



Economics Questions By Topic:

Subsidies (1.4.1) Mark Scheme

A-Level Edexcel Theme 1

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SECTION A

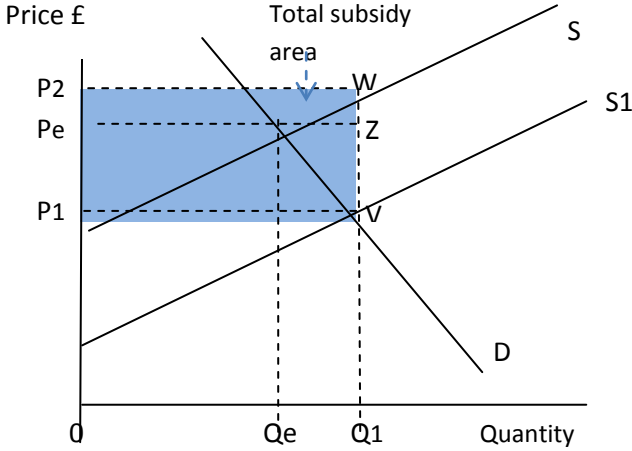
Question Number	Answer	Mark
1	The only correct answer is C <i>A is not correct because the supply curve shift has been ignored</i> <i>B is not correct because this is the cost to the consumer</i> <i>D is not correct because this is the total amount received by the producer</i>	(1)

Question Number	Answer	Mark
2(a)	Knowledge 1	
	<p>Knowledge</p> <p>1 mark for definition, e.g.</p> <ul style="list-style-type: none"> Government grant (1) or government policy designed to encourage production or consumption (1) money given (1) 	(1)

Question Number	Answer	Mark
2(b)	Knowledge 1	
	C	(1)

Question Number	Answer	Mark
2(c)	Application 2	
	<p>Application</p> <p>2 marks for e.g.</p> <ul style="list-style-type: none"> New supply curve drawn and labelled, showing an inwards/leftwards shift (1) New equilibria labelled, showing a rise in price and/or decrease in quantity (1) <p>OR</p> <p>2 marks for e.g.</p> <ul style="list-style-type: none"> New demand curve drawn and labelled, showing an inwards/leftwards shift (1) New equilibria labelled, showing a decrease in price and/or decrease in quantity (1) 	(2)

Question Number	Answer	Mark
3	<p>A (1 mark)</p> <ul style="list-style-type: none"> • Definition of subsidy (government grant to firms to increase production and lower price of a good). (1 mark) • The effects of the subsidy is to help reduce costs of production and so encourage firms to raise supply. (1 mark) • Consumer subsidy is $(P_e P_1 XY)$ and producer subsidy is $(P_e P_2 ZY)$. (1 mark) <p>Rejection marks</p> <ul style="list-style-type: none"> • Option B incorrect since producer surplus is area $(P_0 P_1 X)$ plus the subsidy area. (1 mark) • Option C incorrect as the consumer subsidy $(P_e P_1 XY)$ exceeds the producer subsidy of $(P_e P_2 ZY)$. (1 mark) • Option D incorrect – candidate needs to show the increase in consumer surplus or the new level of consumer surplus. (1 mark) 	(4)

