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| 3 | **QS8**: Make calculations of elasticity and interpret the result<br>**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms | **The only correct answer is A**<br><br>**B** is not correct because the data provided are for cross elasticity of demand and not income elasticity of demand<br>**C** is not correct because unrelated goods would have an XED of zero<br>**D** is not correct because complements have an XED which is negative | **(1)** |

| Question | Quantitative skills assessed | Answer | Mark |
|---|---|---|---|
| 1 | **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms | **The only correct answer is B**<br><br>**A** is not correct because an economic good has an opportunity cost<br>**C** is not correct because when providing a public good other items may be sacrificed<br>**D** is not correct because investing in a capital good has an opportunity cost in terms of consumer goods | **(1)** |

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| 2 | **QS2:** Calculate, use and understand percentages, percentage changes and percentage point changes<br>**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms | **The only correct answer is B**<br><br>**A** the largest percentage decline in the use of the non-renewable resource was in the USA<br>**C** is not correct because in all countries the use of the non-renewable resource decreased<br>**D** is not correct because in all countries the use of the renewable resources increased | **(1)** |

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| 3 | **QS8**: Make calculations of elasticity and interpret the result<br>**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms | **The only correct answer is C**<br><br>**A** is not correct because the PED value for diesel is the only type of car whose demand is inelastic<br>**B** is not correct because the demand for petrol and electric cars is elastic<br>**D** is not correct because the demand for electric cars is elastic so increasing the price will result in a decrease in total revenue | **(1)** |

