

ECS1601
SOME SUGGESTED SOLUTIONS

MAY/JUNE 2016

SECTION A

Question 1

1a Define money

Money is anything that is commonly accepted as payment for goods and services, or that is accepted in settlement of debts. It is generally defined in terms of its function as a medium of exchange.

1b Distinguish between the three broad functions of government.

- The **allocative** function: the role of government in correcting market failure and achieving a more efficient allocation of resources.
- The **distribution** function: the steps government takes to achieve a more equitable or socially acceptable distribution of income than that generated by market forces.
- The **stabilisation** function: measures taken by government to promote macroeconomic stability.

1c Define the South African balance of payments.

The Balance of Payments is an account that records the economic transactions between the residents of one country and the rest of the world.

1d Differentiate between nominal and real prices.

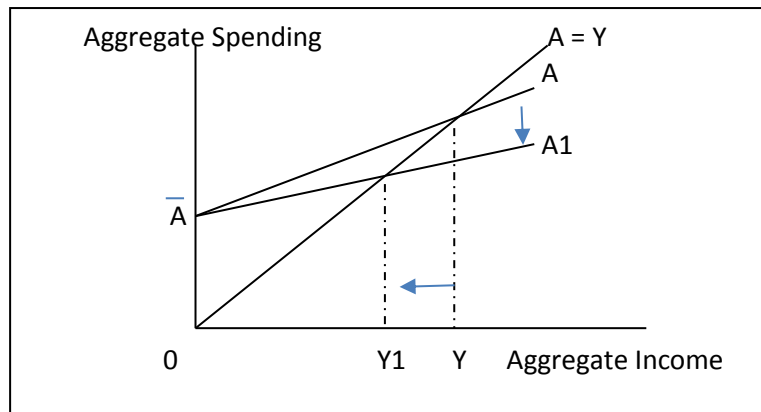
Nominal refers to current prices which include all increases. In the case of real prices, the prices from a base year are used to eliminate the effects price increases (inflation).

1e List four problems associated with GDP as a measure of total production in the economy.

- Non market production.
- Some activities or transactions in the economy are never recorded in the informal sector.
- Data used is not always as accurate as it could be, so values are often revised and adjusted.
- GDP has no indicator of economic welfare.

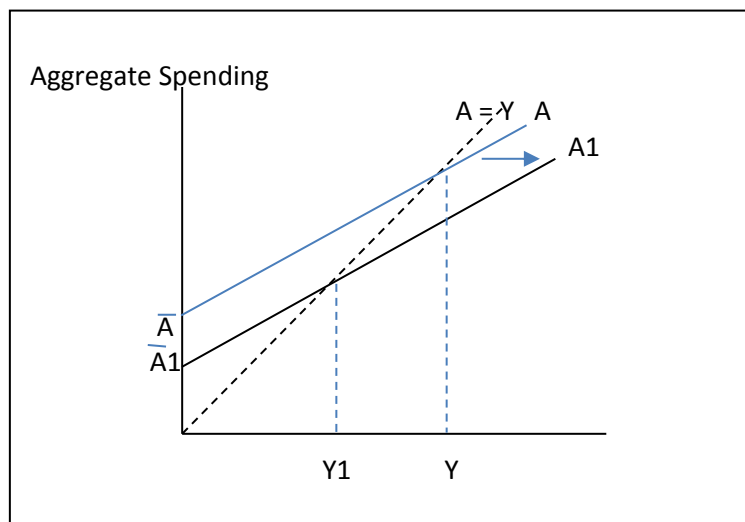
Question 2

2a Use a diagram to explain how an increase in the tax rate will influence the income level in the economy, given that the price level is fixed.



Explanation: An increase in the tax rate will cause a decrease in disposable income. This means that consumers will have less money to spend. Aggregate spending will decrease and the aggregate spending line (A) will swivel downward to $A1$. The decrease in expenditure will also impact negatively on the level of production and income in the economy (Y to $Y1$). The equilibrium level of income (Y) will decrease.

