



Skoolumy

CAMBRIDGE A LEVEL ECONOMICS TOPICAL ESSAY QUESTIONS

PRODUCTION POSSIBILITY CURVE

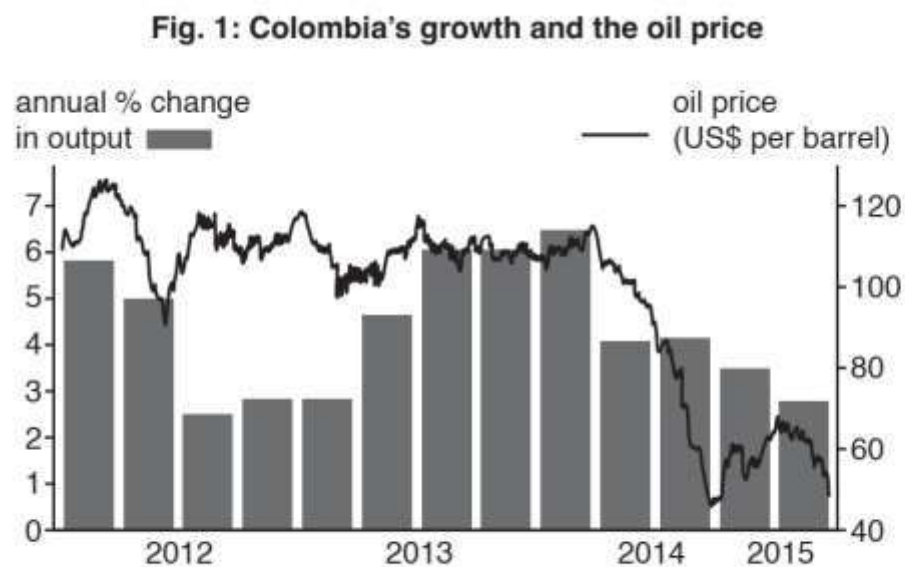
PAST QUESTIONS

1. An economy is faced by the exhaustion of an important natural resource at a time when it is introducing improved technology.

Explain how these events will affect the economy's production possibility curve. [8]

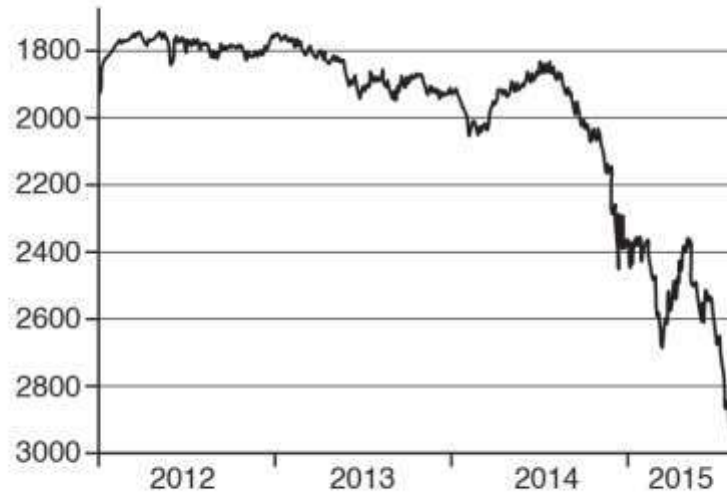
2. Explain, with the aid of a production possibility curve (PPC) diagram, why scarcity makes choice inevitable for firms and how each choice has an opportunity cost. [8]

3. Fall in price of oil but Colombia can look forward to growth



Source: Thomson Reuters Datastream

Fig. 2: Colombian peso against the US dollar (peso per US\$), inverted scale



Source: Thomson Reuters Datastream

Over the past year, the halving of crude oil prices has hit Colombia and much of South America hard. Venezuela's economy, for example, is expected to shrink by 7% this year. Colombia's national oil production was running at 1 million barrels a year, accounting for half of its exports and a fifth of government revenues. In Puerto Gaitan, which only a year ago was the centre of Colombia's oil industry, the town's population had tripled to 45000 in just a few years. Property prices had soared and hotels overflowed. Today, though, business profits have fallen, leading to a fall in spending by entrepreneurs. "For Sale" signs now hang over Puerto Gaitan's closed stores, car parks in shopping malls are empty and 10000 people have left the town. Towns throughout Colombia are experiencing similar problems.

