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Mark Scheme (Results)

January 2014

International A Level Economics (6ECA1/01)

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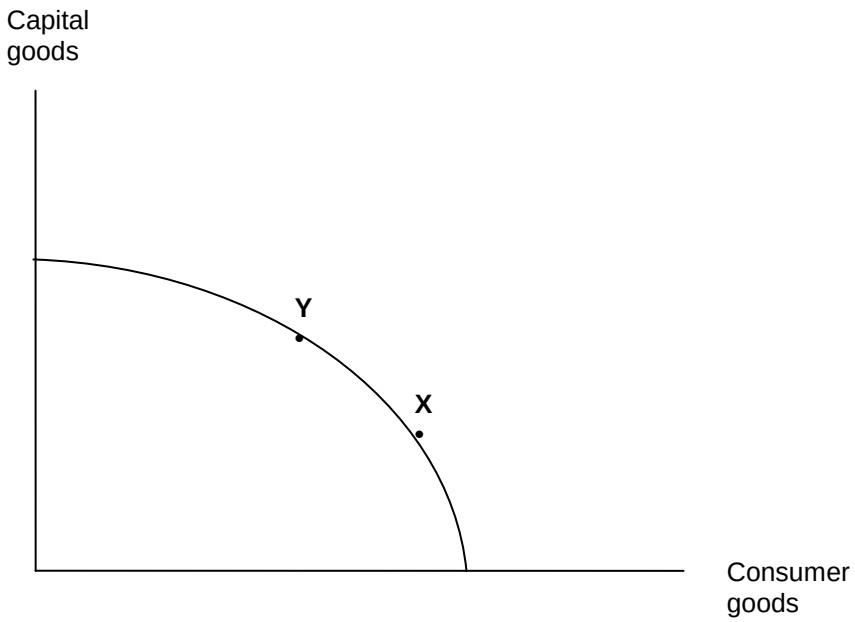
General Marking Guidance

- 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.

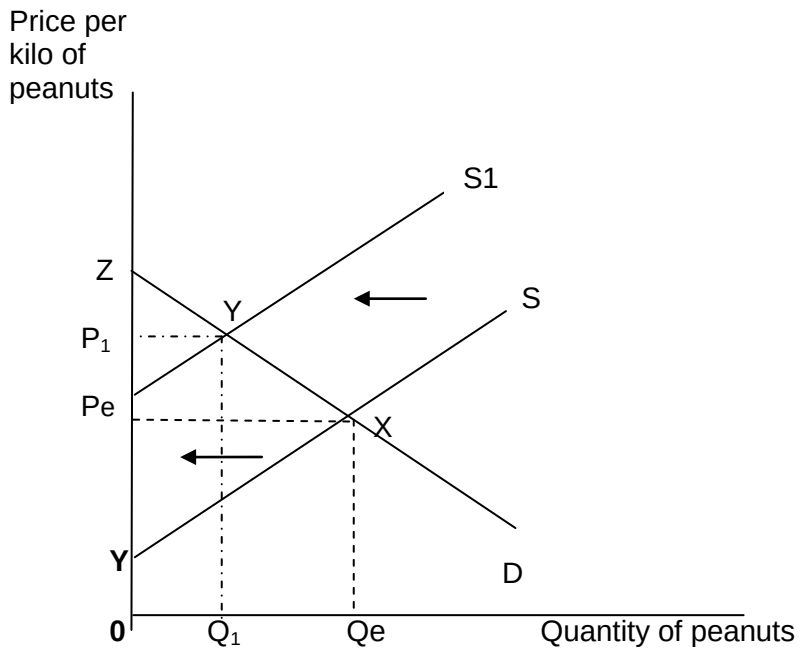
FOR ALL QUESTIONS: No markscheme can cover all possible responses. Therefore, reward analysis which is relevant to the question even if this is not specifically identified in the markscheme.

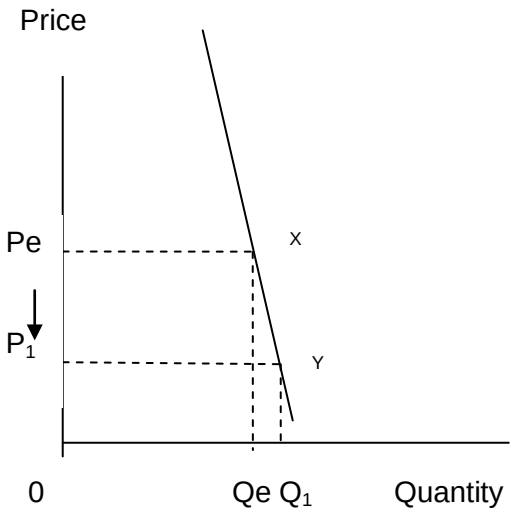
General observations

- Up to 3 marks can be awarded for rejecting 3 incorrect options if a valid reason is given (with 1 mark for each option rejected).
- Up to 3 explanation marks can be awarded even if candidate selects incorrect key.