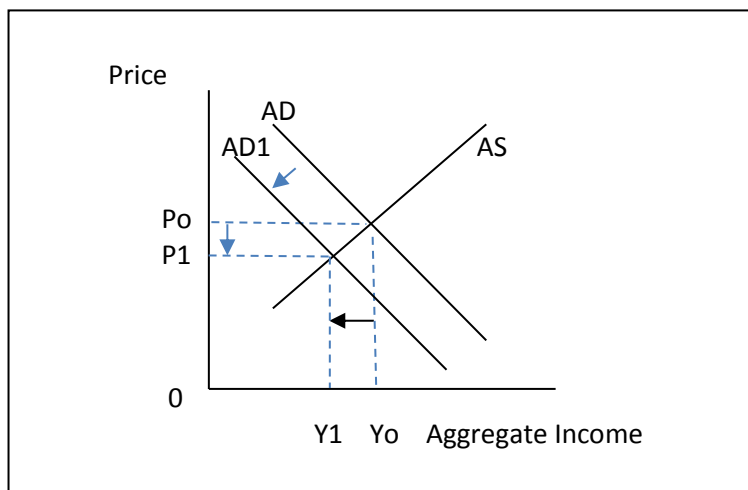
2b Due to a change in trade policy, there has been a substantial decrease in the amount of steel produced in South Africa and an increase in the amount of steel imported into South Africa. This has led to a substantial increase in total imports. Explain how this will affect the economy by making use of the Keynesian model. Also mention how this will affect employment in South Africa.



Explanation: If total imports have increased this will have a negative effect on the aggregate spending, ceteris paribus the level of exports. As imports increase, the trade balance worsens and the aggregate spending line will shift downwards. This will cause the equilibrium level of income to decrease

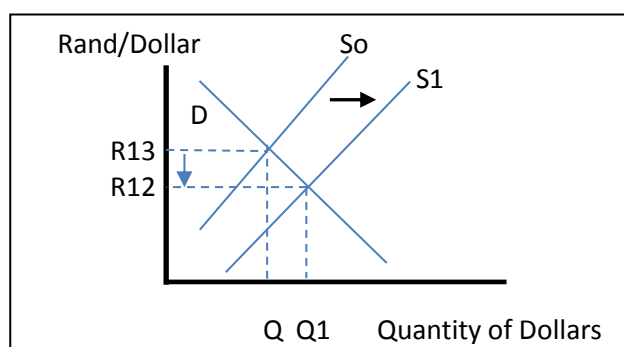
from Y to Y_1 . The increase in imports means that less is being produced in the country and as a result fewer people are employed. This means that the unemployment rate will increase.

2c Use the AD-AS model to explain the effect of an increase in the interest rate level in the economy.



Explanation: The increase in the interest rate (increase in the cost of money) will mean that investment and consumption spending in the economy will decrease. These are both components of aggregate demand (AD) and so AD will decrease, causing the AD curve to shift to the left. The decrease in AD means that the equilibrium level of income in this economy will also decrease as will the general price level. This can be seen in the above graph with the move from Y_0 to Y_1 and P_0 to P_1 .

2d In the year 2022, Durban will host the Common Wealth Games, which is expected to cause a substantial increase in foreign tourists visiting the country. Explain, with the aid of a diagram how you would expect this to influence the rand/dollar exchange rate. Also explain (but not with a diagram) how you would expect imports and exports to be affected by this change in the exchange rate.



Explanation: The increase of tourists coming into South Africa will result in an increase in the supply of dollars in S.A. This can be illustrated by the rightward shift of the supply curve from S_0 to S_1 in the graph above. As a result of the increased supply of dollars the cost of the dollar in

South African Rands decreases and the rand appreciates against the dollar.

The appreciation of the rand means that the price of South African exports rises while the price of imports into South Africa decreases. This is likely to lead to a decrease in exports and an increase in imports which will weaken the trade balance on the South African balance of payments.

Question 3

3a The following figures were obtained from the Quarterly Labour Force Survey (Quarter 2, 2015 edition) compiled by Statistics South Africa. [Refer to the exam paper for the figures.]

