0 - C_1 T + b_0 - b_2 i + G,$$

$$(1 - C_1 - b_1) Y = C_0 - C_1 (T_0 + t_1 Y) + b_0 - b_2 i + G.$$

$$(1 - C_1 - b_1 - t_1) Y = C_0 - C_1 T_0 + b_0 - b_2 i + G.$$

∴ ~~t₁~~ is between 0 and 1 and $C_1 + b_1 < 0.5$.

$$\therefore 1 - C_1 - b_1 > 0.5.$$

∴ $1 - C_1 - b_1 - t_1$ may be ~~not~~ bigger, equal or smaller than 0.

∴ when $1 - C_1 - b_1 - t_1$ is bigger than 0,

$$\therefore (1 - C_1 - b_1 - t_1) Y > 0.$$

$$Y = \frac{C_0 - C_1 T_0 + b_0 - b_2 i + G}{1 - C_1 - b_1 - t_1}$$

when $1 - C_1 - b_1 - t_1$ is equal to 0.

$$(1 - C_1 - b_1 - t_1) Y = 0.$$

when $1 - C_1 - b_1 - t_1$ is smaller than 0. 3

$$(1 - C_1 - b_1 - t_1) Y < 0.$$

$$Y = \frac{C_0 - C_1 T_0 + b_0 + b_2 i + G}{1 - C_1 - b_1 - t_1}$$

(b.)

$$T = ?$$

(Q6)

(b.)

In order to keep the budget balanced.

$$Y = C + I + G$$

So the government spending should increase.

The government spending adjustment counteract.

O

(Q6)

(c.) After the readjustment of government spending G_1 that rebalances the budget.

The ~~private~~ people ~~would~~ would increase their consumption and lower the investment.

So the private saving is increase.

0

(Q7)

$$(a) Z = Y = C + I + G$$

$$= 0.5 + 0.2(Y-T) + 0.2 + 0.3Y - 2.5(i+X) + 1$$

$$= 0.5 + 0.2(Y-1) + 0.2 + 0.3Y - 2.5(\bar{i} + 5\%) + 1$$

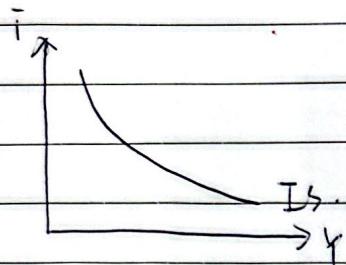
$$= 0.5 + 0.2Y - 0.2 + 0.2 + 0.3Y - 2.5\bar{i} - 0.125 + 1$$

$$Y - 0.2Y - 0.3Y = 1.375 - 2.5\bar{i}$$

$$0.5Y = 1.375 - 2.5\bar{i}$$

$$Y = 2.75 - 5\bar{i}$$

/ 0



Q

Q7

(b) According to problem (a.) $y = 2.71 - 5i$
if i is 5%.

then $y = 2.75 - 5 \times 5\% = 2.5$.

$$\frac{M_d}{P} = 2.5 \times (0.7 - 4 \times 5\%) = 1.75$$

Q

Q7.

(C.) makes the average reserve ratio of the commercial banks increase from 25% to 30%.

and the central bank wants to restore the equilibrium nominal interest rate back to 5%.

$$\text{The monetary base} = \frac{M_d}{P} = k \times (0.7 - 4i)$$

?

(Q7)

(d.)

(Q8.)

(a)

$$100 \times 3\% \times 29 = 0.06. \quad 100 + 0.06 = 100.06.$$

$$100 \times 5\% = 5. \quad 100 - 5 = 95. \quad \cancel{100 \times 0}$$

The current price is 95.

$$100 \times 4\% \times 5\% = 0.2. \quad 100 - 0.2 = 99.8.$$

(b)

$$100\% \times \cancel{24} \times \cancel{3} \times \cancel{2} \times \cancel{2} =$$

0