Question Number	Answer	Mark
Q1	• **B (1 mark)** • Definition of opportunity cost (value of the next best alternative foregone) (**1 mark**). • Definition of production possibility frontier (maximum output potential for an economy when all its resources are fully / efficiently employed) (**1 mark**). • Diagrammatic analysis: a production possibility diagram depicting a movement along the frontier e.g. X to Y / identifying the gain in output of one good and loss of output for another good (**1+1 marks). NB: the axes must be suitably labelled to secure the 2 marks possible.**  **Rejection marks** • Option A incorrect since a shift in the supply curve indicates changes in conditions of supply, for example, discovery of new resources or an increase in production costs (**1 mark**). • Option C incorrect since movement along a demand curve economy is due to a change in price of a good (**1 mark**). • Option D incorrect since an outward shift in the frontier shows economic growth / more output of both goods can be achieved (**1 mark**).	**4**

Question Number	Answer	Mark
Q2	• **D (1 mark)** • Definition of free market economy (the price mechanism allocates resources) (**1 mark**). • Explanation of why competition can benefit consumers: lower prices / improved quality of goods and services / more consumer choice / more investment by firms which benefit consumers in the long term: (**1+1+1 marks**) • **Rejection marks** • Option A incorrect as government funding of healthcare and education occurs in a mixed economy rather than free market economy (**1 mark**). • Option B incorrect as government intervention to correct market failure indicates that the free market is not operating efficiently in the interests of consumers / there is no government intervention in a free market economy (**1 mark**). • Option C incorrect as this describes the operation of a centrally planned economy (**1 mark**).	4

Question Number	Answer	Mark
Q3	• **B (1 mark)** • Definition of consumer surplus (the difference between the price consumers are willing to pay for a good and the actual market price paid / the area above the equilibrium price and below the demand curve) (**1 mark**). • Identification of original consumer surplus area as PeXZ. (**1 mark**) • Identification of new area of consumer surplus such as P1YZ. (**1 mark**) • Identification of the area of fall in consumer surplus (**1 mark**) • Diagrammatic explanation showing a decrease in the supply curve and higher equilibrium price **(1 mark).**  **Rejection marks** • Option A incorrect since producer surplus will decrease as supply shifts inwards. (**1 mark**).	4

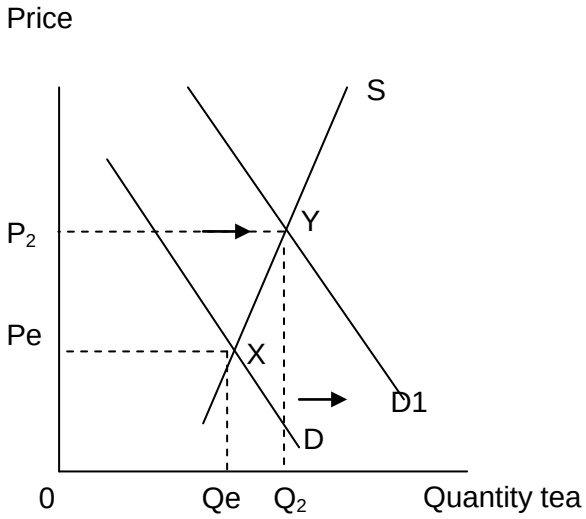
Question Number	Answer	Mark
Q4	• **A** (**1 mark**) • Definition of price elasticity of demand or correct formula (the responsiveness of demand for a good due to a change in its price, **or,** %ΔQD ÷ %ΔP = PED (**1 mark**). • Definition of total revenue (the total amount of money received by producers from selling a given quantity of a good / price multiplied by total quantity = total revenue) (**1 mark**). • Demand for meat is price inelastic so a fall in its price will cause a smaller proportionate rise in demand, leading to lower total revenue / it is inelastic as the answer is between 0 and -1. (**1 mark**). • Diagrammatic analysis depicting an inelastic demand curve and a fall in price / original and new lower total revenue areas identified (0peXQe falls to $0P_1YQ_1$) (**1+1 marks**).  **Rejection marks** • Option B incorrect since fruit and vegetables are price inelastic in demand not price elastic in demand (**1 mark**). • Option C incorrect since demand for fruit and vegetables is more price inelastic than meat as it is closer to zero (-0.2 compared to -0.3) (**1 mark**). • Option D incorrect since demand is perfectly price inelastic (**1 mark**).	**4**