- (i) **Calculate the unemployment rate according to the strict definition of unemployment.**

According to the strict definition all discourage work-seekers are excluded from the number of unemployed.

$$\begin{aligned}\text{Unemployment rate} &= [\text{number of unemployed/labour force}] \times 100 \\ \text{Strict definition (assuming that discourage work-seekers are not included in the} \\ &\text{unemployed number of 5230):} \\ &= [\text{Number of unemployed} - \text{discouraged work-seekers/labour force}] \times 100 \\ &= [(5230)/20887] \times 100 \\ &= 25\%\end{aligned}$$

- (ii) **Calculate the unemployment rate according to the expanded definition of unemployment.**

$$\begin{aligned}&= [\text{Number of unemployed plus discouraged work-seekers/labour force} + \\ &\text{discourage work-seekers}] \times 100 \\ &= [(5230 + 2434)/(20887 + 2434)] \times 100 \\ &= 32.9\%\end{aligned}$$

3b Use the information in the following diagram of the Keynesian model to answer the questions that follow: [REFER to exam paper for graph.]

- (i) **Calculate the marginal propensity to consume.**

$$\begin{aligned}\text{mpc} = c &= \frac{\Delta A}{\Delta Y} \\ &= \frac{60}{100} \\ &= 0.6\end{aligned}$$

- (ii) **Calculate the multiplier**

$$\frac{1}{1-c} = \frac{1}{1-0.6} = 2.5$$

- (iii) Calculate the new equilibrium income level if investment increases by R100 million.

$$\begin{aligned} Y &= \frac{1}{1-c} (C + I) \\ &= 2.5 (200 + 100) \\ &= R750m \end{aligned}$$

Question 4

- 4a During the month of August 2015, the exchange rate of the rand changed as follows:

Date	R/\$
3 August 2015	12.73
31 August 2015	13.34

Indicate if this change represents a depreciation or an appreciation of the rand and explain how this change in the exchange rate will affect the current account of the balance of payments.

This is a depreciation of the rand against the dollar. The price of exports will decrease and South African goods will become relatively cheaper on international markets. As a result the quantity of exports (X) is likely to increase. The price of imported goods in South Africa will increase and the quantity of imports (Z) is likely to decrease. The net effect would be an improvement on or strengthening of the current account.

- 4b Describe the effect of an increase in government expenditure on the economy. Clearly explain why the increase in income exceeds the increase in government expenditure.

An increase in government expenditure will have an expansionary effect on the economy. When the government spends aggregate spending (aggregate demand) increases. This in turn leads to an increase in the level of output (Y). It may also lead to an increase in the general price level, ceteris paribus.

The second part of this question does not make sense!!

- 4c Explain why the multiplier for an open economy is smaller than the multiplier for a closed economy.

The multiplier for an open economy includes the marginal propensity to import. Because expenditure on imports is a leakage the multiplier will decrease.

MCQs for MAY/JUNE 2016

1. 3	11. 2	21. 4
2. 5	12. 2	22. 2
3. 3	13. 5	23. Problem
4. 4	14. 3	24. 4
5. 5	15. 4	25. 2
6. 3	16. 3	26. 2
7. 3	17. 1	27. 3
8. 1	18. 1	28. 3
9. 2	19. 3	29. 2
10. 5	20. 3	30. 1

MAY/JUNE 2015

SECTION A

QUESTION 1

- (i) **Briefly explain the difference between gross domestic expenditure (GDE) and expenditure on GDP. (4)**

GDE = $C + I + G$ and includes imports but does not take into account exports.

Expenditure on GDP is expenditure on gross domestic product and can be represented as $C + I + G + X - Z$ which indicates that it includes exports and excludes imports.

- (ii) **Name two measures that are used to measure inequality. (2)**

Lorenz curve and Gini coefficient

Quantile ratio

- (iii) **Give two reasons for the growth in government spending in South Africa since 1960. (2)**

Changing consumer preferences; redistribution of income; misconceptions and entitlement; population growth and urbanisation; political and other shocks.

