

A. Multiple Choice Questions (20 marks):

1. If A and B are substitute goods (in consumption) and the price of A increases, we will observe_____

- (a) an increase in the price but a decrease in the equilibrium quantity of B.
- (b) an increase in the price and the equilibrium quantity of B. (Demand curve of B shifts to the right and as a result both P and Q of B increase)
- (c) a decrease in the price and the equilibrium quantity of B.
- (d) a decrease in price but an increase in the equilibrium quantity of B.

2. A medical clinic has 10 workers. Each worker can produce a maximum of either 2 units of medical services or 5 units of secretarial services a day. One day, the firm decides it would like to produce 10 units of medical services and 15 units of secretarial services. This output level is

- (a) production efficient because it is on the production possibility boundary.
- (b) efficient if firms reduce the number of workers.
- (c) outside the boundary and so is unattainable.
- (d) inside the boundary and so is attainable but inefficient. (if the firm produces 10 med services it can produce 25 secretarial services).

3. Suppose Canadian economy's $MPC = 0.8$, $t = 0.25$, and $m = 0.1$. If the government wants to raise real GDP by \$100 million, it should raise government expenditures G by

- (a) 100 m.
- (b) 50 m. (Multiplier = $1/(1 - 0.5) = 2$. So dG required = 50)
- (c) 10 m.
- (d) 20 m.

4. Given the information in the following table,

Government expenditures on goods and services	\$400
Personal income taxes net of subsidy	\$200
Capital consumption	\$400
Gross investment	\$300
Personal consumption	\$2,000
Net exports	\$ -50
Indirect taxes	\$150

this economy's (private) savings is equal to

- (a) \$ 500.
- (b) \$ 650.

- (c) \$ 2650.
 (d) \$ 450. ($Y = C+I+G+NX = 2650$; $S = Y - C - T$ (personal tax) = 450).

Note: I briefly discussed about this in the class in relation to a similar practice Quiz question (and so included in the midterm). However since this question is covered in only Chap 26 of the text, I will give marks for this question to all).

5. Which of the following statements regarding global "Oil Shock" is true?
- (a) It shifts Japan's (a country which doesn't produce oil) AS curve to the left. (Global oil shock means shift in the AS curve of the global economy which increases global P for crude oil. Higher price of oil will make production in oil importing countries more expensive)
 - (b) It shifts Saudi Arabia's (a major oil exporter) AD curve to the left.
 - (c) It shifts Saudi Arabia's AS curve to the left.
 - (d) Both (a) and (b).

6. The following table gives the AD schedule and the AS schedule of an imaginary economy with potential GDP equal to \$7 trillion. If the prices of raw materials increase and as a result the AS curve shifts by \$ 2 trillion at each price level, then the price level (GDP deflator) at the new short run equilibrium is \$ _____ and real GDP is \$ _____ trillion.

GDP Deflator (\$)	AD (\$ trillion)	AS (\$ trillion)
90	10	4 (2)
100	8	6 (4)
110	6	8 (6)
120	4	10 (8)

- (a) 110; 6
- (b) 100; 6
- (c) 110; 8
- (d) 120; 4

7. An island economy produces only bananas and coconuts. The table below gives the quantities produced and prices in 2002 and 2003. The base year is 2002.

Items	Data for 2002		Data for 2003	
	Quantity	Price	Quantity	Price
Bananas	50	10	60	12
Coconuts	30	5	40	9

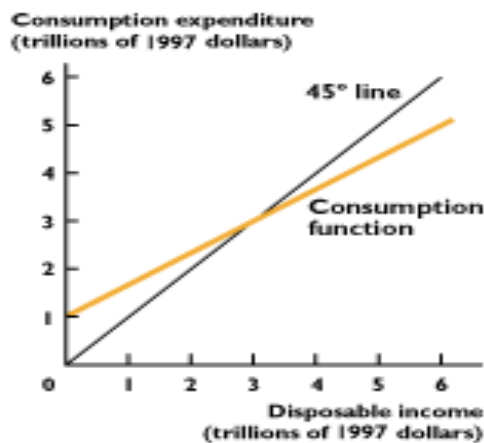
Using the traditional method (base year 2002 prices), the GDP deflator in 2003 is approximately equal to _____.