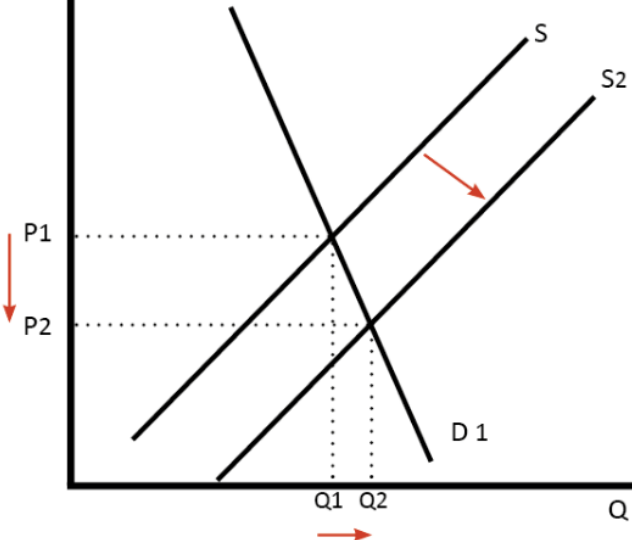
Question Number	Answer	Mark
4	<ul style="list-style-type: none"> • Answer D (1 mark) • Definition subsidy (government grant to firms to increase supply / lower price). (1 mark) • The effect of the subsidy is to act like a decrease in production costs. (1 mark) • Annotation of diagram or stating the area of consumer subsidy is $PeP1VZ$ and producer subsidy $PeP2WZ$. (1+1 marks) • The total subsidy is the unit subsidy $P1P2$ multiplied by total quantity $P1V$ (1 mark). <div style="text-align: center;">  <p>The diagram shows a supply and demand model. The vertical axis is labeled 'Price £' and the horizontal axis is 'Quantity'. A downward-sloping demand curve (D) and two upward-sloping supply curves (S and S1) are plotted. S1 is below S, indicating a decrease in production costs. The initial equilibrium is at price P_e and quantity Q_e. The new equilibrium after the subsidy is at price P_1 and quantity Q_1. A blue shaded rectangle represents the total subsidy area, bounded by price P_1, price P_2, quantity Q_1, and the vertical axis. Points W, Z, and V are marked at the intersections of the price lines with the supply and demand curves. A label 'Total subsidy area' with a blue arrow points to the shaded region.</p> </div> <p>Rejection marks</p> <ul style="list-style-type: none"> ➤ Option A incorrect since this is the total area of revenue in market. (OP_2WQ_1) (1 mark) ➤ Option B incorrect since this is the area of subsidy for producers (P_2WZP_e) (1 mark) NB: do not double award ➤ Option C incorrect since this is the area of subsidy for consumers (P_1VZP_e) (1 mark) NB: do not double award 	(4)

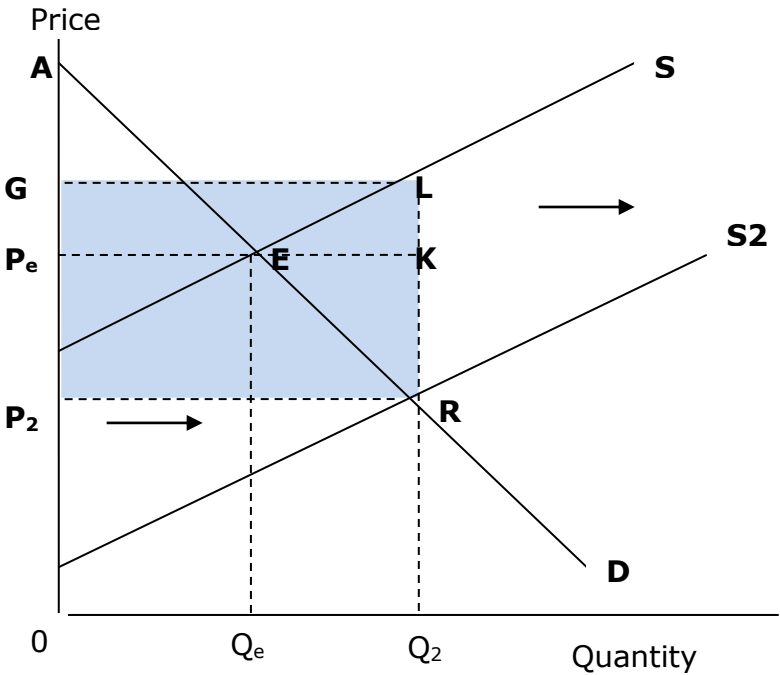
Question Number	Answer	Mark
5	<p>Correct option B (1 mark)</p> <ul style="list-style-type: none"> • Definition of subsidy (government grant to firms to increase production or lower price). (1 mark) • The subsidy acts to reduce production costs (or the withdrawal of a subsidy increases production costs)(1 mark) • NB: many candidates might include a reduction of production costs in the definition - the mark is awarded for the reduction in costs and not for the definition of subsidy. • Rail firms have less revenue to fund train services and so cut back on supply (1 mark) • NB Accept diagrammatic explanation which shows supply curve shifting inwards as subsidy is cut / with equilibrium price increasing. (1+1 marks) • NB: accept diagram depicting the imposition of a subsidy (1 mark) <p>Rejection marks</p> <ul style="list-style-type: none"> • Option A incorrect since external costs likely to increase as more people switch to motoring so more air pollution or congestion. (1 mark) • Option C incorrect since as demand for train services likely to fall due to higher rail fares. (1 mark) • Option D incorrect since air travel and train services are substitutes so an increase in train fares is likely to cause an increase in demand for air travel which raise air fares. (1 mark) 	(4)