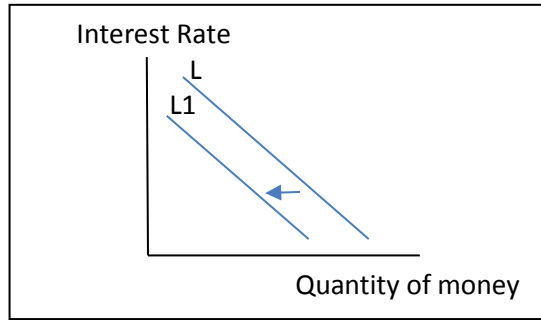
- (iv) **Name two market monetary policy instruments. (2)**

Accommodation policy

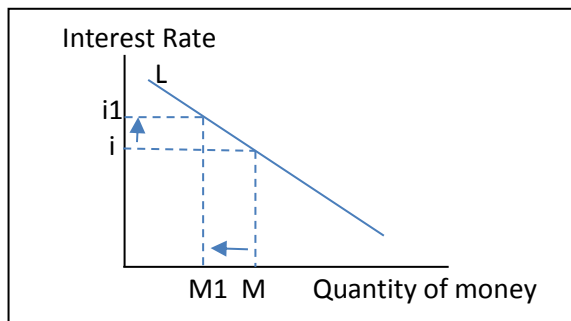
Open market policy

QUESTION 2

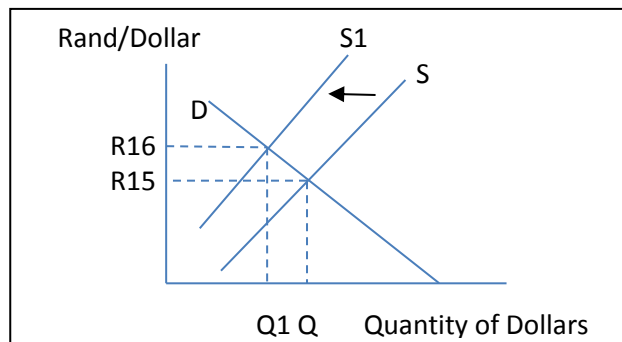
- (i) **Use the following diagram to show what happens with the demand for money if the South African economy experiences a recession. Remember to label your diagram. (3)**



- (ii) Use the following diagram to show what happens with the demand for money if the monetary authorities increase the repo rate. Remember to label your diagram. (3)

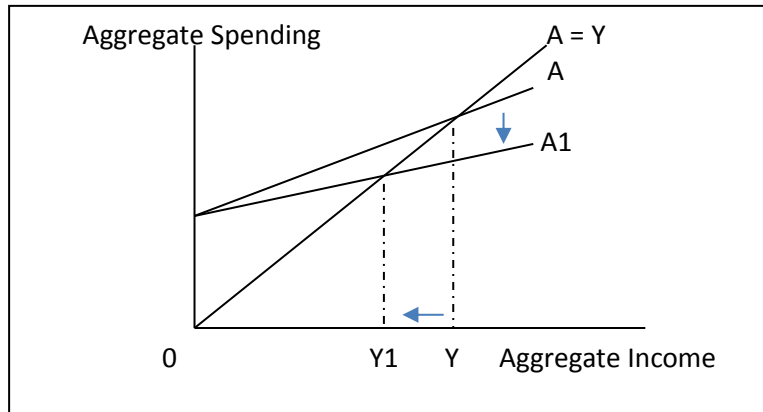


- (iii) Illustrate on the following diagram the impact of an economic recession in the economies of South Africa's trading partners on the rand/dollar exchange rate. Remember to label your diagram. (3)