- (a) 74.
- (b) 110.
- (c) 135. (Nominal GDP = $60 \cdot 12 + 40 \cdot 9 = 1080$. Real GDP = $60 \cdot 10 + 40 \cdot 5 = 800$. GDP deflator = $(1080/800) \cdot 100 = 135$)
- (d) 124.

8. Due to automatic (fiscal) stabilizers, when income rises

- (a) government outlays rise and tax revenues fall.
- (b) government outlays fall and tax revenues rise.
- (c) the economy will automatically return to the original income level.
- (d) government outlays equal tax revenues.

9. The following figure shows a nation's consumption function. If disposable income is \$3 trillion, savings are \$_____ trillion and MPC is _____.



- (a) 3; 0.66
- (b) 3; 0.50
- (c) 3; 0.00
- (d) 0; 0.66 (At $Y_d = 300$, $C = 300$. So $S = 0$. $MPC = 2/3$)

10. Which of the following may increase real GDP in the short run but may actually decrease the long-run growth rate of GDP?

- (a) increase in factor-utilization rates.
- (b) increase in factor supplies.
- (c) decrease in factor productivity.
- (d) decrease in households' desired savings. (more consumption can increase short-run Y but it also means less savings and investment and hence lower economic growth rate)

B. Answer all of the following 3 questions as shortly and as precisely as possible (avoiding unnecessary explanation). (30 marks)

Question 1 (10 marks):

In an economy, consumption $C = 500 + 0.8Y_D$, $I = 150$, $G = 150$, $X = 200$ and $IM = 0.1Y$. The marginal tax rate $t = 15\%$.

- (a) Calculate the equilibrium real GDP, Y , of this economy. (5 marks)
(b) By how much should the government increase G if it wants to boost the equilibrium Y by 400. (7 marks)

Case 1: $C = 500 + 0.8Y_D = 500 + 0.8(Y - 0.15Y)$

a) $AE = C + I + G + NX = 1000 + [0.8(1 - 0.15) - 0.1]Y = 1000 + 0.58Y$

At equilibrium, $Y = AE$

$$Y = 1000 + 0.58Y$$

$$Y = 1000/0.42 = 2380.95$$

b) Multiplier = $1 / (1 - 0.58) = 2.38$.

Multiplier = $\Delta Y / \Delta A$ and so $\Delta A = 400/2.38 = 168$.

Case 2: $C = 500 + 0.08(Y - 0.15Y)$

a) $AE = 1000 - 0.032Y$ and equilibrium $Y = 968.99$

b) Multiplier = $1 / (1 - (-0.032)) = 0.9689$ (note: multiplier < 1).

$$\Delta A = 400/0.9689 = 412.8$$

Case 3: $C = 500 + 0.08Y$

a) In this case C is a function of Y (not Y_D) or the effect of tax is already included in $0.08Y$. So the tax rate $t = 15\%$ is irrelevant.

$$AE = 1000 - 0.02Y$$

At equilibrium $Y = AE$

$$Y = 1000/1.02 = 980.4$$

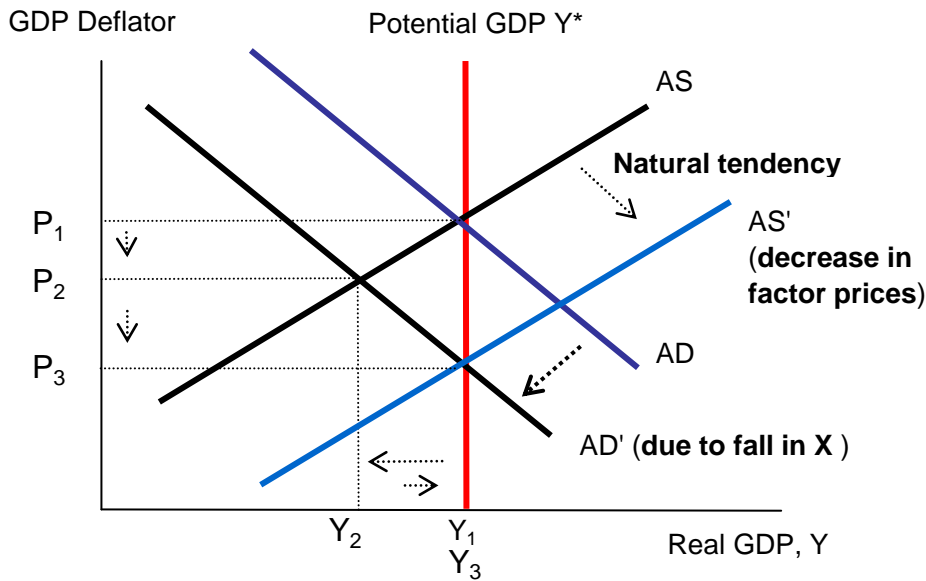
b) Multiplier = $1 / (1 - (-0.02)) = 0.98$.

