

Markscheme

May 2018

Economics

Higher level














Paper 3








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






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The following are the annotations available to use when marking responses.

The definitive comments in text boxes will be in the lower right-hand corner. Therefore, please place your comments in another corner or space so that you're able to read the definitive comments when viewing Quality Feedback in the Closed Responses.

Annotation	Explanation	Mark Value (if applicable)	Shortcut key
AEr	Arithmetic error		
	Benefit of the doubt		
	Cross – incorrect point		
	Does not follow		
	Error carried forward		
	Good analysis		
	Good definition		
	Good diagram		
	Good explanation		
GP	Good point		
	Highlight tool		
	Incorrect labelling		
	Irrelevant		
L0	Level 0		
L1	Level 1		
L2	Level 2		
N0	No working shown – awards 0 marks	0	
N1	No working shown – awards 1 mark	1	
	Not answered question		
	Not enough		

[0+1]	Num 0 plus 1 – awards 1 mark	1	
[1+0]	Num 1 plus 0 – awards 1 mark	1	
[0+2]	Num 0 plus 2 – awards 2 marks	2	
[2+0]	Num 2 plus 0 – awards 2 marks	2	
1+1	Num 1 plus 1 – awards 2 marks	2	
1+2	Num 1 plus 2 – awards 3 marks	3	
2+1	Num 2 plus 1 – awards 3 marks	3	
2+2	Num 2 plus 2 – awards 4 marks	4	
	Num 0 – awards 0 marks	0	
NW	No working shown		
OFR	Own figure rule		
	On page comment – text box		
	Poor diagram		
	Poorly expressed		
	Question mark – unclear		
	Rounding error		
	Repetition		
SEEN	Seen		
TCE	Theory is clearly explained		
TNCE	Theory is not clearly explained		

	Tick 1 – awards 1 mark	1	Alt+1
	Tick 2 – awards 2 marks	2	Alt+2
	Tick 3 – awards 3 marks	3	Alt+3
	Tick 4 – awards 4 marks	4	Alt+4
	Tick – colourable		Alt+5
	Too vague		
	Underline tool		
	Valid alternative method		

You **must** make sure you have looked at all pages. Please put the **SEEN** annotation on any blank page, to indicate that you have seen it.

Notes for examiners:

- 1. Whenever relevant, carry over marks must be awarded. If a candidate makes an error in calculation, but then uses the incorrect figure appropriately and accurately in later question parts, then the candidate may be fully rewarded. This is the “own-figure rule” and you should put OFR on the script where you are rewarding this.**
- 2. Alternative approaches may be taken in responses to the [4] questions that use A02 command terms. If this is the case and the alternative approaches are valid, then full credit should be given.**

1. (a) Calculate the equilibrium price and quantity per month. [2]

$$249 - 4P = 150 + 14P$$

$$99 = 18P \quad [1]$$

Any valid working is sufficient for [1].

$$P = \$5.50, Q = 227 \quad [1]$$

An answer of 5.50, 227 (without working) is sufficient for [1].

- (b) Calculate the excess demand/excess supply (state which of these) at a price of \$8.50. [2]

$$Q_d = 249 - 4 \times 8.50 = 215$$

$$Q_s = 150 + 14 \times 8.50 = 269 \quad [1]$$

Any valid working is sufficient for [1].

There will be excess supply or a surplus of 54. [1]

An answer of 54 (without working) is sufficient for [1].

- (c) Calculate the price at which excess demand of 18 widgets would result. [2]

$$249 - 4P = 150 + 14P + 18$$

$$81 = 18P \quad [1]$$

Any valid working is sufficient for [1].

$$P = \$4.50 \quad [1]$$

An answer of 4.50 (without working) is sufficient for [1].

- (d) Using an example, outline why the assumption of *ceteris paribus* is necessary when analysing the effect of a change in price on the quantity demanded of a product.

[2]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>Vague response.</i>	1
	The idea that some things might change or to understand the impact of change in one independent variable (price) at a time.	
2	<i>Accurate response.</i>	2
	An outline that a change in any of the non-price determinants, such as income and tastes and preferences, may distort the effect of the change in price, meaning that the impact of the change in price alone cannot be determined.	