Question Number	Answer	Mark
Q5	• **C (1 mark)** • Definition of income elasticity of demand or correct formula (the responsiveness of demand for a good due to a change in income, **or**, %ΔQD ÷ %ΔY = YED) (**1 mark**). • A negative income elasticity of demand means that tobacco is an inferior good (**1 mark**). • Definition of inferior good: an increase in real income leads to a decrease in quantity demand for tobacco (**1 mark**). • Numerical application, for example, a 10% increase in income leads to a 1.2% fall in demand for tobacco (**1 mark**). • Application: as real income increases people may become more health conscious and so reduce their consumption of tobacco (**1 mark**). **Rejection marks** • Option A incorrect since a normal good has a positive income elasticity of demand (**1 mark**). • Option B incorrect since demand for tobacco is income inelastic because the value is between -1 and +1 (**1 mark**). • Option D incorrect since the data on tobacco is for income elasticity of demand rather than price elasticity of demand. (**1 mark**).	4

Question Number	Answer	Mark
Q6	• **D (1 mark)** • Definition / understanding of occupational labour immobility / immobility (labour unable / able to change occupations to take available work) (**1 mark**) • A decrease in training programmes for the unemployed means they may lack appropriate skills / qualifications / work experience for a particular job) (**1 mark**). • Application to real world example: e.g. unemployed motor vehicle worker may lack the skills to become an IT web designer (**1 mark**). **Rejection marks** • Option A incorrect since a decrease in rail and bus fares will increase geographical mobility of labour as fares are now cheaper (**1 mark**). • Option B incorrect since a decrease in regional house price differences will increase geographical mobility of labour as housing is now more affordable (**1 mark**). • Option C incorrect since an increase in multi-skilled workers will enable them to transfer into different occupations more easily. (**1 mark**).	4

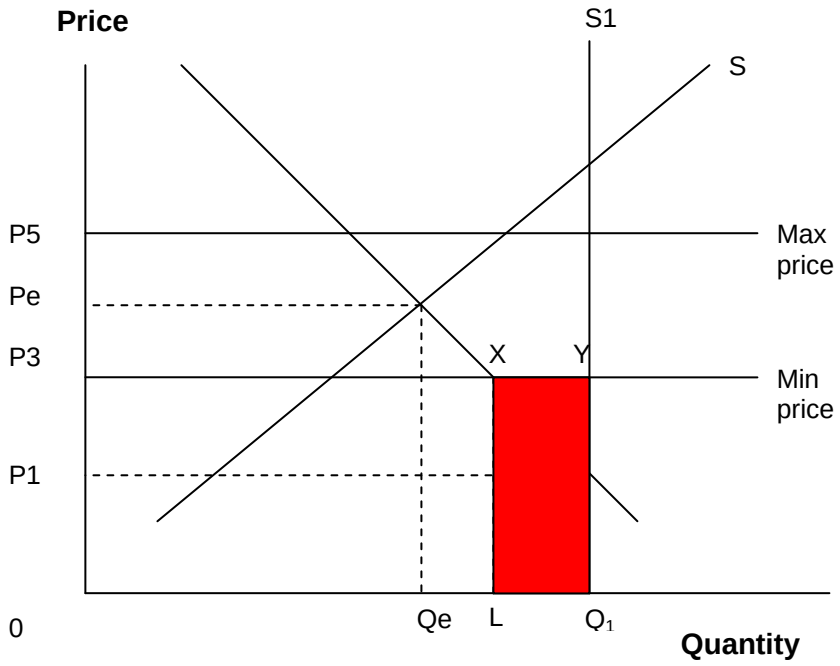
Question Number	Answer	Mark
Q7	• **C (1 mark)** • Definition of guaranteed minimum price (a minimum price at which wheat can be sold for and any surplus is purchased by the government / a floor price below which the price of wheat cannot fall) (**1 mark**). • Identification of the surplus or excess supply of wheat as 4,000 tonnes at the minimum price (**1 mark**), **or,** total calculation shown as 4,000 tonnes × £300 = £1,200,000 (**2 marks**). • Also award for diagrammatic explanation where minimum price is set above free market price in a demand and supply diagram / area of government purchase identified (**1+1 marks**). **Rejection marks** • Option A incorrect since this is the minimum price of £300 multiplied by supply of 108 000 tonnes (**1 mark**). • Option B incorrect since this is the minimum price of £300 multiplied by demand of 104 000 tonnes (**1 mark**). • Option D incorrect since this is the minimum price of £300 multiplied by 1000 tonnes (**1 mark**).	**4**

