

# Mark Scheme (Results)

January 2013

GCE Economics (6EC01/01)

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## General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

## Supported multiple choice

**NB: candidates may achieve up to 3 explanation marks even if incorrect option is selected.**

**NB: candidates may achieve up to 3 marks for explaining three incorrect options (provided three different reasons are offered and each option key is clearly rejected).**

Question Number	Answer	Mark
1	<p><b>Answer C (1 mark)</b></p> <ul style="list-style-type: none"><li>• Definition of a positive statement: (one that is based on fact / it can be tested as true or false / a scientific approach to economics / objective approach). <b>(1 mark)</b></li><li>• Definition of a normative statement: (one that is based on value judgement / it cannot be tested as true or false / a non-scientific approach to economics / subjective approach). <b>(1 mark)</b></li></ul> <p><b>NB: Do not award for defining a normative statement as an opinion.</b></p> <ul style="list-style-type: none"><li>• Application to statement 1: (it is positive since it can be tested or checked with her Majesty's Revenue and Customs to see if income earners above £150,000 pay a tax rate of 50 per cent.). <b>(1 mark)</b></li><li>• Application to statement 2: (it is normative since people may disagree with the 50 per cent tax rate being unfair / use of the word '<b>unfair</b>' means it is a value judgement.). <b>(1 mark)</b></li></ul>	<b>(4)</b>

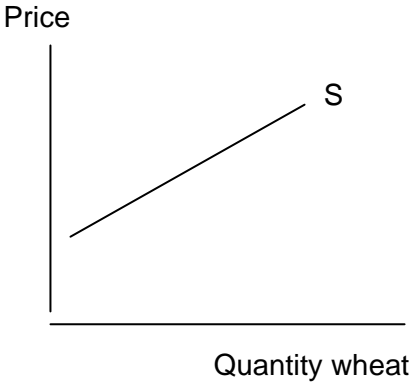
Question Number	Answer	Mark
2	<p style="text-align: center;"><b>Answer B (1 mark)</b></p> <ul style="list-style-type: none"> <li>• Definition of production possibility frontier (maximum output for an economy when all its resources are fully and efficiently employed). <b>(1 mark)</b></li> <li>• Definition or explanation of economic growth (an increase in real GDP / an increase in the productive potential for an economy / increase in productive capacity / an outward shift in the PPF curve). <b>(1 mark)</b></li> <li>• Application to diagram B: (it is possible to produce more capital and more consumer goods when the curve shifts outwards). <b>(1 mark)</b></li> <li>• Identification of any one cause of an outward shift in the production possibility frontier: (increase in immigration / quality of labour / capital stock / technology / discovery of new resources). <b>(1 mark)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>➤ Option A incorrect since this shows a decrease in productive potential / could due to a natural disaster or war / negative economic growth. <b>(1 mark)</b></li> <li>➤ Option C incorrect since this shows a movement along the production possibility frontier so demonstrating opportunity cost. <b>(1 mark)</b></li> <li>➤ Option D incorrect since this shows an increase in unemployment output of resources. <b>(1 mark)</b></li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
3	<p style="text-align: center;"><b>Answer C (1 mark)</b></p> <ul style="list-style-type: none"> <li>• Identification of an excess demand / shortage at price <math>P_1</math> / this may be shown on the diagram as <math>Q_1Q_2</math>. (1 mark)</li> <li>• Identification of the final market equilibrium price at <math>P_e</math> / price rises to where demand equals supply. (1 mark)</li> <li>• As price rises quantity demanded contracts or falls. (1 mark)</li> <li>• As price rises the quantity supplied extends or rises. (1 mark)</li> <li>• The firm has a profit incentive to raise supply as price rises / a signalling device to firms to raise supply. (1 mark)</li> <li>• Explanation of price mechanism (e.g. the use of demand and supply to allocate resources) / used to ration out a good. (1 mark)</li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>➤ Option A incorrect as quantity supplied will only fall if there is an excess supply / surplus. (1 mark)</li> <li>➤ Option B incorrect as a shift to the left of the demand curve will reduce price/ demand will shift inwards due to other factors such as a decrease in income. (1 mark)</li> <li>➤ Option D incorrect as price and quantity will only remain the same when the market is in equilibrium in the first place. (1 mark)</li> </ul>	(4)