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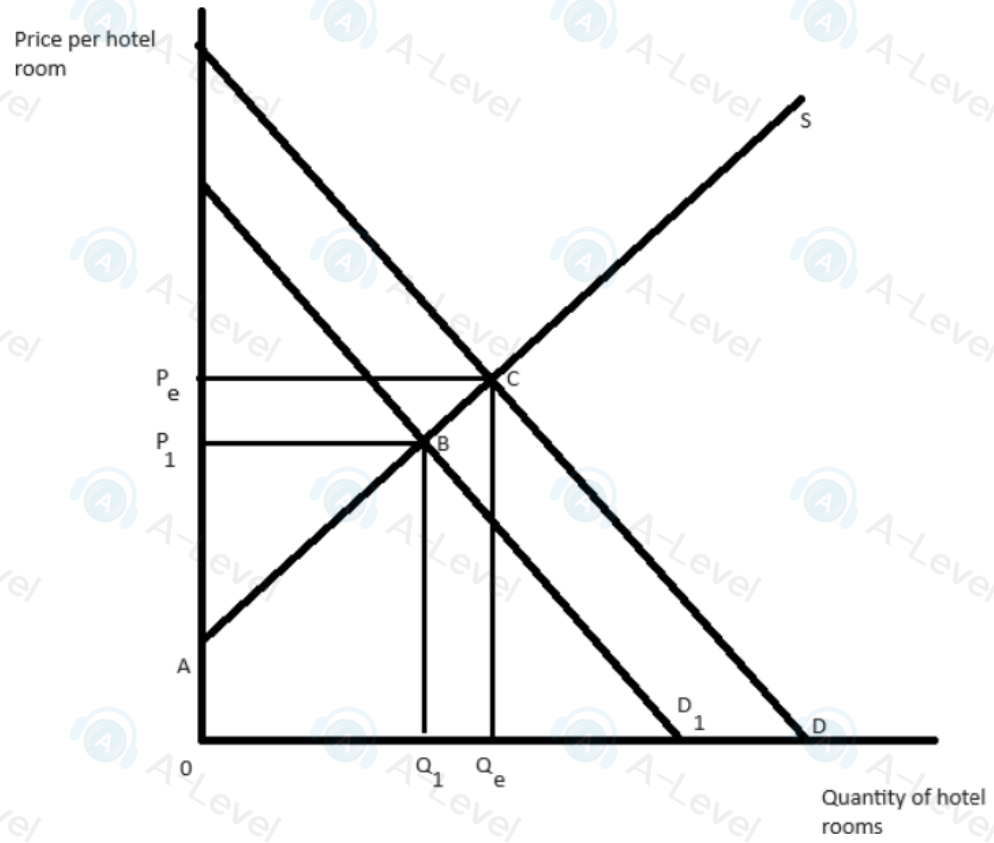
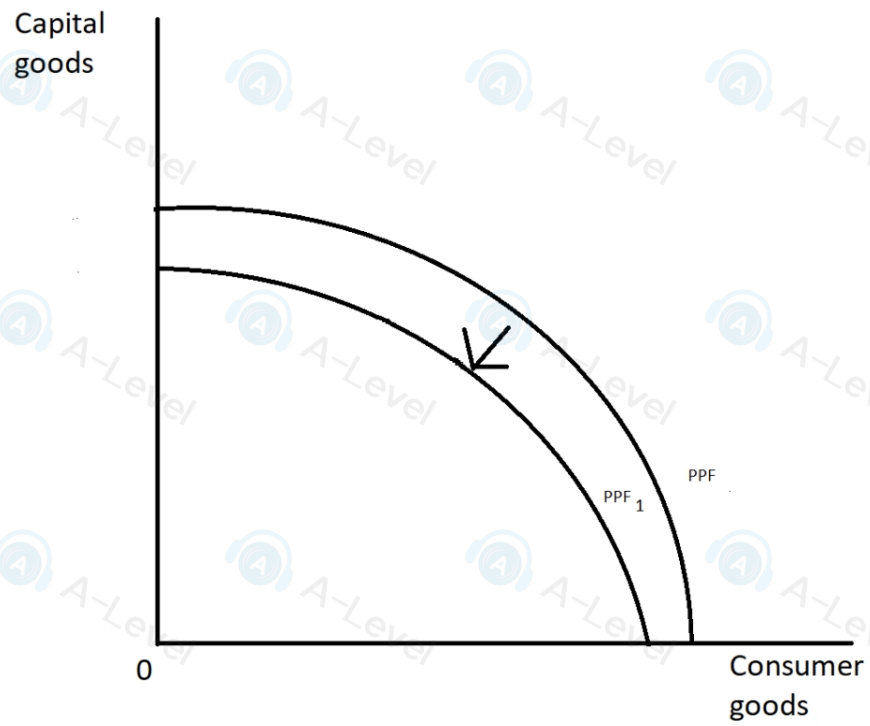
| **3** | **QS8**: Make calculations of elasticity and interpret the result<br>**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms | **The only correct answer is D**<br><br>**A** is not correct because there is no information on income elasticity of demand<br>**B** is not correct because substitute goods have a positive XED<br>**C** is not correct because the value of XED is not zero | **(1)** |
| **4** | **QS4**: Construct and interpret a range of standard graphical forms<br>**QS8**: Make calculations of elasticity and interpret the result<br>**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms | **The only correct answer is C**<br><br>**A** is not correct because the PED will be 0<br>**B** is not correct because the PED will be between 0 and -1<br>**D** is not correct because the PED will be -infinity | **(1)** |

| Question | Between 2019 and 2022 the number of international visitors to Czechia decreased from 6.8 million to 4.5 million.<br>Ceteris paribus, explain the likely impact on the producer surplus in the hotel market in Czechia.<br>Illustrate your answer with a supply and demand diagram.<br><br>**Answer** | **Mark** |
|---|---|---|
| **11** | **Knowledge 1, Application 1, Analysis 2**<br>Quantitative skills assessed:<br>**QS4**: Construct and interpret a range of standard graphical forms<br>**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms.<br><br>**Knowledge**<br>1 mark for definition of producer surplus e.g.:<br>• Producer surplus is the difference between the amount a producer is willing to sell a good for and the price they actually receive/ shown by the difference between the supply curve and the market equilibrium price **(1)**<br><br>**Application**<br>1 mark for inwards/leftwards shift of demand **(1)**<br><br>  <br><br><br>**Analysis**<br>Up to 2 marks for showing the change in producer surplus<br>• Producer surplus decreases **(1)** by $BCPeP_1$ **(1)**<br>**Or**<br>• Original producer surplus ACPe **(1) and** New producer surplus $ABP_1$ **(1)** | **(4)** |