$$\Delta A = 400/0.98 = 408.16$$

(You will get full marks for either one of the above answers depending on which C function you used)

Question 2 (10 marks):

Brazilian economy is in a long-run equilibrium. What is the short-run effect of a sharp decline in the global demand for Brazilian cocoa on the Brazilian economy (price and real GDP)? Draw a self-explanatory graph to show this effect (no explanation is necessary). Also show the economy's long-run natural tendency in your graph. (6+4 marks)

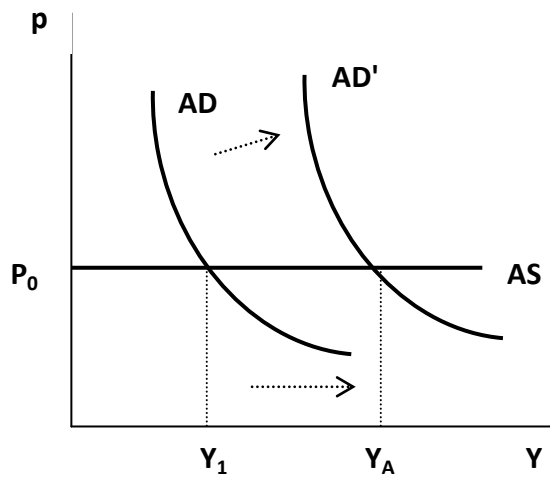


Note that self explanatory means everything must be clearly shown in your graph: a) all labels, b) directions of changes in Y and P, and c) reasons behind the shifts of curves, if any. For example, why AD and/or AS shift must be clearly shown in the diagram (or you must write a sentence or two explaining the reasons.)

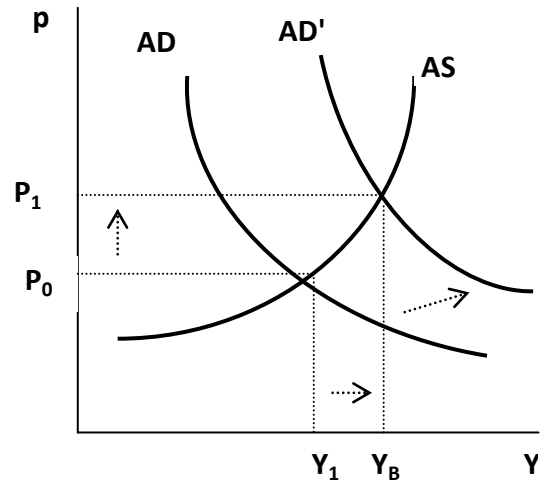
Question 3.

The following diagrams show the AD and AS curves of two different economies.

(a) Complete the diagrams showing the multiplying effects of an increase in autonomous expenditure. (4 marks)



Economy A



Economy B

Note that both graphs must be fully labeled to receive full marks!

(b) Which economy has a smaller multiplying effect? Explain in less than 100 words. (Note that the answer must be precise and short to receive full marks; any unrelated or wrong/extra explanation will cost you marks). (4 marks)

Economy B has a lower multiplying effect (than in Economy A) as in this economy the upward sloping AS curve leads to an increase in price, P . The increase in P crowds out (or slows down) the effect of increase in autonomous expenditure. The higher P can decrease C , I , G and NX and hence slow down the effect of initial increase in autonomous expenditure.