Colombia's government is feeling the effects as well. Every US\$1 drop in the oil price per barrel cuts an estimated US\$200 million from government revenues. As a result, the government has cut spending and raised taxes to keep its budget deficit down. More worryingly, the collapse in the price of oil has opened a large current account deficit equivalent to 7% of national income. Yet not all is bleak. Colombia's economy is forecast to grow this year. And unlike in neighbouring Venezuela, where oil accounts for more than 90% of exports, there is concern but no panic.

Firstly, the peso's depreciation could reverse Colombia's current account problems, boosting traditional exports such as coffee, textiles, car parts and flowers — if not to its immediate neighbours, then to the United States. Colombia produces oil, but

it is not only an oil-producing country. Secondly, Colombia's government is having peace talks with Marxist rebels to end the country's five decades of unrest. The government's military expenditure will be reduced and estimates suggest that this 'peace dividend' could add as much as 2 percentage points to growth.

Source: The Financial Times, 2015

With the help of production possibility curve diagram(s), explain how the 'peace dividend' might lead to the growth of Colombia's economy. [4]

4. Explain, with the help of diagrams, how (i) constant and (ii) increasing opportunity costs determine the shape of an economy's production possibility curve. [8]

5. Problems put the brakes on India's economic growth

With developed economies heavily in debt, the ability of the BRICs (Brazil, Russia, India and China) to drive the global economic engine is increasingly in doubt. China's growth has slowed to its lowest rate in three years. Brazil's growth has decreased and Russia is heavily dependent on oil and energy prices, which are falling. India's growth has slowed but is still high by the standards of developed countries, though well below the levels required to maintain economic momentum and improve the living standards of its citizens.

However, there are still positives in the Indian story. There is a youthful population, a large domestic demand and high savings. But India's economic difficulties, including its weak international position and inadequate infrastructure, threaten to overwhelm the country's potential. In critical sectors such as power, transport and utilities more investment is needed, and although its workforce is young and growing, there is a shortage of skills.

The country is running a current account deficit of more than 3% of GDP. The cause is slowing exports as a result of weakness in India's trading partners and higher imports, mainly purchases of commodities and oil (India imports around 75% of its crude oil).

In addition, India has a weak external position. It has around US\$ 270bn in currency reserves. But foreign debts that must be repaid in the current year are about 40–45% of this amount.

Source: Adapted from The Independent

Table 1: Selected Economic Indicators for India 2007–2013

	2007	2008	2009	2010	2011	2012*	2013*
Gross Domestic Product % change	10.0	6.9	5.9	10.1	6.8	4.9	6.0
Inflation Index 2001=100	130.7	141.7	157.1	175.9	191.5	211.1	231.5
Current Account Balance US\$ billion (bn)	–8.08	–30.97	–25.91	–52.22	–62.75	–74.54	–69.07
Exchange Rate: Indian Rupees per US\$	41.3	43.5	48.3	45.7	46.6	52.1	52.9

*Forecast

Source: The World Bank and other international organisations

With the use of a production possibility curve explain the opportunity cost to India of choosing to produce transport facilities rather than education services. [4]

6. The British Broadcasting Corporation

The British Broadcasting Corporation (BBC) is a world-famous radio and television broadcaster.

In 2005 the services the BBC provided to the UK were part of the public sector and financed mainly by a compulsory annual licence fee of £121 on those households owning a television. There were heavy fines for those who did not pay.

The BBC has an obligation to provide programmes that are educational and cultural, as well as the more popular programmes such as comedy and sport.