- (e) Widgets and Pidgets have negative cross price elasticity of demand (XED). Explain how the demand function for Widgets, $Q_d = 249 - 4P$, is likely to change as a result of an increase in the price of Pidgets.

[2]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>The written response is limited.</i>	1
	The idea that demand for widgets will decrease or demand shifts to the left.	
2	<i>The written response is accurate.</i>	2
	For explaining that demand for widgets will decrease and hence the “a term” intercept or horizontal intercept or Q-intercept will decrease.	

- (f) Outline the meaning of the term *unit elastic demand*.

[2]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>Vague understanding.</i>	1
	The idea that the change in demand is equal to the change in price or there is no change in revenue when the price changes or that it shows when revenue is at its maximum.	
2	<i>Clear understanding.</i>	2
	A change in the price of a product results in a proportionate (equal percentage) change in the quantity demanded.	

(g) Explain **two** determinants of the price elasticity of demand (PED).

[4]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>The written response is limited.</i>	1–2
	For providing one determinant without explanation, award a maximum of [1] . For providing two determinants without explanation or for providing one condition with explanation, award a maximum of [2] .	
2	<i>The written response is accurate.</i>	3–4
	For providing one determinant without explanation and one determinant with explanation, award a maximum of [3] . For providing two determinants with explanation, award a maximum of [4] . Accurate explanations may include: <ul style="list-style-type: none"> • degree of necessity – if a good is a necessity, then demand will be price inelastic as consumers will attempt to avoid reducing consumption, while any reduction is likely to be proportionately smaller than the change in price • availability of close substitutes – if close substitutes are available, demand will be price elastic as an increase in the price of the product is likely to lead to consumers switching to alternatives, causing the quantity demanded (of the good) to decrease significantly • proportion of income spent on the good – if the price represents a small proportion of income, demand will be price inelastic as a change in price will have little impact on the ability of the consumer to purchase the product • time – consumers are more able to react to changes in price if they have more time, so demand is likely to be more price elastic in a longer time period • any other reasonable response (provided it does not repeat the idea <i>i.e.</i> if luxuries and necessities are both explained, treat this as one point. Same rule applies for number of substitutes and availability of close substitutes). 	

(h) Two products are in competitive supply. Using an example, outline how the supply for one of them is likely to be affected by an increase in the price of the other.

[2]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>Vague response.</i>	1
	The idea that an increase in the price of one will lead to a decrease in supply of the other.	
2	<i>Accurate response.</i>	2
	An increase in the price of one good, eg wheat, will cause a decrease in supply of the other eg barley as the two products “compete” for resources needed to grow them.	