Question Number	Answer	Mark
6	<ul style="list-style-type: none"> • D (1 mark) • Definition of subsidy (government grant to increase production / reduce price of a good) (1 mark). • The subsidy acts to reduce production costs (1 mark). • Diagram showing subsidy: increase in supply / original and new equilibrium price identified / subsidy area or unit subsidy identified (1+1 marks). • The subsidy will encourage people to buy electric powered cars which are more environmentally friendly (1 mark). <p>Rejection marks</p> <ul style="list-style-type: none"> • Option A or C incorrect as petrol powered cars / bus travel are substitutes (1 mark). • Option B incorrect since demand for electric cars will rise due the subsidy causing a fall in price (1 mark) 	(4)

Question Number	Answer	Mark
7	<p>Answer C (1)</p> <ul style="list-style-type: none"> • 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) <p>Rejection marks</p> <ul style="list-style-type: none"> • 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)

SECTION B

Question Number	Answer	Mark
8	<p style="text-align: center;">Knowledge 1, Application 1, Analysis 3</p> <p>Knowledge and Analysis: (up to 4 marks)</p> <p>Correctly labelled diagram annotated to show a shift right in the supply curve (2)</p> <p>e.g. rise in subsidy</p>  <p>NB: also accept a double shift right indicating an increase in subsidy.</p> <p>NB: also accept a rise in price, given prices annually linked to RPI, but less than it would have been.</p> <p>NB: 2 KAA marks are reserved for an accurate diagram</p> <p>Explanation that subsidy increase is a rise in financial assistance OR cut in cost of production OR additional cash grant (2)</p> <p>Explanation that decreasing costs borne by producers is passed on to consumers as a fall in rail fares OR excess supply results in fall in rail fares (2)</p> <p>Application: 1 for reference to Figure 1 e.g. subsidy rises around £11 million (1) subsidy rises from £277 million to £287.9 million (1) subsidy increased by 3.9% (1)</p>	(5)