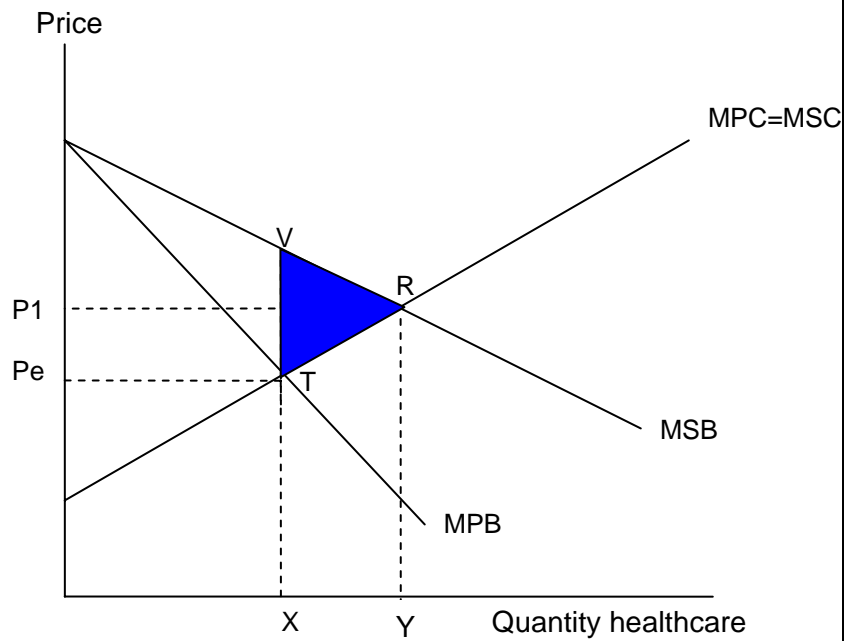
Question Number	Answer	Mark
4	<p style="text-align: center;"><b>Answer A (1 mark)</b></p> <ul style="list-style-type: none"> <li>• Definition or formula of price elasticity of demand (the responsiveness of demand for a good due to a change in its price or <math>\% \Delta QD \div \% \Delta P</math>). <b>(1 mark)</b></li> <li>• Definition or formula of income elasticity of demand (the responsiveness of demand for a good due to a change in real income or <math>\% \Delta QD \div \% \Delta Y</math>). <b>(1 mark)</b></li> </ul> <p><b>NB: a maximum of 2 definition marks available.</b></p> <ul style="list-style-type: none"> <li>• Application to the data: demand for air travel is price inelastic since -0.6 is between 0 and -1.0 (also accept less than 1). <b>(1 mark)</b></li> <li>• Application: demand for air travel is a <b>normal good</b> since it has a positive income elasticity of demand / +1.3 is greater than 0 / as income rises so demand rises / this may be shown by diagram. <b>(1 mark)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>➤ Option B incorrect since total revenue will decrease if price falls since demand is price inelastic. <b>(1 mark)</b></li> <li>➤ Option C incorrect since an inferior good has a negative income elasticity of demand and / demand is price inelastic since it is less than -1.0 <b>(1 mark)</b></li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
5	<p style="text-align: center;"><b>Answer D (1 mark)</b></p> <ul style="list-style-type: none"> <li>• Definition or formula of cross elasticity of demand (the responsiveness in demand for one good due to a change in price of another good, or, <math>\% \Delta QD \text{ good B} \div \% \Delta P \text{ good A}</math>). <b>(1 mark)</b></li> <li>• The goods have a positive cross elasticity of demand / positive gradient (since substitutes). <b>(1 mark)</b></li> <li>• Application: a rise in price of the Apple iPhone causes a rise in demand for RIM Blackberry phones / a fall in price of Apple iPhone causes a fall in demand for RIM Blackberry. <b>(1 mark)</b></li> <li>• Annotation of diagram depicting a change in price of the iPhone and the change in demand for the Blackberry. <b>(1 mark)</b></li> <li>• Complementary goods have a negative cross elasticity of demand <b>(1 mark)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>➤ Option A incorrect since graph refers to cross elasticity of demand not price elasticity of demand. <b>(1 mark)</b></li> <li>➤ Option B incorrect since it is complementary goods that have a negative cross elasticity of demand / negative gradient / inverse relationship / as price of one good rises then demand for the other good falls. <b>NB: Do not double award (1 mark)</b></li> <li>➤ Option C incorrect since a zero cross elasticity of demand means there is no relationship between Apple iPhone and the Blackberry / there would be a vertical line in the diagram. <b>(1 mark)</b></li> </ul>	<b>(4)</b>



Question Number	Answer	Mark
6	<p><b>Answer C (1 mark)</b></p> <ul style="list-style-type: none"> <li>• Definition or formula of price elasticity of supply (the responsiveness of supply due to a change in price of a good, or, <math>\% \Delta QS \div \% \Delta P</math>). <b>(1 mark)</b></li> <li>• Definition of price elastic supply (the percentage change in supply exceeds the percentage change in price of a good) / also accept PES is greater than 1. <b>(1 mark)</b></li> <li>• Diagram depicting price elastic supply of wheat. <b>(1 mark)</b></li> </ul> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> <li>• Application: stockpiles of wheat can be quickly released on to the market when required as price rises / taken off the market when required as price falls. <b>(1 mark)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>➤ Option A incorrect since demand is not relevant to elasticity of supply <b>(1 mark)</b></li> <li>➤ Option B incorrect since supply of new housing will be inelastic as it takes a long time to build. <b>(1 mark)</b></li> <li>➤ Option D incorrect since organic vegetables are highly perishable / the availability of substitutes determine price elasticity of demand. <b>(1 mark)</b></li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
7	<p style="text-align: center;"><b>Answer B (1 mark)</b></p> <ul style="list-style-type: none"> <li>• Definition of market failure: the price mechanism fails to allocate resources efficiently / operation of market forces lead to a net welfare loss. <b>(1 mark)</b></li> <li>• The market fails since external benefits are ignored by the price mechanism <b>or</b> definition of external benefits (benefits external to an exchange / benefits outside of a market transaction / positive third party effects / difference between social and private benefits / positive spillover effects). <b>(1 mark)</b></li> </ul> <p><b>NB: Do not award for definition of a free market economy.</b></p> <ul style="list-style-type: none"> <li>• There is market failure at output level <b>X</b>, since MSB exceed MSC. <b>(1 mark)</b></li> <li>• There is under-consumption of quantity XY / identification of market equilibrium of X (T) <b>and</b> social optimum at Y (R). NB: This may be shown on the diagram. <b>(1 mark)</b></li> <li>• Application: consumption of vaccinations leads to healthier population as less spread of disease / more productive workforce / more profits for employers / lower production costs as less absenteeism for employers. <b>(1 mark)</b></li> <li>• Identification of triangle of welfare gain (or loss) as VRT (accept deadweight loss or DWL). This may be annotated on to the diagram. <b>(1 mark)</b></li> </ul>	<b>(4)</b>