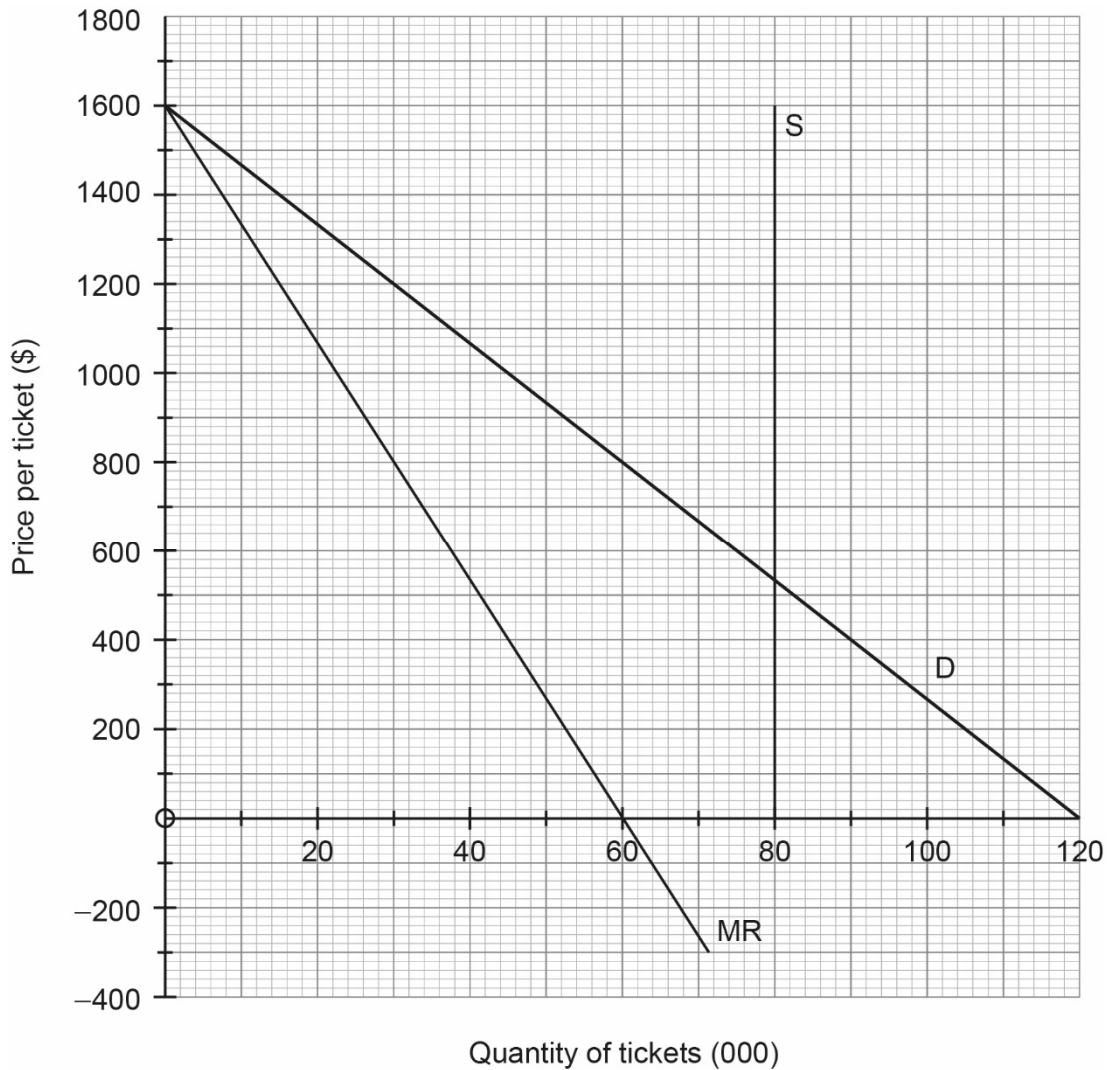
- (i) State the value of the price elasticity of supply (PES) for tickets to the 2018 Football World Cup final. [1]

Price elasticity of supply = 0 [1]

- (j) In the diagram on page 6 draw and label the supply curve for tickets at the 2018 Football World Cup final. [1]

For a vertical supply curve, labelled, at 80 000 tickets. [1]

- (k) Draw and label the marginal revenue (MR) curve for the 2018 Football World Cup final. [1]



For an accurate, labelled MR curve. [1]

- (l) Using the diagram on **page 6** and your answers to parts (j) and (k), explain how the organizers could achieve their goal of profit maximization.

[4]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>The written response is limited.</i>	1–2
	For explaining that profits will be maximised where $MR = MC$ (or that $TR - TC$ is maximised) [1] . and that $MC = 0$ in this case OR for explaining that since there are no variable costs (or only fixed costs), maximum profit will occur at the same quantity as maximum revenue, which is when $MR = 0$ [1] .	
2	<i>The written response is accurate.</i>	3–4
	And for explaining that profits will therefore be maximised when Q is 60 000 [1] . At a price of \$800 [1] .	

2. (a) Using **Table 1** above, calculate the unemployment rate. [2]

$$\frac{1.12}{(13.72+1.12)} \times 100 \quad [1]$$

Any valid working is sufficient for [1]

= 7.55 % [1]

An answer of 7.55 (without workings) is sufficient for [1].

- (b) (i) Using the graph above, determine short-run values for the unemployment rate in 2016 **and** the inflation rate in 2018. Enter your answers in **Table 2** below. [1]

Year	Unemployment rate	Inflation rate
2016	4 %	3 %
2017	5 %	2 %
2018	7 %	1 %

Both cells must have the correct numbers entered for [1].