Question Number	Answer	Mark
Q8	• **C (1 mark)** • Explanation of tradable pollution permits (allowances (cap) on the amount of pollution firms may emit which can be bought and sold) (**1 mark**) • Definition of external costs (third party costs / costs external to an exchange / costs outside the market transaction / costs the price mechanism ignores / negative spillover effects / difference between social costs and private costs) / this may be shown by diagram (**1 mark**) • Application to airlines: the price of flying may increase if airlines have to buy additional permits and this may reduce the overall number of flights / airlines have incentive to increase fuel efficiency of flying / this may be shown by diagram (**1+1 marks**) • The tradable permits have the effect of increasing production costs. (**1 mark**) **Rejection marks** • Option A incorrect since airlines can buy and sell carbon permits / permits are tradable (**1 mark**). • Option B incorrect since the permits are designed to internalise external costs of flying / designed to achieve equilibrium between marginal social costs and marginal social benefits. (**1 mark**). • Option D incorrect since an excess supply of carbon permits will lower their price and so give less incentive for airlines to reduce carbon emissions (**1 mark**).	**4**

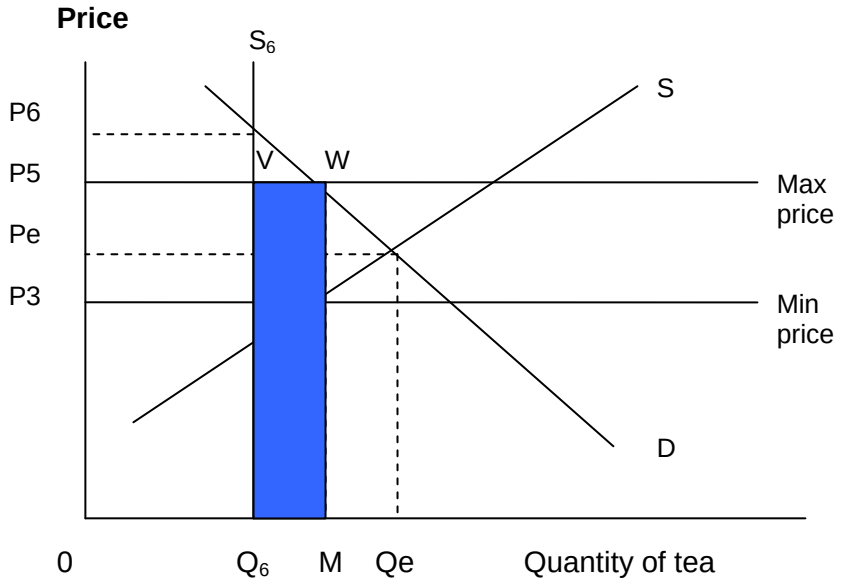
Question Number	Answer	Mark
Q9(a)	**KAA = 6 marks** • Definition of total revenue (total payment received by producers for selling a given quantity of tea / price multiplied by output) (**1 mark**) • Total revenue is likely to increase (**1 mark**) • Award for explanation of importance of price inelastic supply for affecting total revenue (**1 mark**) • Diagram (**up to 4 marks**) ➢ Original demand and supply curve with equilibrium price and quantity (**1**) ➢ Increase in demand curve (**1**) ➢ Original area of total revenue identified (0PeXQe) (**1**) ➢ New area of total revenue identified ($0P_2YQ_2$) (**1**) ➢ The increase in area of total revenue may also be shown (**2**) 	6

Question Number	Answer	Mark
Q9(b)	**KAA = 4 marks** • A growing taste or increase in demand for black tea is likely to lead to an increase in demand for tea workers / since the demand for labour is derived from the demand for the final product. (**1+1 marks**). • Accept diagrammatic explanation of the labour market for tea workers depicting: an increase in the demand for labour / higher equilibrium wage and quantity employed. (**2 marks)** • An increase in employment or a decrease in unemployment (but do not double award). **(1 mark)** • An increase in earnings: wage rate may rise / or more hours worked. (**1+1 marks**) • Reduction in poverty for tea workers and their families / increase standard of living. **(1+1 marks)** • Other changes e.g. impact on gender equality, training, productivity / efficiency or adverse effects (**1+1 marks**).	**4**