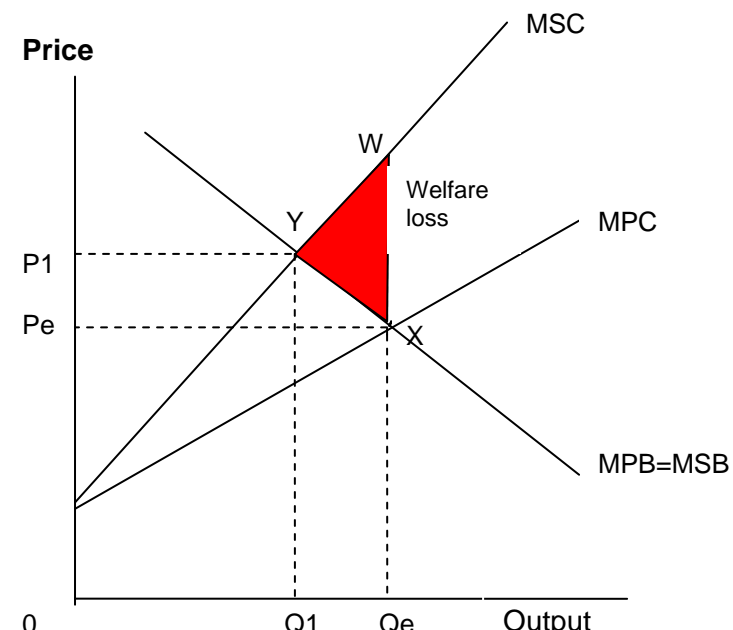
**Rejection marks**

- Option A incorrect since the diagram reveals that there are no external costs since  $MPC=MSC$ . (1 mark)
- Option C incorrect since excess supply occurs when quantity supplied exceeds demand – this is not the case here since the market is in equilibrium at price  $P_e$ . (1 mark)
- Option D incorrect since it is a market failure and requires government intervention to ensure more consumption / production of vaccinations (1 mark).

Question Number	Answer	Mark
8	<p style="text-align: center;"><b>Answer D (1 mark)</b></p> <ul style="list-style-type: none"> <li>• Identify how the scheme operates, that is, an agency intervenes to buy and sell stocks. <b>(1 mark)</b></li> <li>• Application and analysis: Stocks are added to or purchased with a good harvest. <b>(1 mark)</b></li> <li>• Application and analysis: stocks released or sold on to the market in times of a poor harvest. <b>(1 marks)</b></li> <li>• <b>NB: Award a maximum of 2 marks for any of the above three points.</b></li> <li>• A scheme which sets a ceiling or maximum price <b>and</b> a floor or minimum price. <b>(1 mark)</b></li> <li>• The purpose of buffer stock scheme: (<b>other than reference to reduce price fluctuations</b>) for example, increase farm incomes / guarantee supplies for consumers. <b>(1 mark)</b></li> <li>• <b>Diagrammatic analysis of buffer stock scheme award up to 3 explanation marks.</b> <ul style="list-style-type: none"> <li>➤ Identify minimum and maximum price.</li> <li>➤ Identify quantity released when a poor harvest.</li> <li>➤ Identify quantity purchased when a good harvest.</li> </ul> </li> <li>• <b>Rejection marks</b> <ul style="list-style-type: none"> <li>➤ Option A incorrect since stocks are purchased when there is a good harvest to prevent price of wheat from falling below target. <b>(1 mark)</b></li> <li>➤ Option B incorrect since the price of wheat is not permitted to fall below the minimum price. <b>(1 mark)</b></li> <li>➤ Option C incorrect since a shortage of wheat means stock levels will be reduced when there is a shortage of wheat to ensure price remains below the maximum price permitted. <b>(1 mark)</b></li> </ul> </li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
9(a)	<ul style="list-style-type: none"> <li>• Explanation of a sustainable resource in terms of something that is being used or consumed or produced / at a rate that will ensure it is available for future generations / it may not run out it is renewable. <b>(1+1 marks)</b>.</li> <li>• Identification of a resource as a factor of production used to produce goods and services <b>(1 mark)</b>.</li> </ul> <p><b>NB Award a maximum of 2 marks for knowledge</b></p> <ul style="list-style-type: none"> <li>• <b>Application:</b> it appears that fishing is not sustainable / fish may not be available for future generations / the consumption of fish appears to exceed its reproduction / Iceland and the Faroe Islands catching 150,000 tonnes compared to their quota of 100,000 tonnes / 50% extra catch above quota / danger of extinction <b>(1+1 or 2 marks)</b>.</li> </ul> <p><b>NB: No marks available for using examples of a sustainable / non-sustainable resource other than fish.</b></p>	<b>(4)</b>