| Question Number | Lithuania's population decreased from 3.7 million in 1989 to 2.9 million in 2015.<br>Ceteris paribus, explain the likely impact of this change in population on Lithuania's production possibility frontier (PPF). Illustrate your answer with a diagram.<br>Answer | Mark |
|---|---|---|
| **11** | **Knowledge 1, Application 1, Analysis 2**<br>Quantitative skills assessed:<br>**QS4**: Construct and interpret a range of standard graphical forms<br><br>**Knowledge**<br>1 mark for defining production possibility frontier:<br>• PPF is the maximum production potential using all available resources **(1)**.<br><br>**OR**<br><br>1 mark for original PPF on diagram | |
| | **Application**<br>1 mark for the following diagram, showing the shift in PPF:<br><br>  <br><br><br>**OR**<br><br>1 mark for reference to stem:<br>• Population has decreased by 0.8m | |

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| | **Analysis**<br>Up to 2 marks for likely impact of this change:<br>• Production possibilities fall **(1)** as less labour is available **(1)**.<br>• Lithuania has fewer factors of production **(1)** so it can produce fewer consumer and capital goods **(1)**.<br>• Economic growth rate is likely to decline **(1)** as it has a smaller labour force **(1)**. | **(4)** |

| Question | *Ceteris paribus,* calculate the income elasticity of demand for new cars. Show your workings.<br><br>**Answer** | Mark |
|---|---|---|
| 10 | **Knowledge 1, Application 3**<br>Quantitative skills assessed:<br>**QS2** Calculate, use and understand percentages, percentage changes and percentage point changes<br>**QS8:** Make calculations of elasticity and interpret the result.<br>**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms<br><br>**Knowledge**<br>1 mark for definition/the formula income elasticity of demand<br>% change in quantity demanded<br>% change in income **(1)**<br><br>**Application**<br>Up to 3 marks for calculations:<br>• Change in quantity of car sales<br>23.56m – 21.52m = 2.04<br>Change in quantity ÷ original quantity x 100<br>2.04m ÷ 21.52m x 100= 9.48% **(1) 9.4795539033**<br><br>• Change in income<br>114 029 – 106 837 = 7 192<br>Change in income ÷ original income x 100<br>7 192 ÷ 106 837 x 100= 6.73% **(1) 6.7317502363**<br><br>% change in quantity demanded<br>% change in income<br><br>9.48 ÷ 6.73<br>= + 1.41 **(1)**<br><br>**Accept reasonable rounding e.g.**<br>9.5 ÷ 6.7<br>**=** +1.42<br><br>**NB: if correct answer (e.g. 1.41, 1.409, 1.4086, 1.408, 1.408186, 1.42) is given, award full marks regardless of working.**<br>**Accept reasonable rounding from full calculation**<br>**If 1.41% or -1.41 is given award 3 marks** | **(4)** |

| Question | With reference to Zimbabwe, explain the difference between a 'specific tax' and an 'ad valorem tax'.<br><br>**Answer** | **Mark** |
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| **9** | **Knowledge 2, Application 2**<br><br>**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms.<br><br>**Knowledge**<br>1 mark for definition of specific tax e.g.:<br>• A fixed amount/set amount of tax added on a particular good/where there would be a parallel shift in supply **(1K)**<br>Reward correctly drawn diagram clearly identified as specific<br>1 mark for definition of ad valorem tax<br>• A percentage tax based on the price of the item/ where there would be a pivot of the supply curve **(1K)**<br>Reward correctly drawn diagram clearly identified as ad valorem<br><br>**Application**<br>Up to 2 marks for applying to stem e.g.:<br>• Tax on energy drinks of $0.05 per litre/smartphones of $50 per device are specific **(1AP)**<br>• VAT (consumption tax) raised from 14.5% to 15% is ad valorem **(1AP)** | **(4)** |

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| **9** | **Knowledge 2, Application 2**<br><br>**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms.<br><br>**Knowledge**<br>1 mark for definition of normative statements e.g.:<br>• Statements that contain value judgements/ cannot be proven/ not based on fact/ subjective **(1K)** 1 mark for definition of positive statements<br>• Statements that are value free/ can be proven/ based on fact/ objective **(1K)**<br><br>**Application**<br>Up to 2 marks for applying to stem e.g.:<br>• Statement 1 is positive **(1AP)**<br>• Statement 2 is normative **(1AP)** | **(4)** |

