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Mark Scheme (Results)
Summer 2010

GCE

GCE ECONOMICS (6EC01) Paper 01

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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 explicitly rejected).

Question Number	Answer	Mark
1	Answer C (1) • Definition of production possibility frontier (the maximum output combinations an economy can achieve when all its resources are fully / efficiently employed) (1) • Definition of opportunity cost (the value of the next best alternative foregone) (1) • Diagrammatic analysis or explanation of opportunity cost, e.g. depicting a movement along the production possibility frontier and showing the loss of output for one good and gain of another good (1+1) Rejection marks • Option A is incorrect since external costs are those costs not taken into account by the price mechanism and are not shown on a production possibility frontier. (1) • Option B or D incorrect since producer surplus / equilibrium price is shown by use of a demand and supply diagram. (1)	(4)

Question Number	Answer	Mark
2	Answer D (1) • A decrease in the machinery costs means a decrease in production costs for mining gold. (1) • Increase in incentives to produce (1) • Award for a correctly labelled diagram depicting an increase in supply and a fall in market price (1+1) OR identifying that the supply of gold will increase. (1) Rejection marks • Option A is incorrect since an increase in national income will shift the demand curve outwards / to the right / increase the price of gold. (1) • Option B is incorrect since a decrease in the price of silver will cause a decrease / shift inwards in the demand for gold – a substitute good. (1)	(4)

	• Option C is incorrect since an increase in wages of gold miners will lead to a decrease / inward shift in the supply curve for gold so price increases. (1)	

Question Number	Answer	Mark
3	Answer B (1) • Definition of consumer surplus (the difference between the price one is prepared to pay for a good and the actual price / market price paid) OR (the area above the equilibrium price and below the demand curve). (1) • Identification of original consumer surplus as £500 / further development using a numerical example(1) • Definition of VAT (a tax placed on the expenditure / a tax set as a percentage of the price of a good) or indirect tax (1) • Explanation that a reduction in VAT will reduce the price of cruise holidays and so lead to an increase in consumer surplus. (1) • Diagrammatic analysis depicting an outward shift in supply curve (either showing the original consumer surplus / the new level of consumer surplus / the change in consumer surplus) (1+1) (accept parallel shift in supply) Rejection marks o Option A is incorrect since an increase in wages to cruise holiday workers will increase production costs / possibly raise the price of cruise holidays – reducing consumer surplus. (1) o Option C is incorrect since an increase in price of cruise holidays to £3000 will eliminate Neringa's consumer surplus. (1) o Option D is incorrect since a decrease in the number of companies in the industry may shift the supply curve inwards and so raise the price of Caribbean cruise holidays (1).	(4)

Question Number	Answer	Mark
4	Answer C (1) • Definition of a subsidy (Government grant to firms to increase production / reduce price of a good) (1) • Unit subsidy × quantity is £3 × 150 = £450 (accept other methods of calculating subsidy) (2)	

	• Annotation of diagram to show subsidy area (but must be labelled)(1) • Award for identifying unit subsidy as the vertical difference between the supply curves OR £3 (1) Rejection marks • Option B is incorrect as this is the consumer subsidy. (1) • Option D is incorrect as this is the total consumer expenditure on the good plus the government subsidy. (1)	(4)

Question Number	Answer	Mark
5	Answer C (1) • 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 %ΔQD good B ÷ %ΔP good A) (1) • Games console and software games are complementary goods / joint demand. (1) • Complementary goods have a negative cross elasticity of demand. (1) • A fall in price of games consol will cause an increase in the demand for computer software games. (1) Rejection marks • Option A is incorrect since lamb and chicken are substitutes with a positive cross elasticity of demand / a decrease in price of one will cause a decrease in demand for the other. (1) • Option B is incorrect since bus travel and potatoes are likely to be unrelated goods / inferior goods / they have a zero cross elasticity of demand. (1) • Option D is incorrect since leather and beef are in joint supply. (1)	(4)