Question Number	Answer	Mark
9(b)	<ul style="list-style-type: none"> <li>• <b>Identification</b> of two causes of falling fish stocks (<b>1+1 marks</b>) and their explanation (<b>2+2 or 3+1 marks</b>).</li> <li>• <b>Causes include:</b> <ul style="list-style-type: none"> <li>➤ Mismanagement of fish stocks by government: Breakdown in agreed fish catches as Iceland and Faroe islands exceed their limits / catching 150,000 tonnes of mackerel instead of 100,000 tonnes.</li> <li>➤ Over-fishing / so fish cannot be reproduce at the same rate / increase in fishing boats / more sophisticated technology for catching fish / size of nets / weak monitoring of fish catches.</li> <li>➤ Global warming / more fish migrate northwards into their waters and get over-fished by non-EU countries / explicit data use e.g. fish catches exceed agreed 100,000 tonnes / fish cannot adapt fast enough and so supply falls.</li> <li>➤ Mismanagement of fish stocks through quota system: EU fishing boats must throw away dead fish if they catch more than their limit / some 30 per cent of fish caught is thrown back / quotas set are too large in the first place.</li> <li>➤ Increase in pollution of the seas: damage to breeding grounds / weak monitoring of pollution emissions into sea / disease spread by fish escaping from fish farms / damage to gene pool from escaped fish. NB: accept this point as candidate 'own knowledge'.</li> <li>➤ Increase in demand for fish: due to other uses of fish such as fertiliser and animal feed.</li> <li>➤ Other demand factors e.g. rising population / rising incomes / change in tastes / rising price of substitutes.</li> </ul> </li> </ul> <p><b>NB: Award diagrammatic analysis depicting an increase in demand and /or a decrease in supply (1+1 marks).</b></p>	(6)

Question Number	Answer	Mark
9(c)	<p><b>KAA = 8 marks</b></p> <ul style="list-style-type: none"> <li>• Definition of external costs: cost external to an exchange / negative third party effect / spillover from production / cost which the price mechanism fails to take into account or is outside the market transaction / social cost minus private cost. (1+1marks)</li> <li>• Application of external costs to fishing: Negative impact on other fish in the food chain / prevent future generations benefiting from consuming fish / pollution from fishing boats / accept loss of employment in related industries such as food processing and canning / negative multiplier effects / impact on government finances. (up to 2+2 or 1+1+2 marks)</li> </ul> <p><b>Diagram</b> depicting external costs in production (up to 4 marks):</p> <ul style="list-style-type: none"> <li>➤ MB or MPB and MPC curves (1)</li> <li>➤ MSC curve (1)</li> <li>➤ Identification of social optimum and market determined equilibrium positions (could be mentioned in the explanation) (1)</li> <li>➤ A labelled welfare loss triangle (shaded area) where marginal social costs exceed marginal social benefits for given output slice (1)</li> </ul>  <p><b>NB: If no appropriate diagram then award a maximum of 4 marks for KAA</b></p>	(14)

**Evaluation (2+2+2 marks or 3+3 marks)**

- Time factor: in the short run there will be significant catches of fish which could lower price and benefit consumers / but in the long run as fish become more scarce then price will rise dramatically / loss of benefits from future healthy diet.
- Difficult to quantify and attach a monetary value to the external costs from over-fishing / it relates to future generations / uncertainty over level of fish stocks.
- Figures may be incorrect and fish stocks could yet be sustainable / the article could be biased and simply scare mongering.
- Magnitude / use of data to show a significant increase in fishing above quota.

**NB: Do not award for comments concerning government solutions to over-fishing.**

Level	Mark	Descriptor
Level 1	1-4	Definition of external costs with examples
Level 2	5-8	Application of external costs with relevant diagram
Level 3	9-10	Up to one evaluation point
Level 4	11-12	Up to two evaluation points
Level 5	13-14	Up to three evaluation points