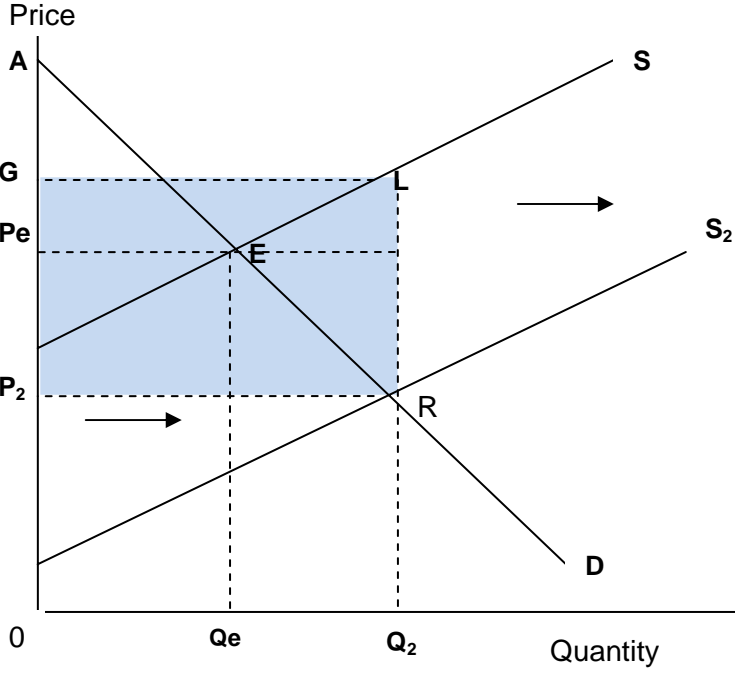
Question Number	Answer	Mark
9	<p>KAA = 8 marks</p> <ul style="list-style-type: none"> • Definition of subsidy (government grant to increase production or lower price of a good). (1 mark) • The subsidy acts to help reduce production costs. (1 mark) • Diagram of subsidies to renewable energy firms (up to 4 marks). <ul style="list-style-type: none"> ➤ Original demand and supply curves with equilibrium price and quantity (1) ➤ Shift the supply curve to the right with equilibrium price and quantity (increase) (1) ➤ Area of subsidy identified (GLRP₂) (this must be explicit) (1) ➤ Producer (GLKPe) and consumer (KRP₂Pe) subsidy areas identified (1) <div style="text-align: center;">  <p>The diagram is a standard supply and demand graph. The vertical axis is labeled 'Price' and the horizontal axis is labeled 'Quantity'. A downward-sloping demand curve 'D' starts at point 'A' on the price axis. Two upward-sloping supply curves are shown: 'S' and 'S2'. 'S2' is shifted to the right of 'S', as indicated by a rightward-pointing arrow between them. The initial equilibrium point 'E' is at the intersection of 'S' and 'D', with price 'Pe' and quantity 'Qe'. The new equilibrium point 'R' is at the intersection of 'S2' and 'D', with price 'P2' and quantity 'Q2'. A shaded blue rectangle 'GLRP2' is formed by the price axis, price 'G', price 'P2', and quantity 'Q2'. Point 'L' is at (Q2, G) on supply curve 'S', and point 'K' is at (Q2, Pe) on supply curve 'S2'. A horizontal dashed line connects 'G' and 'L', and another connects 'Pe' and 'K'. A vertical dashed line connects 'Qe' and 'E', and another connects 'Q2' and 'R'. The area between 'S' and 'S2' from 'Qe' to 'Q2' is shaded light blue, representing the total subsidy. The area between 'S' and 'S2' from 'Qe' to 'Q2' is divided into two parts: 'GLKPe' (the area between 'S' and 'S2' from 'Qe' to 'Q2' above 'Pe') and 'KRP2Pe' (the area between 'S2' and 'D' from 'Qe' to 'Q2' below 'Pe'). Arrows also point from 'Pe' to 'P2' and from 'Qe' to 'Q2'.</p> </div> <p>NB: If no suitable diagram provided, award a maximum of 6 KAA marks.</p>	

	<p>Positive effects include:</p> <ul style="list-style-type: none"> • Encourage energy firms to supply more renewable energy and reduce supply of non-renewable energy / increase diversity of energy supplies. (1+1 marks) • Reduce pollution associated with non-renewable resources / development of this point e.g. reduces growth in global warming. (1+1 marks) • Increase profits and revenue / employment creation in renewable energy sector. (1+1 marks) • Increase in consumer or producer surplus / annotation of area on diagram or written explanation. (1+1 marks) • Award macro economic benefits. (up to 2 marks) <p>Evaluation 6 marks (2+2+2 or 3+3 or 4+2 or any combination up to four points)</p> <ul style="list-style-type: none"> ➤ Opportunity cost of government spending on subsidies to renewable energy firms / money could be spent on healthcare and education. ➤ Discussion of significance of price elasticity of demand e.g. incidence of subsidy and impact on price and output. ➤ Discussion of magnitude and time period of subsidies – appear huge at £16.6 billion / development of point e.g. is the subsidy large enough to encourage investment into the renewable energy sector? / uncertainty of energy policy following change of government. ➤ Discussion of short run and long run e.g. time taken to build wind farms or possible withdrawal of subsidies. ➤ Extract 2 refers to the lack of competition in awarding of contracts with subsidies / consumers could end up paying higher prices / less choice / less quality of service provision. 	(14)
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- Firms may become inefficient due to receipt of funds from subsidies / firms may become dependent on government subsidies.
- Discussion of reliability of renewable energy / external costs associated with wind farms and solar farms.