Question Number	Answer	Mark
6	Answer D (1) • Definition / understanding of tradable pollution permits, e.g. an allowance on the amount of pollution firms may emit which can be bought and sold in the market. (1) • Relevant diagrammatic analysis which shifts the supply curve for carbon permits inwards and so increases its price (1+1) OR written explanation that a decrease in the supply of permits will lead to a rise in price. (1)	

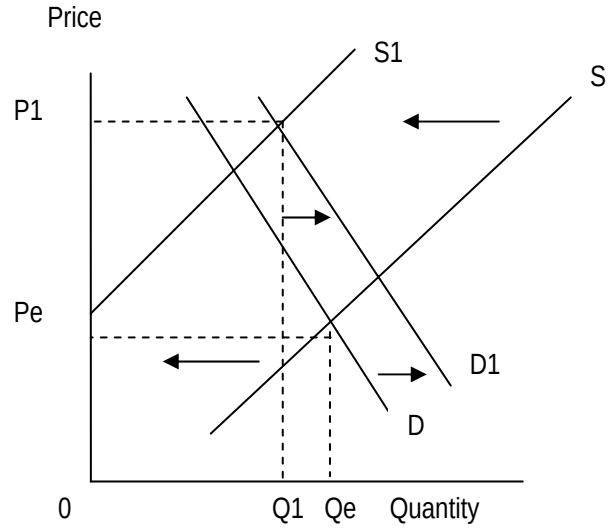
	• Higher price of permits increase the cost of polluting or act as an incentive for firms to reduce their pollution. (1) • A low market price means firms have little incentive to reduce pollution / it might be cheaper to purchase additional permits rather than fund cleaner technology / install clean production methods. (1+1) Rejection marks • Option A is incorrect since an excess supply of pollution permits is likely to lead to a fall in price and so firms have less incentive to reduce pollution emissions. (1) • Option B is incorrect since major polluting industries such as air travel should be included in the carbon trading scheme so that less pollution is emitted. (1) • Option C is incorrect since some firms may deliberately exceed / ignore their carbon permits as there is little chance of paying for it. (1)	(4)

Question Number	Answer	Mark
7	Answer A (1) • Explanation of the free rider problem (difficulty in charging people for consuming a good once it is provided) NB: Only award if reference made to the inability for charging consumers. (1) • The free rider problem leads to under-provision of a good and so is market failure. (1) • Definition of public goods (non-excludable and non-rivalry) (1) • Example of a public good, for example, light house, pavements, street lighting, flood defence scheme, national defence and public firework display. (1) Rejection marks • Option B is incorrect since taxation of public goods will lead to a further reduction in their provision / increase market failure. (1) • Option C is incorrect since luxury goods are private goods and so not relevant. (1) • Option D is incorrect since subsidies to goods which yield high external costs will increase market failure / increase the gap between the market equilibrium and social optimum position / examples of goods which yield external costs such as tobacco smoking, alcohol consumption or private motoring. (1)	(4)

Question Number	Answer	Mark
8	Answer B (1) • Definition of market failure (the price mechanism fails to allocate resources efficiently / inefficient allocation of resources / the price mechanism leads to a welfare loss) (1) • Definition of external benefits (benefits external to an exchange / positive third party effects / benefits outside of a transaction / difference between social and private benefits / benefits the price mechanism ignores) (1) • Identification of under-consumption of education / explanation of this e.g. a more productive workforce. (1) • Social benefit exceeds social cost of university education for QeQ1 students (1) • Identification of welfare gain or loss triangle is ZYX or annotation of diagram (1) • Identification of market equilibrium position MPB=MPC / identification of social optimum equilibrium position MSB=MSC (1+1) NB: Just identifying market equilibrium at output Qe and social optimum at output Q1 without reference to MSB/MSC/MPB/MPC then award 1 mark Rejection marks • Option A is incorrect since the free market quantity 0Qe is less than the	(4)

	social optimum number of students 0Q1. (1) • Option C is incorrect since the triangle of welfare gain is ZYX. (1) • Option D is incorrect since the marginal external benefit increases / pivots as the quantity of students increase. (1)	