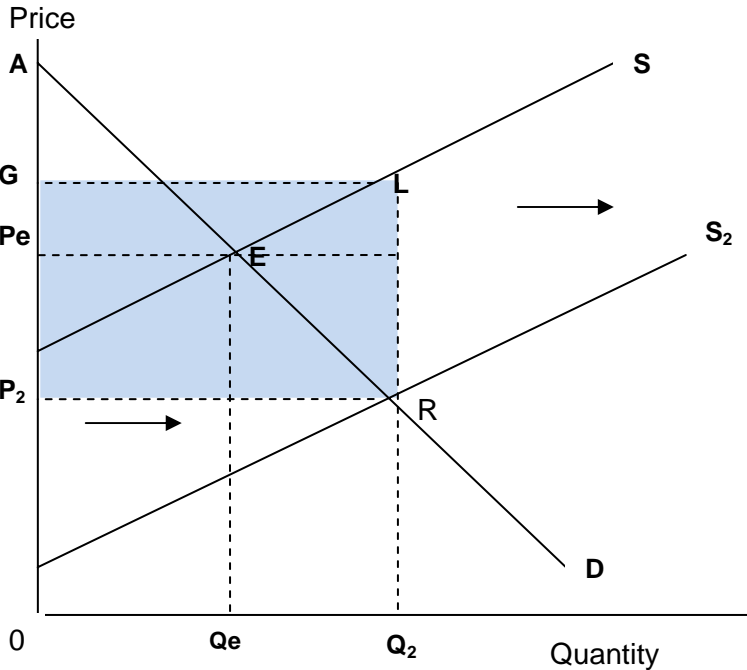


Question Number	Answer	Mark
9(d)*	<p><b>KAA = 6 marks</b></p> <p><b>Candidates may consider the positive and negative impact of the fishing ban in 30% of UK coastal waters.</b></p> <p><b>The development of one point of view constitutes KAA and the alternative view is considered as evaluation.</b></p> <p><b>Award the highest scoring case as KAA marks.</b></p> <p><b>Negative impact (2+2+2 or 3+3 or 1+2+3 marks)</b></p> <ul style="list-style-type: none"> <li>➤ An immediate reduction in the quantity of fish caught in UK coastal waters or a decrease in supply of fish / an increase in the price of fish / lower consumer surplus / accept a diagram depicting a decrease in supply and higher price.</li> <li>➤ Impact on households: fish may become a luxury good and difficult for low income households to afford / switch to substitutes.</li> <li>➤ Loss of employment on fishing boats / canning industry / industries servicing the boats or making nets.</li> <li>➤ Localised nature of the fishing industry means possibility of high unemployment in fishing ports / negative multiplier effects.</li> <li>➤ Consideration of geographical and / or occupational immobility of labour.</li> <li>➤ Impact on government finances: loss of tax revenue / higher benefits expenditure.</li> <li>➤ It may lead to an increase in imported fish from other fishing vessels / increase pressure on fish stocks outside of fish exclusion zones.</li> <li>➤ The no-fishing zones may be ineffective since: fish could move outside the protected areas / the extract refers to mackerel migrating northwards away from UK territorial waters.</li> </ul>	(10)

- Cost of monitoring and enforcing fishing exclusion zones / possibility of illegal fishing / hidden markets.
  - Danger of conflict with other nations excluded from fishing in these areas / possibility of retaliation by other governments setting up fish exclusion zones.
- Positive impact (2+2 or 1+3 marks)**
- Producer income might increase if fish is price inelastic in demand.
  - Improve the marine environment / benefits to other marine life and tourism.
  - Increase in demand for farmed fish / price rise / producer incentives to set up more fish farms.
  - Increase in demand for substitutes such as meat / raising revenue and profits.
  - In the long run it may lead to greater quantity of fish stocks / ensure fish stocks are sustainable for future generations / lower prices. **NB: some candidates will develop their whole answer based on these lines and should be credited.**

**NB: Evaluation marks can also be awarded for evaluation of any of the positive or negative points.**

**NB: Accept macroeconomic arguments.**

Question Number	Answer	Mark
9(e)*	<p><b>KAA = 8 marks</b></p> <p><b>Candidates may consider the positive and negative effects of government subsidies to fish farms. The development of one point of view constitutes KAA and the alternative view is considered as evaluation.</b></p> <p><b>8 KAA marks</b></p> <ul style="list-style-type: none"> <li>• Definition of subsidy (government grant to increase production or lower price of a good). (1 mark)</li> <li>• The subsidy acts to help reduce production costs. (1 mark)</li> <li>• Diagram of subsidies to fish farms (up to 3 marks). <ul style="list-style-type: none"> <li>➤ Shift the supply curve to the right (increase) (1)</li> <li>➤ New equilibrium price and quantity (1)</li> <li>➤ Area of subsidy identified (GLRP<sub>2</sub>) (1)</li> </ul> </li> </ul>  <p><b>NB: If no suitable diagram provided, award a maximum of 4 KAA marks. However, remove cap if candidate shows original demand and supply curves.</b></p>	(14)

**Positive effects: (2+2+2 or 3+3 or 4+2 marks)**

- Farmed fish is a substitute to wild fish / farmed fish account for a third of fish consumed so appears to be an effective alternative / consumers may deliberately switch from buying wild fish to farmed fish to protect stocks.
- Subsidised farmed fish is cheaper than wild fish / so consumers may choose cheaper option.
- Farmed fish increase overall supply of fish / so taking pressure off wild fish stocks.
- Job creation in remote communities / reduce income inequality between coastal and urban areas.
- Positive impact on consumer surplus / producer surplus.