Question Number	Answer	Mark
Q9(c)	**KAA = 6 marks** • Definition or formula of price elasticity of supply (the responsiveness of supply due to a change in price or %ΔQS ÷ %ΔP) (**1 mark**) • Explanation of price inelastic supply (this may be shown by diagram). (**1 mark**) • In the short run supply appears to be price inelastic but in the long run price elastic (**1 mark**). • No extra land available for tea cultivation in India and Sri Lanka and very little in Kenya / reference to Figure 2 shows they are the world's largest producers of black tea difficult to find 700 to 800 hectares. (**1+1+1 marks**) • Takes six years to grow tea bushes before tea can be picked (**1 mark**). • Land available in Rwanda and Vietnam but takes time to prepare (**1 mark**). • Distinction between the short run (where at least one factor input is fixed) and long run (where all factor inputs are variable) (**1 mark**). **Evaluation: 2+2 or 3+1 or 1+1+2 marks** • Price elasticity of supply depends on the level of stocks of tea e.g. buffer stocks / discussion of perishability of tea (accept that some tea improves in quality over time). • Price elasticity of supply depends on ease of entry and exit to the market for farmers / appears difficult due to the long time period (6 years) before revenue can be obtained from growing the crop. • Tea is dependent on the climate and so no guarantee that supply will be elastic in the long run / problem of flooding or drought might occur. • Discussion on quality of tea crop: it might be possible for supply to be more elastic if quality is reduced. • The price fluctuations shown in Figure 1 may discourage farmers from responding to price increases as there is too much uncertainty in the market / price may fall back in the near future. • Technological improvements may enable supply to respond to price changes more quickly.	**10**

Question Number	Answer	Mark
Q9(d)*	**KAA = 8 marks** • Explanation of buffer stock scheme: an organization intervenes in a market and holds stocks of tea to keep price within a certain range or at a fixed price. (**1 mark**) • Explanation of how buffer stocks scheme operates: it will buy tea and add to its stockpile to prevent price falling too far / it will sell tea from its stockpile to prevent price rising too far (**1+1 marks**). • **NB: Diagram(s): accept variations of target price or target price range. (up to 6 marks including a clear explanation of surpluses and shortages). A maximum of 4 marks if just one is explained.** • **NB: Diagram(s): accept variations of supply curves (such as short run vertical supply curves being illustrated throughout).** **A good harvest of tea which shifts supply to S_1**  	**14**

A poor harvest of tea which shifts supply to S_6



- Original demand and supply curves with equilibrium price (**1**)
- Maximum and minimum price positions identified or target price identified (**1**)
- Good harvest with supply increasing – so leading to agency buying tea and adding to stockpile / quantity of stock purchased identified as XY or LQ_1 (**1+1**).
- Poor harvest with supply decreasing – so leading to agency releasing stock on to market / quantity of stock released identified as Q_6M or VW. (**1+1 marks)**

- **The extract suggests the scheme is unlikely to be successful since:**

- Identification of problems from passage: funding, storability and agreement. (**1 mark**)

NB: award a maximum of 4 KAA marks if no suitable diagram attempted or offered.

Evaluation: 6 marks (2+2+2 or 3+3 marks)

- **Accept as evaluation any additional obstacles to a buffer stock scheme not mentioned in the extract, for example:**

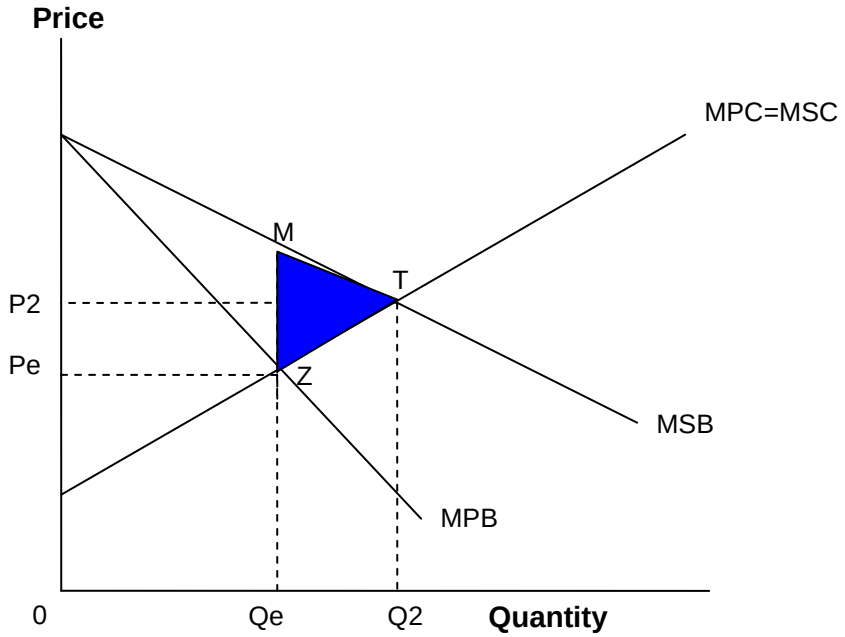
  - Problems of setting a suitable target price or maximum and minimum price.
  - Tea is not an homogenous product – many different varieties and qualities / difficult to create minimum price for each of these varieties.
  - A series of bad harvests may mean the agency runs out of stock so cannot keep within the maximum price limit.
  - Tea producers currently do not want a buffer stocks scheme since the demand and price of tea is set to increase further / leading to increased revenue and profit.
  - Previous buffer stocks schemes have failed, for example, Tin, coffee, rubber and cocoa – so every reason to expect failure with tea.
  - Discussion of dependency culture / inefficiency among tea farmers.