One economist has argued that the BBC should receive more finance, that BBC broadcasting is a public good, and that it has greater value for viewers than they have to pay for. To support his view he produced two diagrams. Fig. 1 shows the demand for BBC services among the 23 million television-owning households in the UK and Fig. 2 shows where this economist placed BBC broadcasting among a selection of public goods in 2005.

Fig. 1 Demand for BBC services in the UK

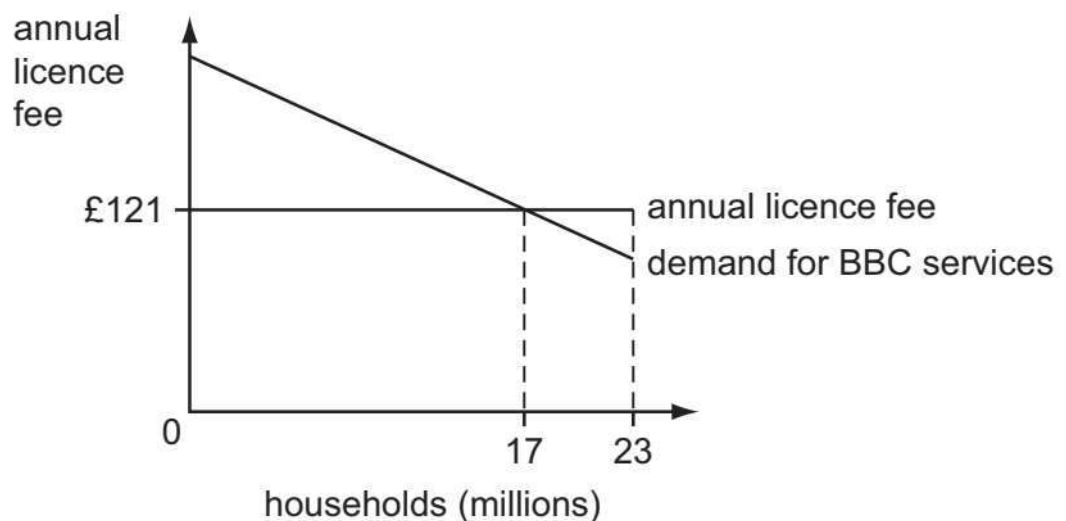
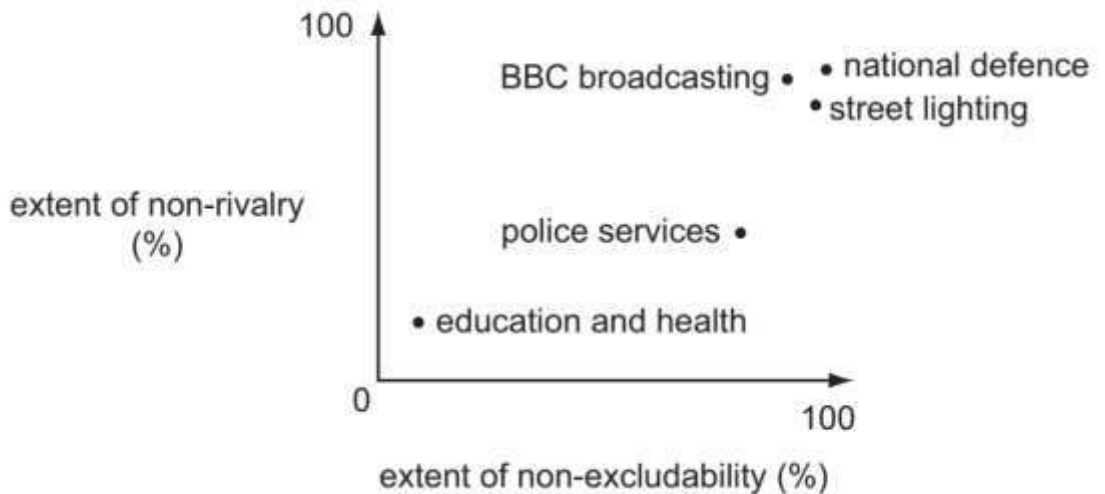