- (ii) The government in Country Alpha reduces income taxes in 2019. Using information from the graph on **page 10** to support your answer, explain the likely effect on the inflation rate and the unemployment rate. [4]

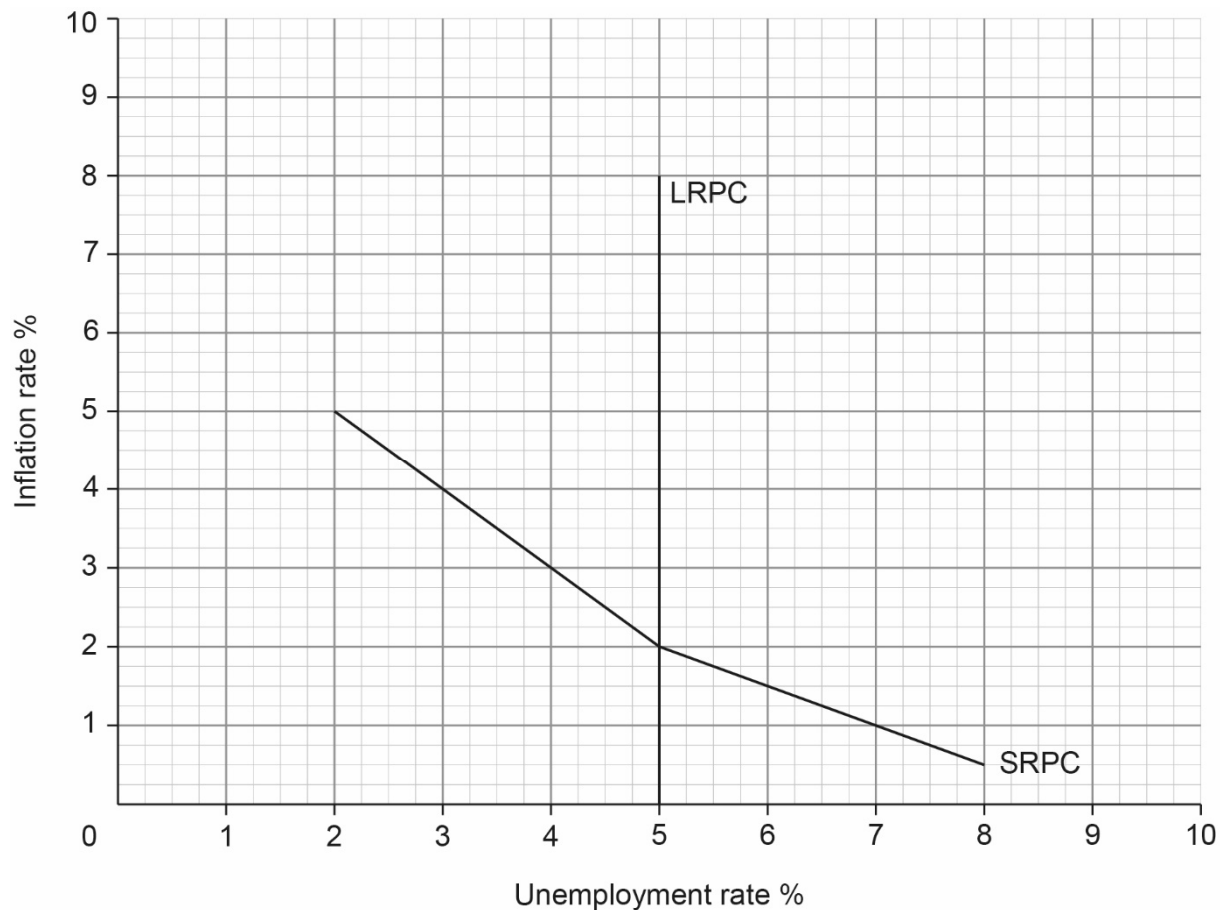
Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>The written response is limited.</i>	1–2
	The tax cut increases AD, which causes the inflation rate to rise and the unemployment rate to fall or that there will be a movement along the SRPC to the left as unemployment falls and inflation rises or suggest figures that are still on the SRPC.	
2	<i>The written response is accurate.</i>	3–4
	For explaining that the tax cut will raise disposable incomes, which leads to more consumption and an increase in AD, so unemployment will fall and the inflation rate will increase and that there will be a movement along the SRPC to the left or suggest figures that are still on the SRPC.	

N.B.: A response which does not refer to AD (or to consumption) may be awarded a maximum of [2].