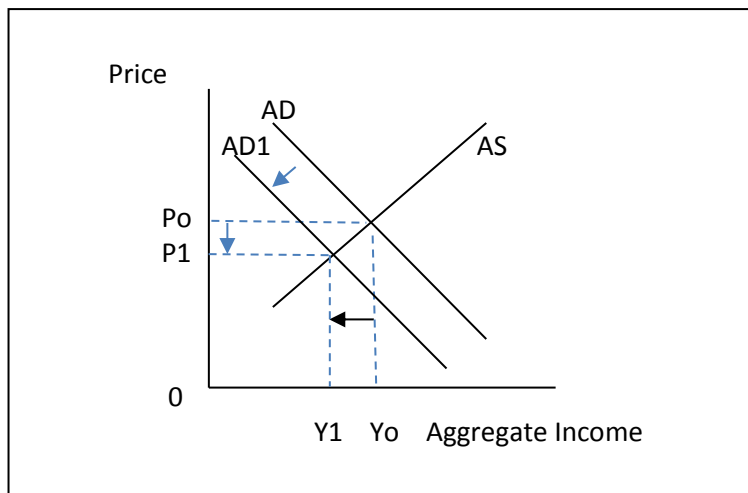


Price of the dollar in rands has increased, so rand has depreciated against the dollar.

- (iv) Given a Keynesian model of an open economy, illustrate on the following diagram the impact of an increase in the marginal propensity to import on the equilibrium level of income. (3)



- (v) Use the following diagram to illustrate the effect of an increase in interest rates on prices and income in the AD-AS model. (3)



QUESTION 3

- (i) Given the following information

$$C = 100 + 0,75Y$$

$$Y = 2\,000$$

Calculate (Show all your formulas and calculations):

- Induced consumption if $Y = 2\,000$ (2)

Induced consumption = cY
 Therefore in this example $cY = 0.75(2000) = 1500$

- Savings if $Y = 2\,000$ (2)

Given that the level of consumption spending in this economy is:
 $C = 100 + 0.75Y$ the Savings Function will be $S = -150 + 0.25Y$
 Solve for S: $-150 + 0.25(2000) = -150 + 500 = 350$

(ii) The following information about a Keynesian model is given

Autonomous consumption spending	R250 million
Investment spending	R150 million
Marginal propensity to consume	4/5 (0.8)
Full employment level of income	R1 500 million

Calculate (show all your formulae and calculations)

- The autonomous spending (2)

$$\begin{aligned} \text{Autonomous spending} &= \bar{C} + \bar{I} \\ &= R250m + R150m \\ &= R400m \end{aligned}$$

- The multiplier (2)

$$\begin{aligned} \text{Multiplier: } \alpha &= \frac{1}{1-c} \\ &= \frac{1}{1-0.8} = 5 \end{aligned}$$

- The equilibrium level of income (2)

$$\begin{aligned} Y_0 &= \alpha(\bar{A}) \\ &= 5 \times R400m = R2000m \end{aligned}$$

- By how much must investment spending increase to bring about full employment. (2)

This questions cannot be answered as there is an error in the amount provided for Y_f (R1500m). It is less than the equilibrium level of income.

QUESTION 4

(i) Briefly explain the possible impact of an appreciation in the rand/dollar exchange rate on the balance of payments of South Africa. (4)

An appreciation of the rand/dollar exchange rate will means that the price of the dollar in rands will decrease. This will cause the price of imports to fall while the price of exports will rise. As a result the volume of imports will increase and the volume of exports will decrease. This in turn

will cause the trade balance to worsen. Either the trade surplus will decrease or the trade deficit will increase.

(ii) Explain why it is that in the simple Keynesian model an increase in government spending has a multiplier effect on the level of income. (4)

An increase in government spending (G) is an injection into the economy. Government will demand more goods and services and aggregate spending will increase, this in turn will lead to an increase in output and income (Y) which again will lead to an increase in consumption spending (C) and then a further increase in Y. The end result is that the increase in the level of output and income will be greater than the initial increase in G because of the multiplier effect.

(iii) Explain how monetary policy can be used to combat demand-pull inflation. (5)

Monetary policy is the action taken by the monetary authorities which affect the interest rates and money supply with a view to achieving specific economic objectives. In the case of demand-pull inflation, aggregate demand is increasing faster than aggregate supply and as a result it pulls up the general price level in the economy. In an attempt to stop this inflation the central bank (monetary authorities) will use contractionary monetary policy by increasing interest rates (or decreasing the money supply). Both these actions should have the effect of decreasing aggregate demand and shifting the AD curve to the left. This will result in a decrease in the general price level but it will also cause the level of output and income (Y) to decrease.