Fig. 2 Selected public goods



Draw a production possibility curve to show the trade-off between the provision of educational and popular television programmes. Explain the possible effects if more money is available to the programme makers from increased licence fees. [3]

7. An economy can produce agricultural and industrial goods. Explain the possible effects on its production possibility curve if there is an increase in the productivity of its agricultural workers. [8]

8. (a) Use a production possibility curve (PPC) diagram to explain how a government in a mixed economy might allocate more resources to consumption and fewer resources to investment and consider a limitation of this approach to resource allocation. [8]

(b) Assess whether producers are the only ones to benefit when an economy decides to allocate additional resources to investment. [12]

9. With the help of a diagram, explain the significance of a position within a market economy's production possibility curve (PPC) and consider whether such a position is likely to be permanent. [8]

10. With the help of a production possibility curve (PPC) diagram(s), explain the difference between constant and increasing opportunity costs and consider how choices in deciding which type of goods to produce in the short run may influence future economic growth. [8]

11. With the help of a diagram, explain the difference between the causes of a movement along, and a shift of, a production possibility curve (PPC) and consider which is likely to have the most immediate impact on an economy. [8]

12. Is Nigeria being held back by its dependence on oil and gas?

Nigeria has about half of West Africa's population with approximately 202 million people and one of the largest populations of young people in the world. With an abundance of natural resources, it is Africa's biggest oil exporter, and has the largest natural gas reserves on the continent.

Nigeria is highly vulnerable to the global economic disruption caused by the COVID-19 pandemic, particularly due to the steep decline in oil prices. Nationally, 40% of Nigerians live in poverty, while another 25% are vulnerable and could fall into poverty due to the pandemic.

Oil accounts for 80% of Nigeria's export revenues, a dominant position that it has occupied since the 1970s. Many people believe that Nigeria needs to move further away from its dependence on oil and natural gas. Initial attempts at diversification have produced limited gains as the policies have been aimed mainly at the domestic market to create jobs and to improve living standards. There needs to be a focus

on export-orientated manufacturing that should boost economic growth as it has done in countries such as Malaysia and Indonesia.

Based on the experience of these countries, more open trade and competition policies would help to diversify the economy, especially as the African Continental Free Trade Area (ACFTA) takes effect. Nigeria needs to create at least five million new jobs each year to employ its growing population of young people.

Table 1.1 Nigeria: key economic indicators

	2016	2017	2018	2019	2020
Economic growth rate (% change in real Gross Domestic Product (GDP) per year)	1.6	0.8	1.9	2.2	-1.8
Inflation rate (% change in Consumer Price Index (CPI) per year)	15.7	16.5	12.1	11.4	12.8
Current account balance (% of GDP)	0.7	2.8	1.30	-3.8	-3.7
Government budget balance (% of GDP)	-3.9	-5.4	-4.5	-4.3	-5.2
Unemployment rate (% of labour force)	7.0	8.4	8.5	8.5	9.0

Source : Global economy.com

Nigeria's economy entered a recession in 2020 due to fall in crude oil prices caused by falling global demand and measures to fight the spread of COVID-19. Inflation rose in 2020 due mainly to higher food prices, the removal of fuel subsidies and an increase in the price of electricity. The budget deficit also worsened in 2020 because the COVID-19 pandemic caused higher government spending and lower tax revenues, adding to the national debt.

Nigeria's national debt is sustainable at 25% of GDP, but interest payments are high, accounting for about 50% of government spending. Nigeria's government could improve its finances by reforming domestic tax collection. Non-oil tax revenue is equivalent to just 4% of GDP. An increase in the rate of value-added tax (VAT) from 5% to 7.5% in 2020 resulted in less revenue than forecast because of the recession. A wider tax base could help the budget, but this will require significant reform to reduce both tax evasion and a large informal economy.