Question Number	Answer	Mark
9(a)	• Direct reference to food price increase in Figure 1 e.g nominal price rise from 100 to more than 200 / real price rise from 100 to 160. (1) The increase in price of food caused by: • Increase in demand due to global population growth / increase in incomes in developing countries (1+1) Either of these points may be developed to achieve 2 marks, e.g. reference to positive income elasticity of demand for food / normal good. NB: 2 marks available for explaining increased demand. • Decrease in supply due to increased costs of production / e.g. rising fuel prices, farm machinery and animal feed (1+1). NB: 2 marks available for explaining decreased supply. • Accept a reference to inelasticity of supply and/or demand (1). NB: Award a maximum of 5 marks for explanation / data reference.	

	 **Diagram up to 4 marks:** ➢ **Original demand & supply diagram with equilibrium price(1)** ➢ **Increase in demand curve (1)** ➢ **Decrease in supply curve (1)** ➢ **New equilibrium price (1)** **NB: Award a maximum of 2 marks for the diagram if just one curve is correctly shifted.**	**(8)**

Question Number	Answer	Mark
9(b)	**Award up to 4 marks for KAA** • **Low income households likely to be hit the hardest since:** ➢ **Price elasticity of demand is inelastic / basic necessity / so an increase in food price will cause an increase in total spending on food (1+1)** ➢ **They spend a higher proportion of their income on food than other income groups / consequently spend less on other goods. (1+1)** ➢ **The extract refers to a 'shortage of affordable food' / suggesting it is the basics which are rising in price such as bread, potatoes, vegetables, rice and fruit. (1+1)** • **Demand for food is income inelastic / the percentage change in spending**	

	on food is less than the percentage change in income (1+1) Evaluation (2 marks) • Magnitude of the increase in food prices / significant increase of more than 100%. • Discussion of real income falling. • Discussion of households switching to inferior goods / lower priced alternatives. • Composition / size of household. • It depends on the meaning of 'households on low incomes'. • An increase in price of luxury foods may have little impact on low income households who are unlikely to purchase these types of food. • Government may respond by offering food subsidies / additional welfare payments.	(6)

Question Number	Answer	Mark
9(c)	Award up to 4 marks for KAA: • Definition / understanding of price elasticity of demand. (1) • Understanding of price inelastic demand (the proportionate change in demand is less than the proportionate change in price). This may be shown by a diagram. (1) • Food likely to be price inelastic in demand as a whole since essential good / necessity. (1) • No substitute for food (1) • Numerical application of price inelastic demand. (1) • Food is price inelastic in demand as spending on it comprises relatively small proportion of total income (1) Evaluation (2) • Depends on type of food / luxury items such as caviar / eating out at restaurants may be price elastic in demand. • Discussion of broad and narrow definition of food (food as a whole is price inelastic in demand). • Comparison of different income groups / depends on whether a developed or developing country.	(6)

Question Number	Answer	Mark
9(d)	Award up to 6 marks for KAA: • Definition of minimum price (e.g. the minimum price below which the price of a good cannot fall / a floor price)(1) Price	

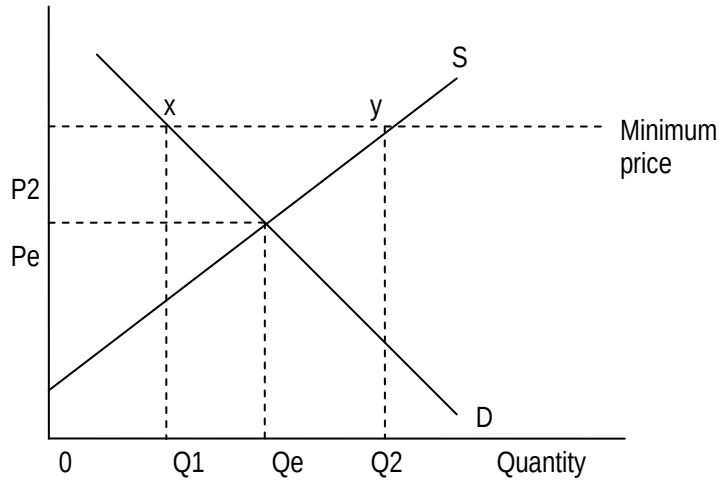


Diagram up to 4 marks:

- **Original equilibrium price (1)**
- **Guaranteed minimum equilibrium price (1)**
- **Identify excess supply or surplus as XY or Q1Q2(1)**
- **Area of government expenditure (Q1Q2xy) (1)**

- **Explanation of the effects of a minimum price e.g. production increases or more incentives to produce / government spending / revenue for farmers increase / demand contracts and supply extends (excess supply – unless already awarded in the diagram) / higher price in market (1+1).**
- **Consumer surplus falls / could be shown on diagram (1)**
- **Producer surplus rises / could be shown on diagram (1)**
- **Reduction in dependency on food imports / use of extract information**

Note: If no relevant diagram, award up to 4 marks in this section.

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

- **Depends on magnitude of minimum price above free market price.**
- **Minimum price might have no effect if set below free market price.**
- **Depends on price elasticities of demand & supply.**
- **Depends on how long the minimum price scheme is in operation.**
- **Impact on other countries e.g. dumping of food surpluses.**
- **Impact of higher food prices on the distribution of income.**
- **Discussion on perishability and costs of storing food surpluses.**
- **Discussion of how farmers may use their extra revenue e.g. investment.**
- **Opportunity cost to government spending on minimum price scheme.**
- **Discussion on quality of produce falling as farmers concentrate on maximising output.**
- **Discussion of government failure / misallocation of resources.**

NB: Do not accept argument on buffer stocks, unless the focus is on the minimum price rather than the maximum price.

(12)

Question Number	Answer	Mark
9(e)(i)	• Maximum of 2 marks available for private costs • Definition of private costs: (1+1) Costs internal to an exchange or a transaction / costs which the price mechanism take into account / costs to the consumer or producer directly for a good or service / financial cost or monetary cost to consumers or producer. Identification of an example of private cost e.g. wages, raw materials, rent and purchase of machinery (1). NB: 'cost to the individual or firm' is not enough for awarding a mark. Maximum of 2 marks available for external costs • Definition of external costs (1+1) • 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. • Identification of an example of external costs e.g. pollution, congestion (1) • Diagram showing private, external and social costs (1).	(4)

Question Number	Answer	Mark
9(e)(ii)	Award up to 6 marks for KAA NB: No marks for definitions of private costs and external costs as these have already been awarded in Q9e(i) • Application of private costs of intensive farming / GM farming e.g. research and development costs / labour costs / raw materials / machinery costs (1+1). • Application of external costs e.g. worse quality of food / public health issues / reduction in bio diversity / animal welfare / pesticides in rivers (1+1 marks).	

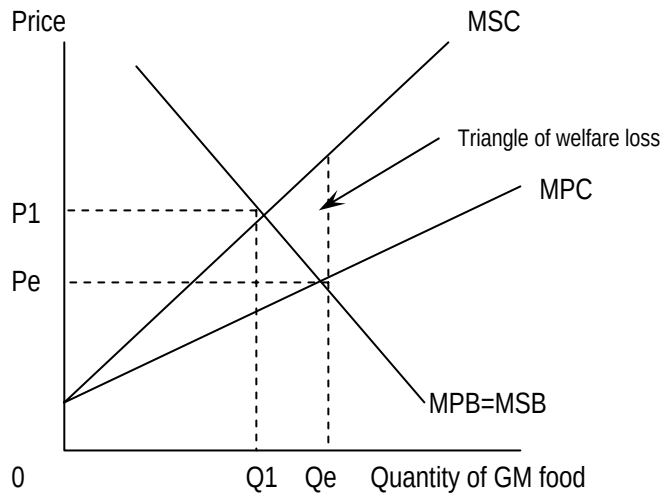


Diagram up to 4 marks:

- **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: 1 mark available if a demand and supply diagram is shown with supply shifting to the right, or written explanation to this effect.