The quality of written communication will be assessed in this question based on the candidate's ability:

- To present an argument and conclude on the basis of that argument.
- To organise information clearly and coherently.
- To use economics vocabulary appropriately.
- To use grammar, spelling and punctuation appropriately

Question Number	Answer	Mark
<p>10</p>	<p>KAA = 8 marks</p> <p>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.</p> <p>8 KAA marks</p> <ul style="list-style-type: none"> • Definition of subsidy (government grant to increase production or lower price of a good). (1 mark) • The subsidy acts to help reduce production costs. (1 mark) • Diagram of subsidies to fish farms (up to 3 marks). <ul style="list-style-type: none"> ➤ Shift the supply curve to the right (increase) (1) ➤ New equilibrium price and quantity (1) ➤ Area of subsidy identified (GLRP₂) (1)  <p>NB: If no suitable diagram provided, award a maximum of 4 KAA marks. However, remove cap if candidate shows original demand and supply curves.</p>	<p>(14)</p>

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)

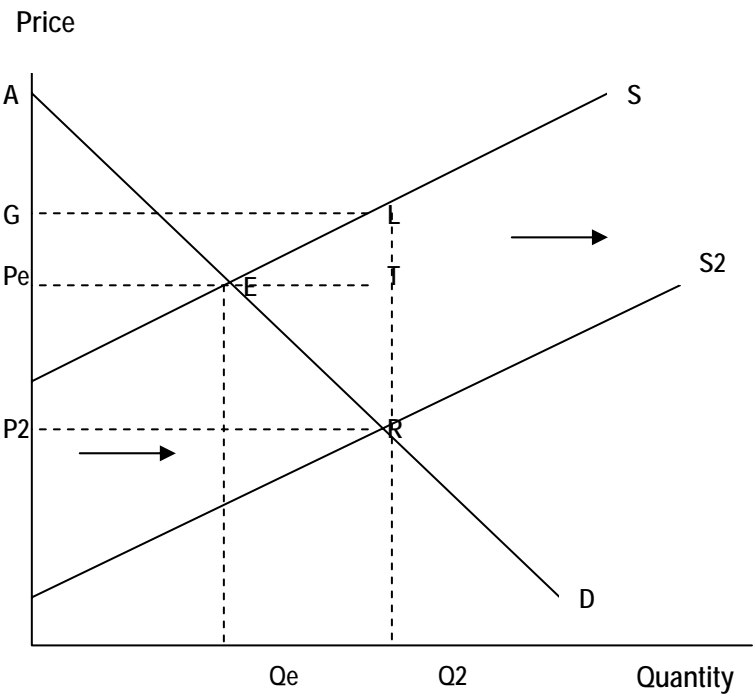
Negative effects:

- 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.

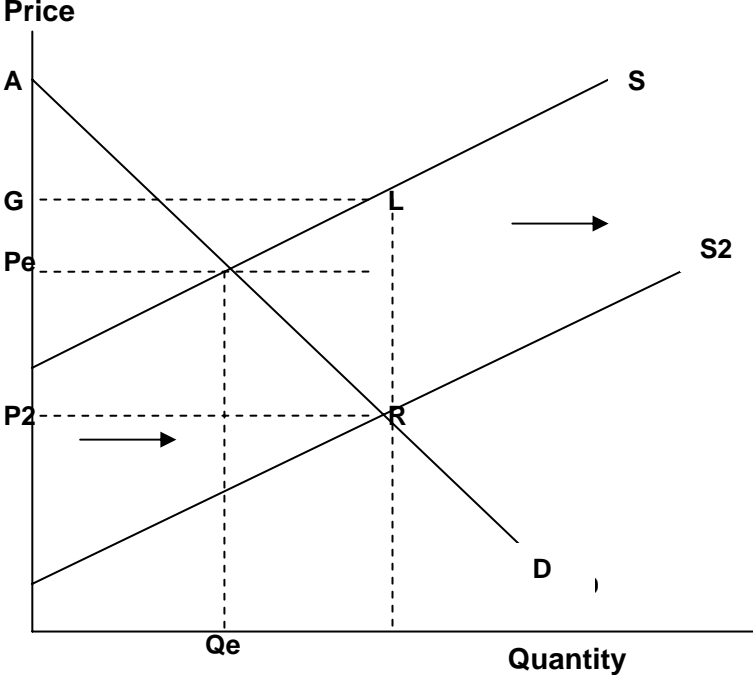
Level	Mark	Descriptor
Level 1	1-4	Definition of subsidy and description of its effects on price and output.
Level 2	5-8	Explanation of how fish farm subsidy might protect wild fish stocks.
Level 3	9-10	Up to one evaluation point for one limitation.
Level 4	10-12	Up to two evaluation points for two limitations.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