Sources: Adapted from: World Bank in Nigeria Nov 2020

and: IMF News, African Department, February 2020

and: African Development Bank Group: Nigeria Economic outlook, 2021

Using a production possibility curve (PPC) diagram, demonstrate the impact of the rising level of unemployment on the Nigerian economy. [2]

MARK SCHEME

Table A: AO1 Knowledge and understanding and AO2 Analysis

Level	Description	Marks
3	- A detailed knowledge and understanding of relevant economic concepts is included, using relevant explanations. Explanations are supported by examples, where appropriate. - The response clearly addresses the requirements of the question and explains economic issues, and fully develops these explanations. - Analysis is developed and detailed and makes accurate and relevant use of economic concepts and theories. Where necessary, there is accurate and relevant use of analytical tools such as diagrams and formulae, and these are fully explained. - Responses are well-organised, well-focused and presented in a logical and coherent manner.	6–8
2	- Knowledge and understanding of some relevant economic concepts is included, using explanations and examples that are limited, over-generalised or contain inaccuracies. - The response addresses the general theme of the question and the relevant economic issues, with limited development. - Analysis is generally accurate with some development but little detail. Uses analytical tools such as diagrams and formulae where necessary. Use of these tools is partially accurate or not fully explained. - Responses are generally logical and coherent but are sometimes lacking in focus or organisation.	3–5
1	- A small number of relevant knowledge points are included and the response is limited by significant errors or omissions. - The response has little relevance to the question. - Analysis where provided is largely descriptive. Use of analytical tools such as diagrams and formulae, where necessary, may contain significant errors or be omitted completely. - Responses show limited organisation of economic ideas.	1–2
0	No creditable response.	0

Table B: AO3 Evaluation

Level	Description	Marks
2	- Provides a justified conclusion or judgement that addresses the specific requirements of the question. - Makes developed, reasoned and well-supported evaluative comment(s).	3–4
1	- Provides a vague or general conclusion or judgement in relation to the question. - Makes simple evaluative comment(s) with no development and little supporting evidence.	1–2
0	No creditable response.	0

1. Improved technology gives greater efficiency and rising productivity (output per worker per time period) so should move the production possibility curve outwards, depending upon where the improvement impacts. The exhaustion of a resource should reduce an input and the resulting output and move the ppc inwards. The overall effect will depend on their relative strengths but results from the change in available inputs and their effect on production possibilities. These changes can be shown by diagrams.

Understanding of the ppc concept	up to 2 marks
Awareness of the outcomes	up to 4 marks
Balance of the effects/differentiated impact	up to 2 marks

2. Up to 2 marks for Knowledge and Understanding

For correct diagram:

- Vertical axis correctly labelled, e.g. Good A, agricultural goods/consumer goods, and horizontal axis correctly labelled, e.g. Good B, manufactured goods/capital goods (1 mark)

- PPC drawn as a curve or a straight line, showing trade-off between production of two goods (1 mark)

Up to 6 marks for Application

Use of the production possibility curve to explain:

- scarcity (up to 2 marks)
- choice (up to 2 marks)
- opportunity cost (up to 2 marks)

3. For a clear diagram of production possibility curves. (Up to 2 marks)

For an explanation of the increased possibility of the production of capital goods or the development of human capital that will generate growth in the economy. (Up to 2 marks)

Maximum of 2 marks if no diagram.

Guidance:

The prospects of the end of the rebel insurgency will allow the Colombian government to spend less on the military.