NB: If no relevant diagram, award up to 4 out of 6 marks in this section.

Evaluation (3+3 or 2+2+2)

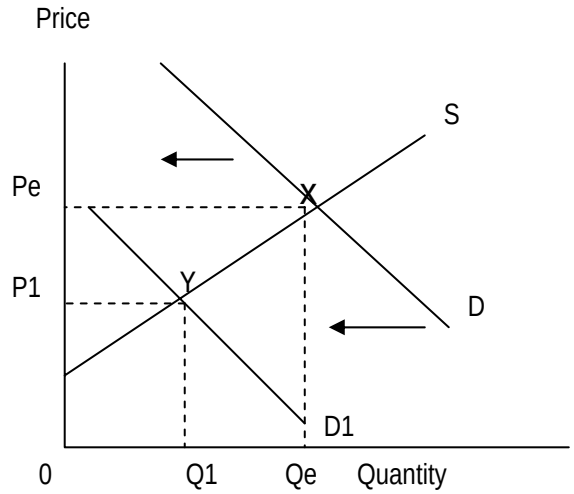
NB: if candidates refer to both positive or negative effects then accept one side for KAA and the other for evaluation.

- **Discussions of short run versus long run; GM farming may endanger food production in long run if smaller gene pool / intensive farming may damage soil fertility in long run.**
- **Discussion of loss of rare varieties of food products.**
- **Discussion of magnitude of intensive / GM farming. The UK is only half self-sufficient in food production and has acute shortage of farmland / perhaps GM farming has to be on a massive scale to have much impact.**
- **Discussion of the welfare loss triangle e.g. social costs outweighs social benefits for the marginal output QeQ1.**
- **Discussion of various benefits from intensive farming and genetically modified crops. These include:**
  Increase food production and so reduce danger of shortage / help protect against climate change / lower prices / increase consumer

(12)

	surplus and help low income groups / provide surpluses for people in developing countries / increase farm revenues and stabilise food prices / less pressure on grazing land in developing world. • Discussion of imperfect market knowledge / uncertainty over long-term impact of GM farming. • Discussion on whether costs outweigh benefits / cost-benefit analysis may be needed. • Discussion of government regulations on GM farming to protect consumers. • UK only produces 48% of its food so intensive / GM farming may be a necessary evil. • Intensive / GM farming may not have to be undertaken if people are more careful on consuming food they buy rather than throw so much away as mentioned in extract (lines 22 & 23); one-third of all food is thrown away.	

Question Number	Answer	Mark
10(a)(i)	Explanation of a decrease in sales up to 6 marks KAA: • Total revenue likely to decrease (do not award for stating decrease in demand)(1) • Data reference to Figure 1 e.g. fall in car sales from 2.4 million (2007) to 2.26 million (2008) or 2.16 million (2009). Be prepared to accept reference to falling car sales of 21.8% in the first 3 months of 2009. (1) • This is because price decreases and quantity decreases (1) • Definition of total revenue (total revenue gained by selling a given quantity of cars or price × quantity) (1)	

	 **Diagram up to 4 marks:** ➢ **Original demand and supply curves with equilibrium price(1)** ➢ **Decrease in demand curve (1)** ➢ **Original revenue (PeXQe0) OR (Pe x Qe)(1)** ➢ **New total revenue (P1YQ10) OR (P1 x Q1)(1)** **Note: If no diagram, award up to 4 marks in this section.** **Note: If the supply curve as well as demand curve is shifted, award a maximum of 2 marks.**	**(6)**

Question Number	Answer	Mark
10(a)(ii)	**Explanation KAA up to 4 marks** • **Demand for car workers will decrease (1)** • **Decrease in employment of car workers (1)** • **Decrease in wage rate of car workers or pay freeze (1)** **NB: Alternatively this may be shown by diagrammatic analysis of the labour market depicting an inward shift in the demand for labour / lower wages and employment (award 3 marks). Do not double award for both explanation and diagram.**	