(c) The natural rate of unemployment in Country Alpha is 5%.

On the diagram on **page 10** draw and label the long-run Phillips curve (LRPC). **[1]**

A correctly drawn LRPC earns [1].



(d) (i) Describe the likely effect of this sustained cost increase on the short-run Phillips curve (SRPC). **[1]**

A shift to the right or vertical upward shift or an outward shift of SRPC is sufficient for [1].

- (ii) Explain the reason for your answer to part (d) (i) above. [2]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>The response is limited.</i>	1
	For a response that an increase in energy costs will raise the rate of inflation (or expected rate of inflation), which shifts the SRPC curve right/upwards or that SRAS shifts left (a supply shock).	
2	<i>The response is accurate.</i>	2
	For a response that an increase in energy costs will raise the rate of inflation. At each level of unemployment, the rate of inflation will be higher because of the rise in production costs (or SRAS has shifted left). Thus the SRPC curve will shift to the right/upwards.	

- (e) (i) Using the data in **Table 3** above, calculate the level of investment. [2]

$$71 + I + 32 + 12 - 15 = 109$$

Any valid working is sufficient for [1].

$$I = \$9 \text{ billion}$$

[1]

An answer of \$9 billion or 9 billion (without workings) is sufficient for [1].

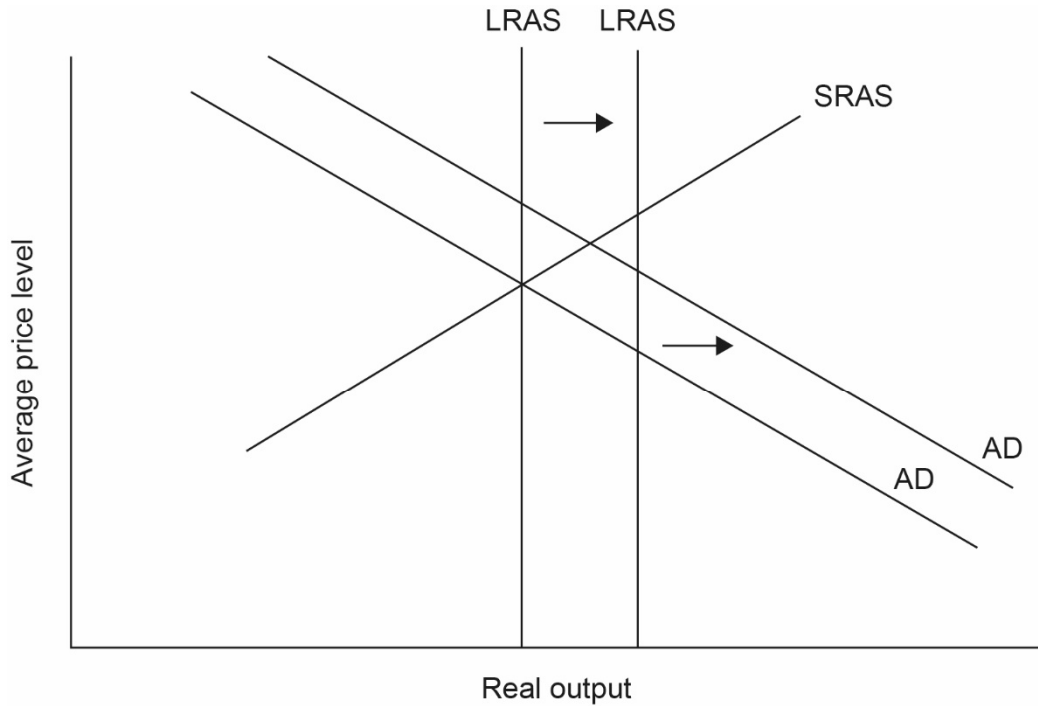
- (ii) State **two** possible reasons for the increase in investment by firms. [2]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	Responses may include: <ul style="list-style-type: none"> • fiscal policy incentives (eg lower corporate taxes or investment tax credits) for firms to invest • an increase in business confidence/higher business confidence • better economic environment/forecasts for growth • a decrease in the rate of interest/lower interest rates • an increase in access to loans and other forms of borrowing • better infrastructure (communications, freight transport etc) • more price stability • higher corporate profits • inventions or innovations or improvement in technology. <p><i>Any other reasonable response should be rewarded.</i> <i>Award [1] for each appropriate response, up to a maximum of [2].</i></p>	2

- (iii) The increase in investment results in both short-run and long-run effects on the economy. On the diagram above, draw and label the **two** curves that illustrate these effects.