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| **12 (a)** | **Knowledge 2**<br>**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms.<br>Up to 2 marks for understanding of 'speculation.' e.g.:<br>• Buying and selling of commodities/assets **(1)** in the hope that the commodities/assets will become more valuable **(1)**<br>• Taking a risk in buying a commodity/asset **(1)** in the expectation that it will increase in value **(1)**<br>• Buying large amounts of a product **(1)** in the hope that it increases in price **(1)**<br>• Investors/speculators purchasing items at a low price **(1)** to sell at a higher price/to make a profit **(1)**<br>• Speculation can result in a market bubble **(1)**<br>• Speculation is a type of market failure **(1)**<br>• Speculators bought significant amounts of uranium accounting for 25% of annual demand **(1)** | **(2)** |

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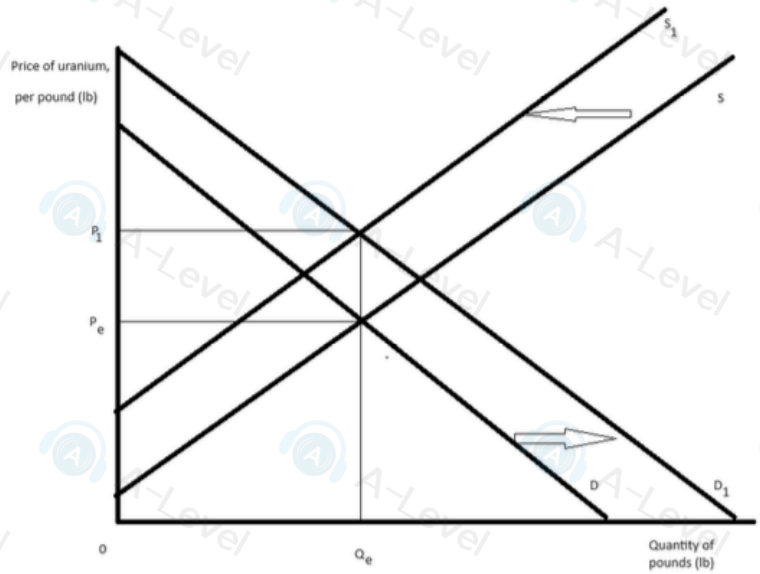
| **12 (b)** | **Knowledge 2, Application 2, Analysis 2**<br>Quantitative skills assessed:<br>**QS4**: Construct and interpret a range of standard graphical forms<br>**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms.<br><br>**Knowledge**<br>Up to 2 marks for the diagram showing:<br>• Original supply, demand and equilibrium price and quantity **(1)**<br>• New equilibrium quantity and increased price **(1)**<br><br>**Analysis**<br>1 mark for demand factor from Extract A:<br>• Governments increasing nuclear power generation **/**<br>• Unstable supply of gas and rise in its price **/**<br>• Governments need to reduce carbon emissions **/**<br>• Speculators bought significant amounts of uranium accounting for 25% of annual demand **(1)**<br><br>1 mark for supply factor from Extract A:<br>• In France production was disrupted by a lack of critical chemicals **/**<br>• Worlds largest supplier/Kazakhstan had problems with shipping its uranium out of the country **/**<br>• Canada had problems at two mines that reduced production by 9% **(1)**<br><br>**Application**<br>Up to 2 marks for diagram or for reference to Figure 1.:<br>• Shift demand curve to the right **(1)**<br>• Shift supply curve to the left **(1)**<br>• Figure 1- price rises from approximately $24/25 to approximately $53/54 per pound (lb) between January 2020 and September 2023 **(1)** |




**NB** if two separate diagrams award maximum of 5/6 marks

**NB**- price must rise but quantity may rise, fall or stay the same

**(6)**

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| **12 (c)** | **QS8:** Make calculations of elasticity and interpret the result. **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms.<br><br>**Knowledge 2 Application 2**<br><br>**Knowledge**<br><br>**Up to 2 marks for any two of the following:**<br><br>Formula or definition of price elasticity of supply e.g.<br>• The responsiveness of quantity supplied to a change in price **(1)**<br><br>Understanding of price elastic supply, e.g.<br>• Elastic: A value above 1/ a larger than proportional change in quantity supplied to a change in price **(1)**<br><br>Understanding of price inelastic supply, e.g.<br>• Inelastic: A value between 0 and 1/ a smaller than proportional change in quantity supplied to a change in price **(1)**<br><br>**Application**<br>1 mark for application explicitly to Extract B:<br>• It took on average 7.5 years to construct each nuclear reactor **/**<br>• One reactor in Argentina took 33 years to construct **(1)**<br>1 mark for identifying the price elasticity of supply for nuclear reactors<br>• price inelastic supply **(1)** | **(4)** |