SECTION B

MCQs for MAY/JUNE 2015

1. 4	11. 1	21. 1	31. 2
2. 3	12. 1	22. 3	32. 1
3. 4	13. 2	23. 1	33. 4
4. 1	14. 3	24. 3	34. 4
5. 2	15. 2	25. 1	35. 1
6. 1	16. 1	26. 3	36. 3
7. 3	17. 4	27. 3	37. 2
8. 3	18. 1	28. 4	38. 1
9. 3	19. 4	29. 2	39. 1
10. 2	20. 3	30. 4	40. 3

MAY/JUNE 2014

SECTION A

Question 1

In the circular flow of income and spending between firms and households, there are three leakages or withdrawals, imports are one such leakage. Name the other two.

Question 2

Name two market-orientated monetary policy instruments.

Accommodation policy; Open market policy

Question 3

What are the criteria for a good tax? Name three criteria and explain one briefly.

Neutrality; Equity; Administrative simplicity

Explain any one of the following:

Neutrality refers to the fact that a tax should not change the behaviour of market participants.

Equity means that the tax burden should be spread as fairly as possible among taxpayers. Two basic principles are applied: the ability to pay principle and the benefit principle.

Administrative simplicity means that compliance costs and administration costs must be kept as low as possible.

Question 4

There are two countries, Alfa and Beta. They can only produce cars and bicycles. The following table shows their production of these two goods.

Alfa	200 cars or 1200 bicycles
Beta	200 cars or 1400 bicycles

The president of Alfa wants to trade cars with Beta and asks you if Alfa has an absolute or comparative advantage in the production of cars.

Alfa has a comparative advantage in the production of bicycles. In other words the opportunity cost of producing one car is lower in Alfa than in Beta. In Alfa 1 car would mean that 6 bicycles would be sacrificed, while in Beta it would be 7 bicycles.

Question 5

Name two types of lags that slow down the impact of monetary and fiscal policy.

Any of the lags: Recognition; decision; implementation; impact

Question 6

Shortly describe the main differences between consumer price index (CPI) and production price index (PPI).

The CPI measures the cost of living while the PPI measures the cost of production.

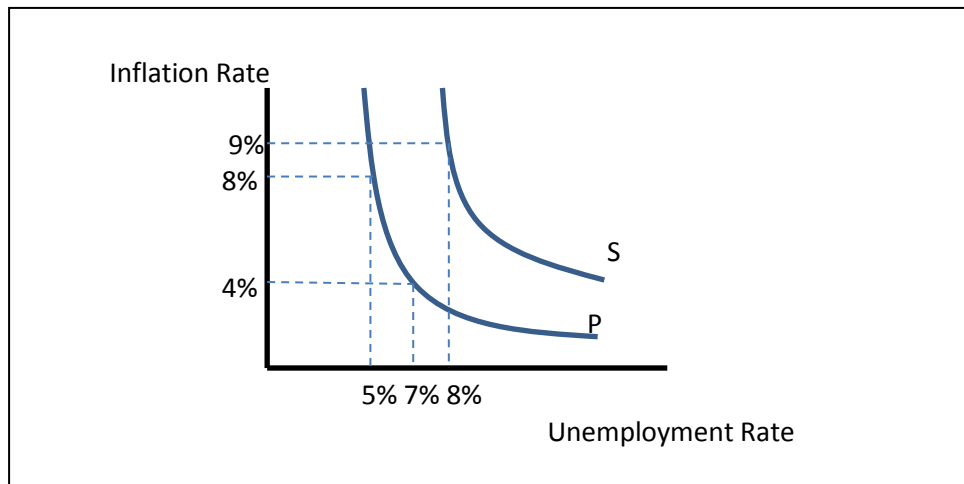
Question 7

In a country with a population of 75 million people, there are 19 million children under the age of 15 years, 26 million employed, 8 million pensioners, 6 million unemployed and 1 million full-time students. What is the unemployment rate?