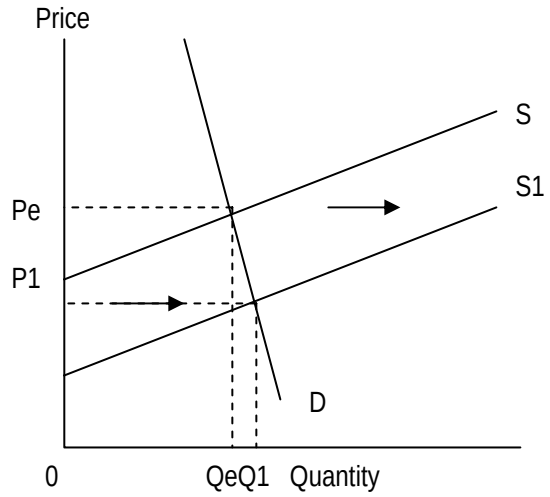
	NB: If two diagrams are shown – one for the car market and one for the car worker labour market which shows a decrease in demand for both (award 4 marks). • **Labour is a derived demand / demanded not for its own sake but for the goods it produces (1+1).** • **Data reference e.g. Nissan announced 1200 redundancies / Toyota has halved production shifts / Honda has reduced wages / GM may close its plants (1).** • **Change in working conditions e.g. shorter working week / flexible hours / sabbaticals / enforced holidays through temporary closure / underemployment (1+1).** **Evaluation (2 marks)** • **Magnitude of decrease in demand – very significant here. It may require retraining to provide new skills for car workers so they can move into different occupations.** • **Short run and long run implications e.g. Vauxhall may be seeking to hold on to its workforce by offering sabbaticals in anticipation of an upturn in sales.** • **Discussion on elasticity of demand or supply of labour.** • **Accept idea of an increase in demand for second hand car sales people or car mechanics.** • **Accept idea that wage rates may not fall too much due to the national minimum wage / strength of trade unions.** **Government grants / loans may reduce impact of job losses.**	**(6)**

Question Number	Answer	Mark
10(b)	**Explanation of KAA up to 6 marks** **Candidates may refer to both geographical and occupational mobility / immobility of labour.**	

	• Explanation / understanding of geographical immobility / mobility of labour (difficulty in relocating to other regions to take available work) (1) • Geographical mobility of labour will depend on individual e.g. age / family circumstances / knowledge of available jobs in other localities / house price differentials and rental differentials / removal costs (1+1+1). • Data reference e.g. Magna motor vehicle plants at Luton and Ellesmere Port – areas of high unemployment and so a labour immobility problem (1). • Explanation / understanding of occupational immobility / mobility of labour (difficulty in car workers taking available work in different occupations) (1) • Occupational mobility may be quite low as car work is highly specialised / occupational mobility is low and so retraining courses may be required for car workers / lack of government funds available for retraining / discussion on transferable skills (1+1+1). • Discussion on temporary plant closures – which may have little effect on mobility of labour if they reopen (1). Use of real life example (1)	(6)

Question Number	Answer	Mark
10(c)	**Explanation KAA up to 4 marks:** • **Definition or formula of income elasticity of demand (responsiveness of demand for a good due to a change in income). (1)** • **Demand for new cars appear income elastic since proportionate change in demand is greater than the proportionate change in income / OR YED is greater than 1 / OR use of figures (1)** • **Reference to the data: 1% fall in income has lead to a 21.8% fall in demand (1).** • **Calculation of income elasticity of demand is 21.8 (1).** **NB Do not award if answer states 21.8%** • **Cars are a normal good (accept luxury) / they have a positive income elasticity of demand (1).** • **Diagram depicting income elastic demand for new cars (1)** **Evaluation (2)** • **Depends on type of car e.g. luxury cars may have a different income elasticity of demand than smaller cars.** • **Discussion of second hand cars which may be less income elastic in demand. They may even be inferior goods.** • **YED for cars may change over time.** • **People unlikely to purchase new car if uncertainty over future employment prospects and lack of consumer confidence (income elastic).** • **Other factors e.g. the availability of finance might also be significant in determining changes in demand.**	**(6)**