Question Number	Answer	Mark
11	<p>KAA = 8 marks</p> <ul style="list-style-type: none"> • Definition or understanding of sustainable development (development which enables future generations to access resources for further development) (1 mark) • Definition of government subsidy (grant to increase production or reduce price) (1 mark) • A subsidy has the effect of reducing production costs (1 mark) <p>Diagram of subsidy (up to 3 marks) or written explanation that supply increases resulting in an increase in production and this lowers price (1+1 marks).</p>  <p>Price</p> <p>Quantity</p> <ul style="list-style-type: none"> ➤ Increase in supply curve to S2 (1 mark) ➤ Original and new equilibrium price (1 mark) ➤ Subsidy area identified (GLRP2) (1 mark) <ul style="list-style-type: none"> • Benefit to local communities e.g. increase in employment and income / replanting forest and tourism is labour intensive / positive multiplier effects (1+1 marks). • Benefits to local communities e.g. maintain way of life / 	(14)

	<p>secure lifestyle or forest for future generations (1+1 marks).</p> <ul style="list-style-type: none"> • Benefit to environment: reduction in deforestation and thus carbon emissions / so less external costs. (1+1 marks). • Increase in consumer surplus and / or producer surplus (1 mark) • Accept macro arguments e.g. improve Balance of Payments on current account due to attracting more overseas visitors / increase foreign investment (1+1 marks). <p>Evaluation (2+2+2 or 3+3 or 2+2+1+1 marks)</p> <ul style="list-style-type: none"> ➤ Extract 2 mentions that the amount of funds available for sustainable development projects has yet to be announced by the government - it may be a very small amount and so little beneficial impact for protecting rainforest and so reducing global warming. ➤ Brazilian government might be able to obtain some funding of the project from overseas e.g. European Commission / World Bank, / International Monetary Fund. Protecting the rainforest could become part of the carbon trading scheme. ➤ Opportunity cost to government / higher taxes or borrowing or less spending elsewhere / affordability of scheme in time of slow global economic recovery. ➤ Discussion of the difficulty in quantifying and attaching a monetary value on the externality. ➤ There may be significant corruption which undermines the effectiveness of government subsidies to support sustainable development. ➤ Time period issue: the subsidies may be required for a very long time - raises issue of affordability. ➤ There may be a decrease in supply of beef and other crops, leading to higher prices / job losses and lower income / poverty and hunger. ➤ Government subsidies may lead to inefficiency and create a dependency culture. ➤ Discussion of price elasticity of demand of the sustainable development projects. 	
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Question Number	Answer	Mark
12	<p>KAA (Up to 8 marks)</p> <ul style="list-style-type: none"> • Definition of subsidy (government grant to increase production / lower price) (1 mark). • Reduction in the subsidy has the effect of increasing production costs (1 mark). <p>Diagram (up to 4 marks)</p> <ul style="list-style-type: none"> ➤ Original demand and supply curve before any subsidy (S_0) (1 mark) ➤ The supply curve with the full subsidy (S_1) (1 mark) ➤ The new supply curve after a cut in the subsidy (S_2) (1 mark) ➤ Any correct area of subsidy identified or shaded in e.g. (XYZP1) (1 mark) <p>Price</p> <p>NB: If no diagram provided then award a maximum of 6 KAA marks from the 8 available.</p> <ul style="list-style-type: none"> • It becomes harder for first-time buyers to get on property ladder / with development (1+1 marks). • The supply or quantity of affordable housing will be reduced / with development e.g. impact on low income families or inequality (1+1 marks). • It may reduce the consumer surplus or producer surplus / with development (1+1 marks). • Government finances may not improve if it is forced to 	(14)