Resources can be diverted to the production of capital goods or to enhanced training of labour that will shift the PPC outwards. This is the 'peace dividend'

4. Knowledge and Understanding:

Explanation of opportunity (1 mark)

Explanation of production possibility curve (1 mark)

(KU: up to 2 marks)

Application:

Explanation of the distinction between constant and increasing opportunity costs:

- constant opportunity cost involves a movement from one point on the PPC to another with an equal sacrifice of resources; this will be shown by a straight line PPC Up to 3 marks
- increasing opportunity costs involves a movement from one point on the PPC to another where ever increasing amounts of one good will need to be sacrificed to produce more of the other; this will be shown by a curved PPC Up to 3 marks

(APP: Up to 6 marks)

5. For a correctly constructed PPC with axes labelled appropriately. (up to 2 marks)

Accept a straight line PPC.

For accurate illustration of opportunity cost with a definition of concept. (up to 2 marks)

It is not necessary to show a movement along the PPC, as long as the understanding of the underlying concept is clear.

(No diagram, a maximum of 2 marks)

6. Diagram of ppc with labels (1), identification of output change in diagram or words (1), explanation of effect (1). [3]

7. A ppc shows an economy's maximum output of two goods when using all of its resources. Productivity is the measure of output per worker. Assuming the production of agricultural goods and industrial goods, the ppc would be expected to pivot outwards, as workers produce more, indicating greater quantities of agricultural goods. Further possibilities include greater production of industrial goods as well because better food supplies increase overall productivity or as restriction on agricultural total output shifts resources to industrial production, which in turn expands.

For knowledge of ppc and productivity up to 2 marks

For understanding of pivot with more agricultural output up to 4 marks

For explanation of alternative outcomes up to 2 marks

8. (a) up to 3 marks for AO1 Knowledge and understanding up to 3 marks for AO2 Analysis

up to 2 marks for AO3 Evaluation.

AO1 Knowledge and understanding (max 3 marks)

- For a fully accurate diagram that is clearly labeled as consumer goods and capital goods with the curve touching both axes. (1)
- The diagram must show the movement from capital goods to consumer goods e.g., by means of an arrow (1)
- Accompanied by an explanation that this is a movement along the curve (rather than a shift). (1)

AO2 Analysis (max 3 marks)

Of how a government might allocate more resources to consumption and less to investment e.g.:

- By reducing taxes on income / consumer expenditure. (1)
- By increasing government expenditure to provide subsidies for consumers. (1)
- By reducing government support to businesses for investment. (1) (Maximum of 2 marks overall)
- PLUS 1 mark if shown on a diagram as either a movement along the curve or shift within the curve that is clearly explained.

AO3 Evaluation (max 2 marks)

For a clear assessment of the limitations of this approach including an assessment of time lags, the possible response of businesses and consumers etc. **Reserve 1 mark for a justified conclusion**

Please use a text box to show the mark split e.g., 3 2 1

AO1 Knowledge and understanding 3

AO2 Analysis 3

AO3 Evaluation 2

(b) AO1 and AO2 out of 8 marks. AO3 out of 4 marks.

Indicative content

Responses may include:

AO1 Knowledge and understanding and AO2 Analysis

- For an explanation / analysis of the benefits and costs to a producer e.g., producers will benefit as additional investment is likely to reduce costs of

production, make them more price competitive both domestically and internationally, increase their profits etc. Costs may include the fact that taxes may have to rise to fund the additional investment, much of the growth will be international so businesses who focus on the domestic market may not benefit.

- For an explanation/ analysis of the benefits and costs to the consumer e.g., in the long term this may lead to wider choice and lower prices but in the short term, taxes may increase to fund the additional investment, there may be fewer goods available to consumers and higher prices.
- For an explanation/ analysis of the benefits and costs to a government e.g., an increase in tax revenue in the long-term but an increase in expenditure in the short-term.

Level 1 responses will be assertive and lacking in explanations / mainly descriptive and/or or mainly lacking in relevance to the question.

Level 2 responses may contain some inaccuracies and will be one sided. Analysis will be explained at least in part and will be largely relevant to the question.