[2]

For each correctly drawn and labelled shift [1] as shown below.



If candidates show a left shift (or vertical upward shift) of SRAS instead of the right shift in LRAS (focusing on theory of high wages and input costs after AD shifts right and price level rises), they may be awarded full marks.

N.B.: The new short-run equilibrium could be to the left or right or on the intersection of the new LRAS and AD curve.

N.B.: A shift to the right of SRAS may also be shown, but to earn two marks, both AD and LRAS must shift.

N.B.: The new curves should be appropriately labelled.

- (f) Calculate the real growth rate in 2018 using the figures in **Table 4** below. [2]

$$\left(\frac{109}{99.4}\right) \times 100 = 109.66$$

$$\left(\frac{107}{101.2}\right) \times 100 = 105.73$$
[1]

$$\left(\frac{109.66}{105.73}\right) = 1.03717$$

$$(1.03717 - 1) \times 100$$

Any valid working is sufficient for [1].

$$= 3.72\%$$
[1]

An answer of 3.71 % (due to no early rounding) should also be accepted.

An answer without working is sufficient for [1].

- (g) (i) Calculate the maximum possible increase in gross domestic product (GDP) that could result from the rise in investment. [2]

$$\frac{1}{(1 - 0.8)} \times 2 = 5 \times 2$$

Any valid working is sufficient for [1].

$$= \$10 \text{ billion}$$

An answer of \$10 billion or 10 billion is sufficient for [1].

- (ii) Country Delta is an open economy with a government sector. Investment rises by \$2 billion in both Delta and Beta. Explain how the size of the multiplier and the resulting effect on gross domestic product (GDP) might be different in the two countries.

[4]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>The written response is limited.</i>	1–2
	For an explanation that the multiplier will be smaller in Delta since there are more leakages than in Beta.	
2	<i>The written response is accurate.</i>	3–4
	For an explanation that the multiplier will be smaller in Delta since there are more leakages than in Beta due to imports and income taxes. The reference to the formula to calculate Multiplier could be $\frac{1}{(1 - MPC)}$ OR $\frac{1}{(MPS + MPT + MPM)}$ Therefore, an increase in investment will increase real GDP by smaller successive amounts as a greater proportion is withdrawn before additional spending takes place. As a result, the effect on real GDP in Delta will be smaller than in Beta.	

3. (a) Using the diagram, calculate the opportunity cost of producing one tonne of bananas in Country A. [1]

$\frac{3}{8}$ of a tonne of cotton (0.375 tonne cotton or 375 kilograms of cotton or 0.38 tonne cotton).

[1]

- (b) Using information provided in the diagram to support your answer, determine which country should specialise in the production of cotton. [2]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	Country B should specialise in the production of cotton [1] . as the opportunity cost of producing a tonne of cotton is $\frac{8}{3}$ tonnes of bananas in Country A and one tonne of bananas in Country B [1] or as the slope of the PPC is steeper for Country B. <i>An explanation in terms of the opportunity cost of producing bananas is also acceptable.</i>	2

- (c) Distinguish between the terms absolute advantage and comparative advantage. [2]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>Vague understanding.</i> The idea that absolute advantage means that more of a good can be produced while comparative advantage means that relatively more of a good can be produced.	1
2	<i>Clear understanding.</i> The idea that absolute advantage means that one country can produce more of a product than another country with a given level of resources (or that production of one product requires fewer resources than production of the other product in the case of absolute advantage), while comparative advantage means that the opportunity cost of producing a good is lower for one country than for another.	2