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| **12(d)** | **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms.<br><br>**Knowledge 2, Application 2, Analysis 2, Evaluation 2**<br><br>**Knowledge and Analysis**<br>2 marks for identifying effects and 2 marks for linked explanation, e.g.:<br>• Consumers may switch to less polluting fuels **(1K)** as the price increases for coal **(1AN)**<br>• Lower levels of external costs **(1K)** as quantity consumed will decrease **(1AN)**<br>• Government raises tax revenue **(1K)** that can be used to compensate those affected by coal consumption **(1AN)**<br>• Diagram showing leftward shift or pivot of supply curve **(1K)** and showing impact on price/quantity/incidence of tax/tax revenue **(1AN)**<br>• The number of premature deaths may be avoided **(1K)** as the tax increases the costs of producing coal **(1AN)**<br>• Producers may substitute to other sources **(1K)** like oil which could emit harmful carbon emissions/ like renewables which will reduce carbon emissions **(1AN)**<br>• Increase costs of production **(1K)** resulting in a contraction of demand **(1AN)**<br>• Consumer surplus will decrease **(1K)** referring to original and new area on diagram **(1AN)**<br>• Producer surplus will decrease **(1K)** referring to original and new area on diagram **(1AN)**<br><br>**Application**<br>Up to 2 marks for application to Extract C<br>• In 2018 coal accounted for 40% of energy generated in Indonesia **(1AP)**<br>• Caused 95 155 premature deaths in 2018 **(1AP)**<br>• The tax is expected to raise $3.6 billion per year **(1AP)**<br>• 1.96 million people are employed in coal mining **(1AP)**<br>• Coal exports earn $19 billion per year **(1AP)**<br><br>**Evaluation**<br>Up to 2 marks for evaluative comments (2+0 or 1+1), e.g.:<br>• It may take time for producers to switch from coal to other alternatives **(1+1)**<br>• $3.6bn is a substantial amount of money raised by the government enabling significant compensation for those negatively affected by coal production **(1+1)**<br>• Employment in the coal industry may fall having a significant impact, since 1.96 million people were employed in 2019 **(1+1)**<br>• Depends on the size of the tax **(1)**<br>• Depends on the PED/PES **(1)**<br><br>**NB** Positive points may be presented as KAA and negative as EV or vice versa | **(8)** |

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| | **NB** Responses must have a micro-economic focus e.g. employment effects on coal industry and not macroeconomic effects e.g. increased unemployment | |