Question Number	Answer	Mark
10(d)	**Explanation KAA of positive economic effects up to 6 marks (2+2+2 or 3+3):** **NB Candidates may present either positive or negative effects of the car scrappage scheme for KAA marks. Accept presentation of the alternative view as evaluation.** • **Benefits to motor vehicle firms include increase in sales, revenue and profits. Prevention of closure of factories.** • **Benefits to motor vehicle scrap dealers.** • **Benefits to motor vehicle workers include saving jobs or reducing the amount of redundancies.** • **Benefits to consumers include cheaper prices and more consumer surplus.** • **Benefits to government or macroeconomic arguments e.g. include less expenditure on unemployment-related benefits if redundancies reduced / possible fiscal neutral scheme as car sales bring in tax revenue.** • **Benefits to environment shown in Figure 2 in reduced CO_2 emissions / less external costs.** **Evaluation (2+2+2 or 3+3)** **This may refer to the costs of the scheme or reasons why the positive effects are not so significant / limitations of the car scrappage scheme.** • **Benefits not so significant since motor vehicle firms have to pay half of the grant to consumers / this could reduce profit margins and future investment.** • **Domestic car manufacturers may not benefit much since eight out of ten cars purchased are imported / however, UK car component suppliers may benefit more.** • **The more expensive car models are unlikely to benefit much from increased demand e.g. Jaguar and Land Rover, compared to the smaller, cheaper models of Ford Fiesta and Toyota Yaris.** • **Limited funding of scheme (just £300 million compared to the German**	

	government's £4.49 billion) / limited time span / job losses still being announced in motor vehicle industry. • Consumers are already receiving price discounts / so these could be simply transferred to the scrappage scheme. Some consumers may have bought new cars without the scheme / danger that firms raise prices and then lower them again so no real change in car prices. • Opportunity cost to government: taxpayers may lose out in form of higher taxes. • There are significant CO2 emissions in the production of motor vehicles / it may be more environmentally friendly to use existing cars rather than scrap for new ones.	(12)
Question Number	**Answer**	**Mark**
10(e)	Explanation KAA up to 6 marks • Definition of fuel duty / indirect tax (tax on expenditure of fuel) (1) • Explanation of diagram, e.g. decrease in motoring costs /encourage more consumption and production (1)  • Diagram (Up to 4 marks) ➢ Original demand & supply curve with equilibrium price and quantity (1) ➢ Outward shift of supply curve (1) ➢ New equilibrium price and quantity (1) ➢ Demand is price inelastic (1) ➢ Total expenditure on fuel is reduced (1) ➢ Identify the tax per unit (1) Note: If no diagram, or one which does not <u>implicitly</u> refer to <u>fuel market</u> then award up to 4 marks in this section. Note: If MPC, MSC and MB diagram used with tax being shown, award up to 4 marks.	

	• Reference to public transport, where there may be an increase or decrease in demand (1) • Fuel and cars are complementary goods / a fall in price of fuel will increase demand for cars (1+1) • Benefit to the motor vehicle industry, e.g. more revenue and profits (1) • Lower fuel prices may increase mobility of labour (1) • Benefit to low income motorists (1) • Accept macroeconomic argument, e.g. increased employment and incomes via the multiplier, impact on inflation (up to 2 marks) Evaluation (2+2+2 or 3+3) Candidates may refer to positive and negative effects of the fuel tax decrease for evaluation. • Magnitude of tax decrease. Tax still comprises the majority of fuel price at the pump. • Discussion of price elasticity of demand for fuel; it may be price inelastic and so have little impact for motorists. • Discussion of a reduction in possibility of fuel tax protests. Less disruption to economy. • Impact on economic recovery. It could increase investment in motoring industry / road transport industry. • Other factors may affect the impact of falling fuel prices, e.g. availability of loans to purchase cars. • Increase road traffic congestion. This could lead to higher transport costs in long run / increased negative externalities such as air and noise pollution. • Impact on government finances, e.g. it may worsen since demand for fuel is price inelastic.	(12)

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