- **Discussion of funding of scheme**: government funding of buffer stock schemes less likely in times of low economic growth and large national debts / opportunity cost associated with intervention buying.

- **Discussion on time period**: buffer stock schemes may work in the short term as both consumers and producers want price stability / more chance of success when price of tea is falling as this reduces revenue and profits for producers.

- **Discussion on storability**: tea can be stored for several years, although its flavour and quality might diminish over time - there is still a market for lower quality tea.

- **Discussion on the emergence of substitutes for black tea**: consumers may switch to green tea during times of high prices of black tea / producers may switch to growing green tea during times of low prices for black tea.

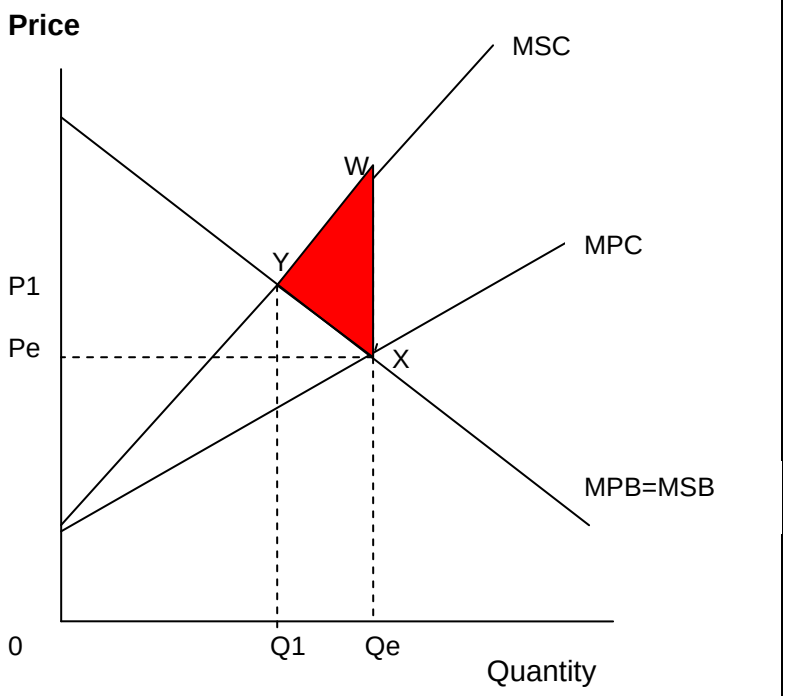
Question Number	Answer	Mark
Q9(e)*	**KAA = 8 marks** • Definition of private benefit (**1+1 marks**): benefit internal to an exchange / benefit the price mechanism takes into account / benefit from the market transaction / benefit to first and second party / benefit direct to consumer or producer from economic activity. • Definition of external benefit (**1+1 marks**): benefit external to an exchange / benefit the price mechanism ignores / benefit outside of the market transaction / positive third party effect / indirect benefit to consumer of producer from an economic activity.  • Diagram (**up to 4 marks**) ➢ MPB = MC curve (**1**). ➢ MSB curve (**1**). ➢ Identification of market equilibrium (Qe) and social efficient equilibrium (Q2) (**1**). ➢ Triangle of welfare gain (**1**). • Explanation of private benefits (**1+1 or 2 marks**): these include the satisfaction or utility the individual gains from consuming tea / improvement to personal health / increase in quality of life / life expectancy / higher earnings from staying healthy / higher revenue and profits to firms that sell tea.	**14**