**Evaluation (2+2+2 or 3+3 marks)**

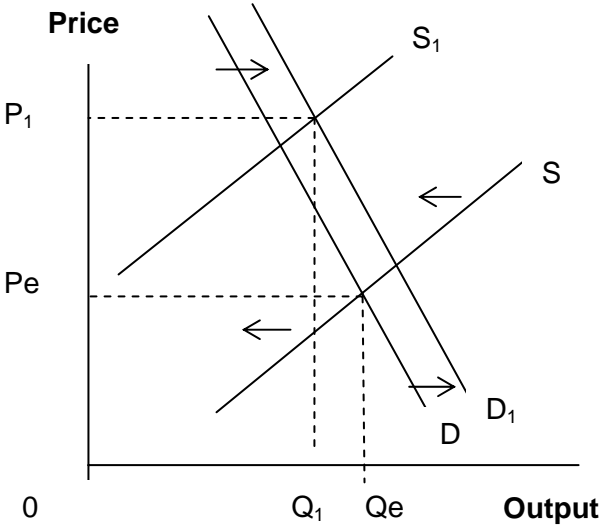
**Negative effects:**

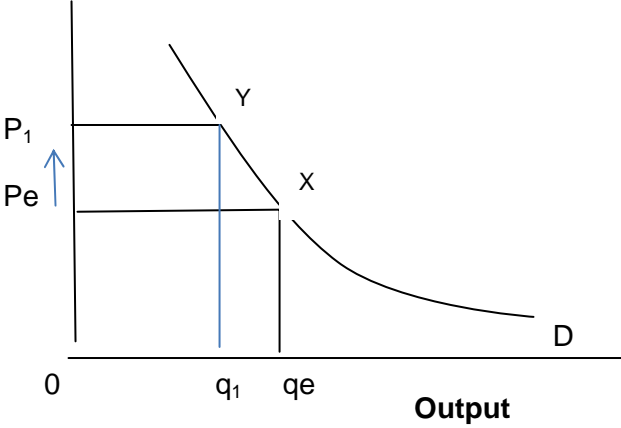
- Wild fish are fed to farmed fish / so fish farms could increase the pressure on wild fish populations (possible evaluation point: can this be determined from the evidence).
- Fish farms prone to disease due to high density / could contaminate wild fish populations and so reduce overall wild fish stocks.
- Danger of farmed fish escaping from nets / so create competition for food in wild population / damage gene pool of wild fish population so this may decrease.
- Opportunity cost of government spending on fish farms / funds could be better spent for protecting wild fish populations e.g. monitoring of commercial fishing boats or

protecting 'no-take' areas.

- Discussion of magnitude of subsidies to fish farms / at a time of cuts in government budgets.
- Fish farmers may become dependent on the subsidies which leads to inefficiency / bankruptcy.
- Discussion of health implications of farmed fish.
- Discussion of price elasticity of demand / to show effect of subsidy on price and output.

Level	Mark	Descriptor
Level 1	1-4	Definition of subsidy and description of its effects on price and output.
Level 2	5-8	Explanation of how fish farm subsidy might protect wild fish stocks.
Level 3	9-10	Up to one evaluation point for one limitation.
Level 4	10-12	Up to two evaluation points for two limitations.
Level 5	12-14	Up to three evaluation points three limitations.

Question Number	Answer	Mark
<p><b>10(a)</b></p>	<p><b>KAA = 6 marks</b></p> <p><b>Diagram showing a decrease in supply and increase in demand (up to 4 marks)</b></p> <ul style="list-style-type: none"> <li>➤ Original demand and supply curves with price equilibrium (1)</li> <li>➤ A decrease (inward shift) in supply curve (1)</li> <li>➤ An increase (outward shift) in demand curve (1)</li> <li>➤ New price equilibrium (1)</li> </ul>  <p>The diagram is a standard supply and demand graph. The vertical axis is labeled 'Price' and has points <math>P_1</math> and <math>P_e</math> marked. The horizontal axis is labeled 'Output' and has points <math>0</math>, <math>Q_1</math>, and <math>Q_e</math> marked. There are two upward-sloping supply curves: the original <math>S</math> and a new, leftward-shifted <math>S_1</math>. There are two downward-sloping demand curves: the original <math>D</math> and a new, rightward-shifted <math>D_1</math>. The original equilibrium point is at the intersection of <math>S</math> and <math>D</math>, corresponding to price <math>P_e</math> and quantity <math>Q_e</math>. The new equilibrium point is at the intersection of <math>S_1</math> and <math>D_1</math>, corresponding to price <math>P_1</math> and quantity <math>Q_1</math>. Dashed lines connect these equilibrium points to their respective values on the axes. Arrows indicate the shifts: a leftward arrow from <math>S</math> to <math>S_1</math>, a rightward arrow from <math>D</math> to <math>D_1</math>, and a rightward arrow from <math>Q_e</math> to <math>Q_1</math> on the horizontal axis.</p> <ul style="list-style-type: none"> <li>• Decrease in supply due to flooding / an increase in production costs. (1 mark)</li> <li>• Increase in demand due to speculative buying. (1 mark)</li> <li>• Reference to price of coal rising by 35 per cent / data reference from Figure 1 e.g. price of coal risen to \$135 per ton. (1 mark)</li> </ul> <p><b>Note: if just one curve shifted, award a maximum of 2 marks for the diagram</b></p>	<p><b>(6)</b></p>