$$\begin{aligned}\text{Unemployment rate} &= [\text{number of unemployed}/\text{labour force}] \times 100 \\ &= [6\text{m}/(26\text{m} + 6\text{m})] \times 100 \\ &= 18.75\%\end{aligned}$$

Question 8

8.1 Use the following diagram to draw an example of the Phillips curve.



8.2 Show on the diagram above with a line marked S, an example of stagflation.
See above.

8.3 Which public institution is responsible to keep inflation under control?
The South African Reserve Bank

Question 9

The president of Neverland gave you the following information about the economy of Neverland. Show all formula and calculations.

$$C = 900 + 0.8Y$$

$$I = 300$$

$$G = 400$$

$$T = 0.25Y$$

9.1 Calculate the multiplier for the economy of Neverland. Give the answer to two decimals.

$$\text{Multiplier} = \frac{1}{1-c(1-t)} = \frac{1}{1-0.8(1-0.25)} = 2.5$$

9.2 Calculate the equilibrium income of Neverland.

$$Y = \alpha A = 2.5 \times (900 + 300 + 400) = 4000$$

9.3 Calculate the fiscal surplus or deficit of Neverland.

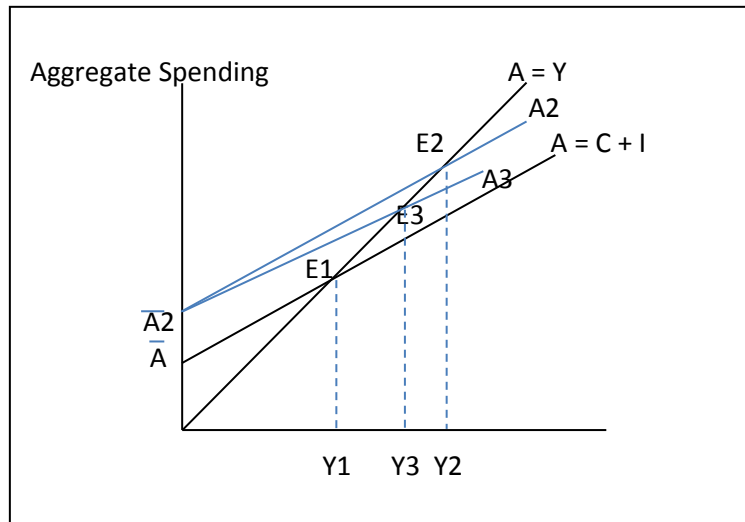
Fiscal surplus or deficit: $G - T$ or $T - G$

$$400 - 0.25(4000) = 400 - 1000 \quad \text{or} \quad 1000 - 400$$

Government income (taxes) is greater than government spending therefore there is a surplus of 600.

Question 10

Examine the following graph and use it to answer the following questions.



10.1 Show on the above graph where equilibrium is by indicating it with a dot marked “E1”.

See Above

10.2 After this country elects a government, government expenditure increases from zero. Show what will happen to the Aggregate Spending line, name the new line “A2”.

See Above

10.3 Show where the new equilibrium is by indicating it with a dot marked “E2”.

See Above

10.4 The government decides they need to implement a proportional income tax. Show what will happen to the aggregate spending line (name the new line A3) and show the new equilibrium with a dot marked “E3”.

See Above

Question 11

Make use of the table below, showing the CPI for South Africa for 2012 and 2013, to answer the following questions. [REFER to paper for table.]

11.1 Sandi had an income of R10 206 per month in April 2012, in April 2013 she has an income of R11 320 per month. Did Sandi’s nominal income increase? And if so by how much?

Sandi’s nominal income has increased from R10 206 to R11 320 per month. This is an increase of R1 114 per month. The rate of increase is 10.92%

11.2 Did Sandi’s real income increase? And if so by how much? Only give the Rand value, do not round the cents up.

The inflation rate for this period was 5.8%. The increase in nominal wage was 10.92% so the increase in real wage would only be 5.12% (10.92% - 5.8%). If translated into rands this would be a real increase of only R522.55 per month.