	• Explanation of external benefits (**1+1 or 2 marks**): these include less pressure on healthcare services / less consumption of caffeine / additional productivity to the economy from healthier workers / leading to increased revenue and profits for firms not associated with tea / attraction of foreign investment / increased international competitiveness / increased tax revenue for government from workers who earn more. **NB: candidates must be explicit when distinguishing between private benefits and external benefits of tea consumption, otherwise do not award explanation marks.** **NB: If no diagram award a maximum of 4 KAA marks** **Evaluation: (3+3 or 2+2+2 marks)** ➢ More research is required into the possible health benefits from consuming tea / the mechanisms of how tea improves health are still uncertain. ➢ Uncertainty of the value of external benefits: difficult to measure the part of increased productivity that might be attributed to consumption of tea / hard to attach a monetary value. ➢ Possibility of data bias / value of benefits may be exaggerated in order to increase sales. ➢ There could be external costs from consuming tea e.g. damage to environment from creating tea plantations / health issues from drinking tea e.g. consumption of caffeine. ➢ Impact on coffee market: decline in employment and incomes among coffee producers / increase in poverty among coffee farmers in developing world.	

Question Number	Answer	Mark
Q10(a)	**KAA = 4 marks** • Explanation of renewable energy resource: energy that can be used without supply being diminished / a sustainable resource available for future generations (**1 mark**). • Identification of renewable energy resource from extract - solar power or wind power (**1 mark**). • Explanation of non-renewable energy resource: use of energy which diminishes the supply available / it is finite in supply and non-sustainable for future generations (**1 mark**). • Identification of non-renewable energy resource from extract - gas or coal (**1 mark**). • Award for definition of 'resource' (factor input or agent used to produce goods and services) (**1 mark**).	**4**

Question Number	Answer	Mark
Q10(b)	**KAA = 6 marks** Identification of two benefits in extracting gas from underground rock plus their development**.** • **Identification:** Gas causes less pollution (than coal) (**1 mark**): ➢ It may help reduce global warming / less of a visual eyesore in production since most of the operations is underground / maintain property prices in areas where fracking occurs (**up to 3 marks**). • **Identification:** Lower gas prices due to plentiful supply **(1 mark**): ➢ Diagram depicting an increase in supply and fall in market price of gas / major benefit to low income families and pension households who struggle with paying fuel bills / supply of gas guaranteed for consumers as reserves could last 100 years / increase consumer surplus (**up to 3 marks**). • **Identification**: Increased income and revenue (**1 mark**): ➢ It generates employment or data use of 50 000 jobs created / wages for labour / profits for firms / increased tax revenue for government / less welfare payments from government (**up to 3 marks**). ➢ • **Identification:** Development of a new energy source (**1 mark)**: ➢ Less dependency on imports of energy / help to make up for decline in North Sea oil and gas reserves (**up to 3 marks**).	**6**

Question Number	Answer	Mark
Q10(c)	**KAA (up to 6 marks)** • Definition or formula for cross elasticity of demand (the responsiveness in demand for one good due to a change in price of another good or %ΔQD good x ÷ %ΔP good y) (**1 mark**). • The extract suggests a fall in price of gas will cause a decrease in demand for coal / an increase in the price of gas will cause an increase in demand for coal (**1+1 marks**). • Gas and coal are substitutes with a positive cross elasticity of demand (**1+1 marks**). • Diagram depicting the positive cross elasticity of demand relationship between gas and coal (**1 mark**). • Accept numerical example of a positive relationship between the price of gas and demand for coal (**1 mark**). • Identification that complementary goods have a negative cross elasticity of demand (**1 mark**). • **Evaluation: (2+2 marks or 3+1 marks)** ➢ Discussion on the strength of substitutes: if existing power stations only take one form of fuel resource and not the other, then they are weak substitutes / for example, gas-fired power stations as opposed to coal-fired power stations / XED may be close to zero. ➢ Time and money may come into play: depends on the cost and ease to adapt power stations to take either fuel. ➢ Gas and coal are substitutes when it comes to power stations which can burn both forms of fuel / substitutes when it comes to deciding whether to build new power stations – gas or coal. ➢ Depends on the amount of available coal reserves: if there are lots of coal reserves it suggests strong substitutes / if few coal reserves then it suggests weak substitutes. ➢ Discussion of environmental issues: for example, if gas creates less pollution than coal in energy production, it suggests power companies will prefer gas over coal. **NB: accept arguments based on households.**	**10**