Question Number	Answer	Mark
10(b)	<p><b>KAA = 4 marks</b></p> <ul style="list-style-type: none"> <li>• Definition or formula of price elasticity of demand (the responsiveness of demand due to a change in price <b>or</b> <math>PED = \% \Delta QD \div \% \Delta P</math>). (1 mark)</li> <li>• PED appears to be unitary (unit) elastic <b>OR</b>, PED has a value of -1 (accept 1). (1 mark)</li> <li>• This is because total revenue is expected to remain the same. (1 mark)</li> </ul> <p><b>NB: Do not award for a response which states 'total revenue remains the same' unless this is linked to unit elasticity.</b></p> <ul style="list-style-type: none"> <li>• Explanation of unitary (or unit) PED (the percentage change in demand is the same as the percentage change in price). (1 mark)</li> <li>• Diagram showing a rise in price and total revenue area remaining the same (<math>0P_eXQ_e = 0P_1YQ_1</math>). (2 marks)</li> </ul> <p style="text-align: center;"><b>Price</b></p>  <p style="text-align: center;"><b>Output</b></p>	(4)

Question Number	Answer	Mark
10(c)	<p><b>KAA = 6 marks</b>  <b>NB: Accept evaluation points as higher order economic analysis in marking.</b></p> <ul style="list-style-type: none"> <li>• Electricity prices may increase / this may be shown in a diagram depicting a decrease in supply <b>(1+1 marks)</b>.</li> <li>• Electricity prices may increase due to an increase in production costs. <b>(1 mark)</b></li> <li>• The rise in price leads to a decrease in consumer surplus. <b>(1 mark)</b></li>   <li>• Relevant use of data i.e. a quarter of UK electricity comes from burning coal / increase in price of Australian coal by 35%. <b>(1 mark)</b></li> </ul> <p><b>Evaluation / Higher order economic analysis</b></p> <ul style="list-style-type: none"> <li>➤ Electricity prices may not increase as UK firms choose absorb the higher production costs / to remain competitive / accept lower profits / we do not know how much of the imported coal comes from Australia. <b>(1+1+1+1 marks)</b></li> <li>➤ Discussion on price elasticity of demand for electricity. It is likely to be quite inelastic / this suggests electricity firms can pass the extra costs on to consumers quite easily with little effect. <b>(1+1 marks)</b></li> <li>➤ Discussion on magnitude of increase in price of coal which seems significant as 35 per cent rise over past two months.</li> <li>➤ Discussion on the costs of coal as a percentage of total production costs in generating electricity / or ability of firms to cut costs elsewhere.</li> <li>➤ Discussion of time period under consideration: Figure 1 shows a fall in coal prices over recent months / discussion of the trend in coal prices.</li> <li>➤ Higher electricity prices may encourage use of substitute energy sources by electricity firms e.g. alternative sources of energy.</li> </ul>	<b>(10)</b>



	<ul style="list-style-type: none"> <li>➤ Possible regulation of price of electricity may limit ability of generation firms passing on costs to consumers.</li> <li>➤ Different prices may be applied to different groups of customers e.g. firms and households.</li> </ul>	
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Question Number	Answer	Mark
10(d) *	<p><b>KAA = 8 marks</b></p> <p><b>Understanding / considering the benefits of tradable pollution permits include :</b></p> <ul style="list-style-type: none"> <li>• Definition or understanding of tradable pollution permits (a limit placed on firms carbon emissions through issue of permits / permits can be purchased and sold / fines if firms exceed limit without buying permits) <b>(1 + 1 marks)</b>.</li> <li>• Data reference: e.g. Australian government intends to reduce carbon emissions by 5% by 2020 / Australia accounts for 1.5% of greenhouse gas emissions <b>(1 mark)</b></li> </ul> <p><b>Benefits of tradable pollution permits to reduce pollution (2+2+2+2 or 3+3+2 marks):</b></p> <p><b>NB: Do not award for discussion of benefits in reducing air pollution and impact of global warming. The focus has to be on the merits and demerits of the system of tradable permits.</b></p> <ul style="list-style-type: none"> <li>• A market created for buying and selling carbon permits / use of price mechanism to internalise external costs / the best way to reduce carbon emissions.</li> <li>• This may be shown through a relevant externality diagram / where external costs are internalised through trade in carbon permits / some development e.g. reduce welfare loss or identify revenue from sale of carbon permit <b>(1 + 1 + 1 marks)</b>.</li> <li>• Use of demand and supply diagram / depicting a decrease in supply of permits and its subsequent increase in price of permits <b>(1 + 1 marks)</b></li> </ul>	<b>(14)</b>

- Australia is one of the world's largest carbon polluters per head of population / so the scheme is justified to help reduce global emissions.
- The Australian emissions trading scheme is similar to the EU and so could help create a global scheme / especially as China and South Korea show interest in setting up one.
- Government can raise funds by selling some pollution permits / revenue can be used to reduce effects of pollution / subsidise cleaner technology / compensate victims.
- Firms have an incentive to invest in clean technology / then sell excess permits to other firms / or bank surplus permits for future years.
- The heavy polluting firms are disadvantaged by experiencing higher production costs from buying extra permits/ whereas the cleaner firms are at an advantage with relatively lower production costs from selling surplus permits.
- Data bias could exist as Anglo American Corporation may be exaggerating the unemployment effects of an emissions trading scheme.