Level 3 responses will consider alternative policies / concepts etc. and will be balanced. Explanations of points raised will be offered and will be accurate and relevant to the question

AO3 Evaluation

For an assessment of whether producers are the only ones to benefit from additional investment compared to consumers and the government which may depend on the level of development of economy and extent of government involvement.

Accept all valid responses.

A one-sided response cannot gain any marks for evaluation.

Please use a text box to show the mark split e.g., L2 5 L1 2

AO1 Knowledge and understanding and AO2 Analysis 8

AO3 Evaluation 4

9. up to 3 marks for AO1 Knowledge and understanding, up to 3 marks for AO2 Analysis, and up to 2 marks for AO3 Evaluation.

AO1 Knowledge and understanding (max 3 marks)

A diagram of a PPC:

- the axes of the PPC are appropriately labelled, such as manufactured/agricultural goods or consumer/capital goods or Good A/Good B (1)
- the PPC will need to touch both axes (1)
- a position within a PPC is clearly shown. (1)

AO2 Analysis (max 3 marks)

An analysis of the significance of a position within/inside a PPC:

- a position where an economy is using its resources inefficiently
- where not all available resources are being utilised
- where the output of both products is lower than it would be if all available resources were being used
- there should be some reference to permanency.

AO3 Evaluation (max 2 marks)

Offers a valid judgement on whether such a position is likely to be permanent (1) to reach a conclusion. (1)

AO1 Knowledge and understanding 3

AO2 Analysis 3

AO3 Evaluation 2

10. up to 3 marks for AO1 Knowledge and understanding, up to 3 marks for AO2 Analysis, and up to 2 marks for AO3 Evaluation.

AO1 Knowledge and Understanding (max 3 marks)

- Accurately drawn and labelled production possibility diagram – curved to show (and be identified as) increasing opportunity cost (1) and – straight line to show (and be identified as) constant opportunity cost (1).

N.B., axes must be labelled as products and not simply A and B or X and Y and the curves must touch both axes.

- Explanation for the difference between constant and increasing opportunity cost. For example, constant opportunity cost demonstrates no change in the rate of trade off whereas increasing opportunity costs demonstrate an increase rate in the trade off between the two products (1).

AO2 Analysis (max 3 marks)

For example, future economic growth will be influenced by the choices an economy makes about the split between consumer spending and capital spending (1). If a country decides to focus its spending and output on consumer goods, then this may create growth in the short run but may not be sustainable (1). A decision to focus on spending and output of capital goods, this may have a short run negative impact on economic growth but should create more long-term sustainable growth as output may expand (1).

AO3 Evaluation (max 2 marks)

Up to 2 marks for valid evaluation which is clearly based on the analysis (1) leading to a valid conclusion (1).

AO1 Knowledge and understanding 3

AO2 Analysis 3

AO3 Evaluation 2

11. up to 3 marks for AO1 Knowledge and understanding up to 3 marks for AO2 Analysis
up to 2 marks for AO3 Evaluation.

AO1 Knowledge and understanding (3 marks maximum)

An understanding of a PPC shown through an accurate diagram, with correctly labelled axes (1), a movement along a PPC showing a trade-off between production on the two axes (1), and a shift of a PPC showing an increase in production of two goods with no trade-off. (1)

AO2 Analysis (3 marks maximum)

Uses the PPC to explain that a movement along a PPC is caused by a reallocation of resources (1), as resources are shifted between the two types of product, involving an opportunity cost (1), but a shift of a PPC is caused by an increase in the quantity and/or quality of resources, allowing more of both goods to be produced. (1)

AO3 Evaluation (2 marks maximum)

Offers a valid judgement on whether a movement along, or a shift of, a PPC is likely to have the most immediate impact on an economy (1) to reach a conclusion. (1)

AO1 Knowledge and understanding 3

AO2 Analysis 3

AO3 Evaluation 2

12.

- For a fully accurately labelled PPC diagram i.e., axes labelled as 2 products and curve touching both (1)
- Showing a movement to the left within the curve or from the curve to a position within the curve (1)