- (d) Explain **two** reasons why specialisation in a narrow range of primary products according to the theory of comparative advantage might not benefit an economically less developed country. [4]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>The written response is limited.</i>	1–2
	For providing one reason without explanation [1] . For providing two reasons without explanation or for providing one reason with explanation [2] .	
2	<i>The written response is accurate.</i>	3–4
	For providing one reason without explanation and one reason with explanation [3] . For providing two reasons with explanation [4] . <ul style="list-style-type: none"> • specialisation according to comparative advantage might lead to over-specialisation, which would make the economy vulnerable to changes in the market for exported products • specialisation may result in the economy relying on the export of (primary) commodities, which may be income inelastic, and therefore unlikely to lead to sustained growth • specialisation may result in the economy relying on the export of (primary) commodities which earn little value-added for the exporting economy • it may not be possible for the ELDC to gain access to international markets as a result of Trade protection. • primary products are often subject to supply shocks resulting in volatile prices and difficulty or unwillingness in planning ahead • demand for primary products may be price inelastic, which leads to revenue falling when output increases <i>Any other reasonable response.</i>	

- (e) Calculate the value of **V** (exports of services) for Urbania in 2017. [2]

$$1527 + \mathbf{V} - 1393 - 954 - 35 - 49 = -125 \quad [1]$$

Any valid working is sufficient for [1].

$$\mathbf{V} = \$779 \text{ million} \quad [1]$$

An answer of 779 without working is sufficient for [1].

- (f) Distinguish between direct investment and portfolio investment. [2]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>Vague understanding.</i>	1
	The idea that one is to do with investment in physical capital while the other is not.	
2	<i>Clear understanding.</i>	2
	The idea that direct investment is to do with investment in physical capital (FDI) while portfolio investment refers to financial investment, such as in shares and bonds or that direct investment confers some (significant) degree of ownership/control of the investment while portfolio investment does not.	

- (g) (i) Using the information in **Table 5**, calculate the financial account balance. [2]

Current account + capital account + financial account = 0 [1]

$-125 + (6 + 11) + \text{financial account} = 0$

Any valid working is sufficient for [1].

Financial account = \$108 million

- (ii) Using your answer to part (g)(i), calculate the value of **W** (reserve assets) in **Table 5**. [1]

Net portfolio + net direct + **W** = financial account

$285 - 196 + \mathbf{W} = 108$

W = \$19 million [1]

OFR applies.

- (h) Using your answer to part (g)(ii), describe how the level of reserve assets in Urbania has changed in 2017. [1]

The level of reserve assets in Urbania has decreased. [1]

OFR applies.

- (i) Outline how Urbania’s relatively high rate of inflation might affect its current account balance.

[2]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>Vague response.</i>	1
	The idea that exports will become less competitive/imports will become relatively cheaper than domestic goods.	
2	<i>Clear response.</i>	2
	The idea that exports will become less competitive/imports will become relatively cheaper than domestic goods and that as a result export (revenue) is likely to decrease/import (expenditure) is likely to increase, worsening (OR increasing the deficit in) the current account balance.	

- (j) Outline **one** method, other than attempting to reduce the value of its currency, which may be used by the government of Urbania to reduce its current account deficit.

[2]

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>Vague response.</i>	1
	For stating one method.	
2	<i>Clear response.</i>	2
	For outlining one method. Possible responses include: <ul style="list-style-type: none"> • contractionary demand management policy(ies) – to reduce disposable income and so the demand for imports • supply-side policies – to make the goods and services produced by the economy more competitive internationally • protectionism – to reduce the demand for imports (and/or stimulate exports). 	

- (k) Explain how a depreciation of the Urbanian dollar (\$) might result in a J-curve effect. **[4]**

Level		Marks
0	<i>The work does not meet a standard described by the descriptors below.</i>	0
1	<i>The written response is limited.</i>	1–2
	For explaining that a depreciation would make exports more competitive/imports relatively more expensive [1] <i>and</i> that as a result the current account balance should improve [1] OR for an explanation that as demand for exports/imports may be inelastic in the short term (The Marshall-Lerner condition may not hold) [1] <i>and</i> the current account balance may worsen, then improve [1] .	
2	<i>The written response is accurate.</i>	3–4
	For explaining that a depreciation would make exports more competitive/imports relatively more expensive [1] <i>and</i> that as a result the current account balance should improve [1] <i>and</i> for an explanation that as demand for exports/imports may be inelastic in the short term (The Marshall-Lerner condition may not hold) [1] <i>and</i> the current account balance may worsen, then improve [1] .	

N.B.: A sketch of a J curve, without any explanation, would only be sufficient for 1 mark (only if it is properly labelled).