**Evaluation = 6 marks**

**Consideration of the limitations of tradable pollution permits for reducing pollution or their disadvantages (2+2+2 or 3+3 marks):**

- Extract 2 suggests huge increase in costs for mining industry of A\$25 billion by 2020 / many jobs directly and indirectly at risk / development of this point e.g. related industries such as mining tools industry or manufacturing industry.
- Extract 2 indicates that Australia only accounts for 1.5 per cent of global carbon emissions / not much point setting up the scheme compared to the cost for mining companies.
- Extract 2 suggests a decrease in mining investment projects / development of this point e.g. reduce Australia's ability to meet future energy needs.

- Little incentive for firms to reduce pollution since / 94.5 per cent of permits issued for free and so government failure / heavy polluters can purchase surplus permits from other firms rather than invest in expensive clean technology.
- Disputes arise over allocation of permits / possible barriers to entry.
- A cost to the government of monitoring and enforcing carbon pollution emissions rules.
- The valuation of pollution permits may be too risky to leave to the market.
- Problem that most countries in the world are not part of an emissions trading scheme especially US (apart from California).
- Other schemes might be more effective in reducing carbon emissions e.g. carbon offsetting or renewable energy certificates.

Level	Mark	Descriptor
Level 1	1-4	Definition of emissions trading scheme and description of how it works.
Level 2	5-8	Two or more advantages of the emissions trading scheme.
Level 3	9-10	Up to one evaluation point for one limitation of scheme.
Level 4	10-12	Up to two evaluation points for two limitations of scheme.
Level 5	12-14	Up to three evaluation points for three or more limitations of scheme.

Question Number	Answer	Mark
10(e) *	<p><b>KAA = 8 marks</b>  <b>NB: Accept reference to coal mining in different countries</b></p> <p>Definition of immobility or mobility of labour – referring to occupational and geographical.</p> <p>Occupational mobility refers to the ability of labour to move from one occupation to another (<b>1 mark</b>).</p> <p>Geographical mobility refers to the ability of labour to move from one area to another to take available work (<b>1 mark</b>).</p> <ul style="list-style-type: none"> <li>• Award for data reference e.g. up to 140 000 jobs at risk in Australia (<b>1 mark</b>).</li> <li>• Identification of two measures, for example government training schemes and relocation subsidies (<b>1+1 marks</b>).</li> <li>• Development of the two measures (<b>3+3 or 4+2 marks</b>). <ul style="list-style-type: none"> <li>➤ Training schemes: mining skills highly specialised so occupational mobility is low /workers may acquire new skills / increase human capital / train for work in occupations where shortages exist / example of other occupations.</li> <li>➤ Relocation subsidies: workers might be given help with house removal costs / contributions to mortgage or rental costs / accommodation available to immediately move into.</li> </ul> </li> </ul> <p>NB: Accept demand and supply diagram depicting a subsidy (<b>2 marks</b>).</p> <p><b>NB: Accept other measures to reduce immobility of labour, for example, improving labour market information and building affordable homes.</b></p> <p><b>Evaluation (2+2+2 or 3+3 marks)</b></p> <ul style="list-style-type: none"> <li>➤ Discussion of financial costs to the government / magnitude of government funds available for training programmes or relocation subsidies (for example, regional house price differences may be enormous and so relocation may involve significant funding).</li> </ul>	(14)

- Magnitude of training or relocation subsidies required since just 40,000 jobs directly at risk / discussion of significance for the economy.
- Time period required to retrain labour/ especially higher order skills / older workers may find it harder to pick up new skills.
- Quality of training schemes may vary / the wages of other jobs may be much lower than for mining so little incentive to retrain.
- Fraudulent use of training funds / with some development of this point.
- Lack of alternative jobs available / especially as pollution permits scheme is relevant across the whole of Australia and so affects all mining activities / fears of a global recession mean firms reluctant to take on extra staff.
- Workers may be unwilling to move due to family ties / children at school.
- Imperfect market knowledge on job vacancies elsewhere.
- Anglo American Corporation might be wrong concerning fear over job losses / the continued growth of China means demand for Australian raw materials will continue to rise / so issue of reducing labour immobility in mining is irrelevant.

Level	Mark	Descriptor
Level 1	1-4	Understanding of immobility of labour and identification of two measures to reduce it.
Level 2	5-8	Explanation of two measures to reduce immobility of labour.
Level 3	9-10	Up to one evaluation point
Level 4	10-12	Up to two evaluation points.
Level 5	12-14	Up to three evaluation points.



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