	<p>spend more on housing benefits / Job Seeker's Allowance as builders become unemployed.</p> <ul style="list-style-type: none"> • It may lead to a decrease in economic activity in the house building sector / such as falling employment or wages or profits and revenue. (1+1 marks). • It may increase demand for substitute accommodation / such as council or private rented properties (1+1 marks). • It may reduce the geographical mobility of labour / especially for areas where property prices are very high (1+1 marks). <p>Evaluation (2+2+2 or 3+3 marks)</p> <ul style="list-style-type: none"> ➤ Discussion of magnitude of the cut - 30% reduction (but 70% of funding for affordable new builds still exist. It also depends upon the size of government subsidy here in relation to overall new build housing market. ➤ Discussion of the time period in which the spending cut occurs - it may be prolonged over several years given the state of government finances. ➤ Private sector firms or charities may be able to fill the gap left by government funding cuts to new build housing. ➤ Some homeowners may benefit due to possibility of house prices rising / wealth effect. ➤ Opportunity cost: it may improve government finances / reduce budget deficit or national debt / provides funds for other uses e.g. healthcare. ➤ Substitute accommodation e.g. council housing is simply not available in the quantities needed. Private rental housing is too expensive. ➤ Discussion of cross elasticity of demand between private new builds and rental property. ➤ Discussion on economic efficiency among building firms as they become less reliant upon government subsidies. 	
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Question Number	Indicative content
13	<p>KAA 6 marks</p> <ul style="list-style-type: none"> • Definition of a subsidy (government grant to firms) (1 mark) • Written explanation: subsidy should reduce price and increase quantity of rail and bus travel (1 mark) • Subsidy acts to reduce production costs (1 mark) • Benefits include: (1+1+1+1 marks) <ul style="list-style-type: none"> ➤ increase in quality of bus and rail services such as frequency, reliability and cleanliness ➤ increase in consumer surplus ➤ increase in producer surplus ➤ increase in employment in rail and bus travel industries ➤ less congestion on roads / less environmental pollution ➤ Help low income groups <p>Subsidy diagram (up to 3 marks)</p> <ul style="list-style-type: none"> ➤ Shift of supply curve to the right (1) ➤ New equilibrium price and quantity (1) ➤ Subsidy area (GLRP2) (1) ➤ Incidence of subsidy area between consumers and producers (1)  <p>NB: Accept MSB, MPB and MSC diagram NB: Award a maximum of 3 KAA marks in this section if no</p>

		<p>diagram provided</p> <p>Evaluation (2+2 marks)</p> <ul style="list-style-type: none"> • Discussion on magnitude of subsidy e.g. a small subsidy will have relatively little impact. • Discussion on the time period in which subsidy may be offered e.g. a short period of time will have relatively little impact. • Discussion on the time to implement improvements in bus and rail travel, for example, provision of additional buses and trains. • Discussion of impact on government finances: an opportunity cost / taxes may have to rise / government spending may fall elsewhere / increase in government borrowing / impact on future generations. • Discussion of price elasticity of demand, that is, public take-up of cheaper bus and rail travel. This could include consideration of the incidence of subsidy between producers and consumers. • The subsidy may lead to inefficiency in bus and rail travel as firms become dependent on government funds.
Level	Mark	Descriptor
Level 1	1-2	Definition / explanation of one benefit of a subsidy
Level 2	3-4	Explanation of two benefits of a subsidy
Level 3	5-6	Diagrammatic analysis showing a subsidy
Level 4	7-10	One or more evaluation points offered