Question 12

Suppose that an economy produces 3 goods. Their quantities produced for 2000, 2007 and 2012 are shown in the table below. [REFER to exam paper for table]

12.1 Calculate the nominal gross domestic product (GDP) for 2007 and 2012.

2007:	Hotdogs	$150 \times R10 = R1500$
	Pizzas	$100 \times R25 = R2500$
	Hamburgers	$250 \times R15 = \underline{R3750}$
	Nominal GDP	$= R7750$

2012:	Hotdogs	$170 \times R17 = R2890$
		$95 \times R30 = R2850$
		$260 \times R22 = \underline{R5720}$
	Nominal GDP	$= R11460$

12.2 Calculate real GDP for 2007 and 2012.

To calculate real GDP the prices from the base year must be used:

2007:	Hotdogs	$150 \times R5 = R750$
	Pizzas	$100 \times R15 = R1500$
	Hamburgers	$250 \times R10 = \underline{R2500}$
	Nominal GDP	$= R4750$

2012:	Hotdogs	$170 \times R5 = R850$
		$95 \times R15 = R1425$
		$260 \times R10 = \underline{R2600}$
	Nominal GDP	$= R4875$

12.3 Will there be a difference in the real and nominal GDP for the year 2000? Explain.

No. Nominal and real GDP for 2000 will be the same as the year 2000 is being used as the base year.

Question 13

During the recession of 2009, countries were confronted with lower output and high unemployment. Therefore, authorities of monetary and fiscal policy decided to enforce expansionary policy.

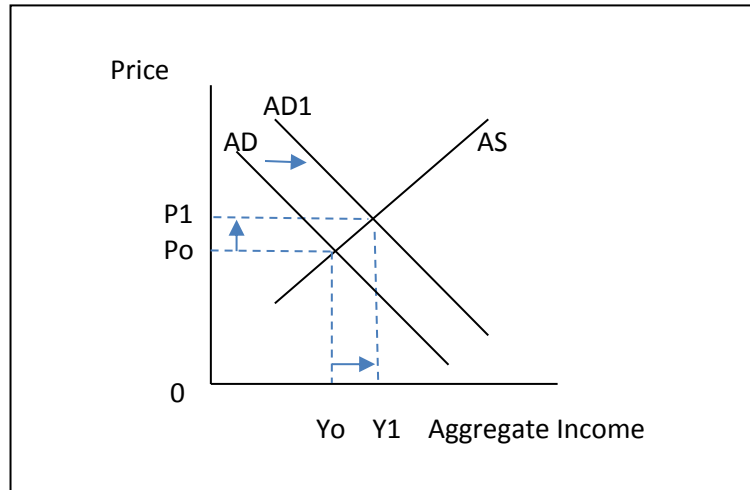
13.1 Explain the term expansionary fiscal policy shortly.

Fiscal policy is the use of government spending, taxes and borrowing to influence economic activity. Expansionary fiscal policy refers to the situation where government spending is increased and/or taxes are decreased. This type of policy action is used to stimulate economic activity, aggregate spending increases and so does aggregate output.

13.2 Explain the term expansionary monetary policy shortly.

Monetary policy is the action taken by the central bank to influence economic activity through the use of interest rates and money supply. Expansionary monetary policy will involve a decrease in interest rates and an increase in the money supply. The cost of money and credit decreases and people tend to spend more. This increased spending leads to an increase in aggregate output.

13.3 Show on the graph below what effect expansionary fiscal and monetary policy will have on the economy. Indicate any movements of the AD and AS curves and show any changes in the equilibrium price level and output.



MCQs for MAY/JUNE 2014

1. 3	11. 4	21. 2	31. 5
2. 1	12. 1	22. 5	32. 5
3. 1	13. 4	23. 2	33. 3
4. 1	14. 3	24. 3	34. 3
5. 4	15. 4	25. 3	35. 4
6. 4	16. 4	26. 1	36. 1
7. 1	17. 1	27. 2	37. 4
8. 1	18. 5 ??	28. 1	38. 2
9. 3	19. 2	29. 2	39. 5
10. 5	20. 4	30. 2	40. 4