Question Number	Answer	Mark
Q10(d)*	**KAA (Up to 8 marks)** • Definition of market failure: the price mechanism fails to allocate resources efficiently / the price mechanism leads to a net welfare loss (**1 mark**). • Definition of external costs: costs external to an exchange or transaction / costs which the price mechanism fail to take into account / negative third party effects / difference between social costs and private costs (**1+1 marks**). • Explanation of external costs by extracting gas from underground rock, for example: pollution of underground water supplies / air pollution could lead to respiratory diseases / carbon emissions add to global warming and climate change / impact of earthquakes on property prices and potential damage (**1+1+1 marks**). • Diagram (**up to 4 marks**):  ➢ Original MB and MPC curves (**1**) ➢ MSC curve (accept a parallel shift of the MSC curve) (**1**) ➢ Identification of market equilibrium and socially efficient quantity (**1**) ➢ Identification of triangle of welfare loss (**1**) **NB: If no diagram then award a maximum of 4 KAA marks.**	**14**

	• Explanation of market failure: the social optimum price is higher than the free market price and social optimum output is lower than the market output / there is over-production and under-pricing of gas (**1 mark**). **Evaluation (2+2+2 or 3+3 marks)** ➢ Discussion of the difficulty in quantifying and attaching a monetary value to external costs created by fracking, for example: measuring earthquake damage or its contribution to global warming. ➢ Discussion of long term implications: there is much uncertainty over the effects of fracking since it is a relatively new method of extracting gas / need more research and evidence to draw conclusions / a greater time period required to assess its long term impact. ➢ Discussion of the magnitude of fracking: already supplies a quarter of US gas needs and set to rise to nearly half by 2035 / could supply all of UK gas needs for 100 years / environmental implications are potentially massive / most activity is underground so less visual impact. ➢ Discussion of the possible benefits from fracking which could outweigh all the private and external costs: reduce dependency on imports of gas / replace the diminishing gas supplies from North Sea / self-sufficient in energy / could provide all of UK gas needs for 100 years / impact on UK Balance of Payments / less pollution created compared to coal / creation of up to 50,000 jobs in UK / increase in tax revenue. ➢ Discussion of measures that either government or firms engaged in fracking might take to reduce market failure.	

Question Number	Answer	Mark
Q10(e)*	**KAA (up to 8 marks: 2+2+2+2 or 3+3+2) and Evaluation (up to 6 marks: 2+2+2 or 3+3)** **NB: the advantages or benefits of regulation and indirect taxes may be regarded as KAA marks and the disadvantages or limitations may be regarded as evaluation** **NB: if only one measure considered, award a maximum of 6 KAA marks and 4 Evaluation marks.** **Identification of two government measures such as regulations and indirect taxation (1+1 marks).** ➢ **Regulations - advantages** ➢ Simple for firms to understand. ➢ A quota can applied to the extraction of gas from sites. ➢ Possible to fine firms and use the money to compensate victims. ➢ Fines act as a deterrent to firms to pollute environment. ➢ Possible to close firms down and ban operations. ➢ Firms might be required to restore site to previous conditions at the end of operations. ➢ **Regulations – disadvantages or limitations** ➢ Expensive to monitor behaviour of firms / issue of who pays for the monitoring. ➢ Extra costs of installing pollution monitoring equipment – who pays? ➢ Difficult to measure the quantity of pollution from fracking as most operations underground / difficult to attach monetary value to the pollution. ➢ Regulations restrict the operation of the price mechanism and work against market forces / if too strict then investment may fall and gas extraction is halted. ➢ Regulations may not be enforced properly – as in the case of the US, leading to extensive pollution of water supplies / regulatory capture.	14

	➢ **Indirect taxes – advantages** ➢ Polluter pays principal / so increase costs for firms and internalises the externality. ➢ Indirect taxes work with market forces – so the price mechanism still operates leading to efficiency. ➢ Quantity of pollution should fall and the market moves towards the social optimum position / this may be shown by diagram e.g. the imposition of an indirect tax which shifts the supply curve inwards (or MPC curve closer to the MSC curve). ➢ Tax revenue raised for government which can be used to compensate victims of the pollution / can be used to clean up the pollution. ➢ **Indirect taxes – disadvantages or limitations** ➢ Difficult to set the correct tax to internalize the negative externalities. ➢ No guarantee that the tax revenue collected will be used to compensate victims or to clean up the environment. ➢ If demand for gas is price inelastic then firms can pass on the extra tax to consumers. Overall levels of gas extraction and pollution may not be affected much. ➢ Incentive for firms to avoid or evade paying high indirect taxes on gas extraction.	

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