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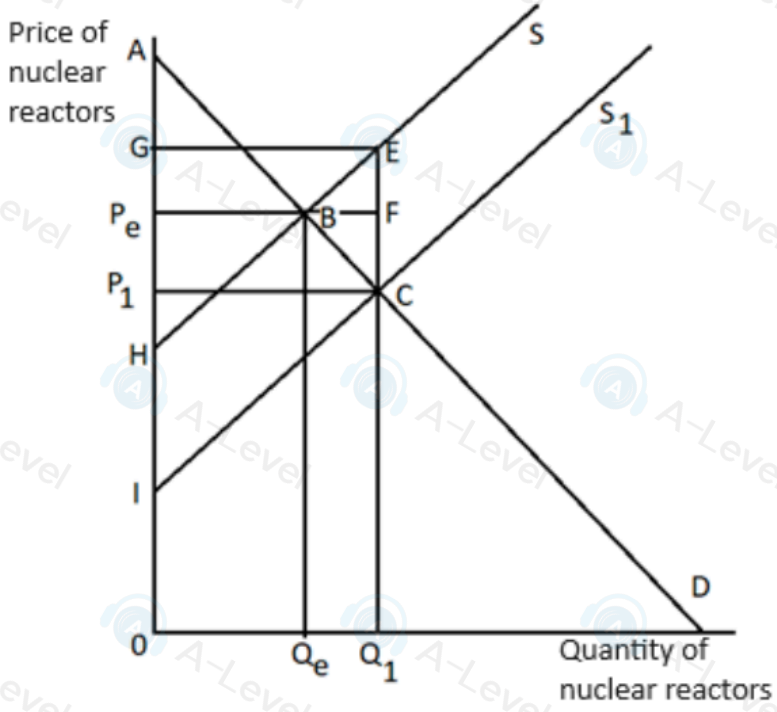
| **12(e)** | **Indicative content guidance**<br>Answers must be credited by using the level descriptors (below) in line with the general marking guidance.<br>The indicative content below exemplifies some of the points that candidates may make but this does not imply that any of these must be included. Other relevant points must also be credited.<br><br>**Quantitative skills assessed**<br>**QS4**: Construct and interpret a range of standard graphical forms<br>**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms.<br><br>**Knowledge, Application and Analysis (8 marks) – indicative content**<br>• Subsidies- cash grant to encourage production and consumption<br>• Which reduces the cost of production<br>• In 2021 the UK Government provided subsidies of £1.7 billion<br>• In 2023 the Government of China provided $17 billion in subsidies for the building of six new reactors<br>• The Government of South Korea will spend $515 million subsidising the nuclear industry<br><br>Subsidy diagram<br>  <br><br>Consumers<br>• Price paid lowers from $P_e$ to $P_1$<br>• Consumer surplus increases from $ABP_e$ to $ACP_1$<br>• Quantity consumed increases from $Q_e$ to $Q_1$<br>• Consumer subsidy is FC $P_1$ $P_e$<br>• Consumers extend their demand from B to C<br><br>Government |

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| | • Increased welfare of its citizens as they can now access cheaper nuclear energy<br>• Popular amongst voters as it reduces use of carbon-producing fossil fuels<br>• Boosts energy production creating economic growth<br><br>**N.B.** Award a maximum of level 2 if candidates do not discuss both governments and consumers in their answer<br>**N.B.** Award a maximum of level 2 if candidates do not draw a relevant diagram<br>**NB** Positive points may be presented as KAA and negative as EV or vice versa |

| G | Mark | Descriptor |
|---|---|---|
| | 0 | No rewardable material |
| **Level 1** | 1–3 | Displays isolated, superficial or imprecise knowledge and understanding of economic terms, principles, concepts, theories and models.<br>Use of generic material or irrelevant information or inappropriate examples.<br>Descriptive approach, which has no chains of reasoning. |
| **Level 2** | 4–6 | Displays elements of knowledge and understanding of economic terms, principles, concepts, theories and models.<br>Ability to apply knowledge and understanding to some elements of the question. Some evidence and contextual references are evident in the answer.<br>Chains of reasoning in terms of cause and/or consequence are evident but they may not be developed fully or some stages are omitted. |
| **Level 3** | 7–8 | Demonstrates accurate and precise knowledge and understanding of economic terms, principles, concepts, theories and models.<br>Ability to link knowledge and understanding in context using relevant examples which are fully integrated to address the broad elements of the question.<br>Analysis is clear, coherent, relevant and focused. The answer demonstrates logical and multi-stage chains of reasoning in terms of cause and/or consequence. |

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| | **Evaluation (6 marks) – indicative content**<br>• Magnitude- depends on the level of the subsidy set- $17billion in China likely to have a more substantial impact than in South Korea where $515m subsidy<br>• Short-run/long-run effects of subsidy- especially given the time it take to build<br>Consumers<br>• Nuclear power may be preferred to fossil fuels by final consumers but may be less popular than renewable alternatives<br>• Final consumers may face an information gap around nuclear production/subsidies<br>• The impact on consumer surplus/consumer subsidy depends on the PED and PES for nuclear power<br>Government<br>• Spending by the government will be the area $ECP_1G$<br>• Opportunity cost- the money spent on nuclear subsidies cannot be used elsewhere<br>• Removing the subsidies is difficult- and will be needed for a long time<br>• Large projects often result in overspending<br>• The government may become unpopular because the public may object to nuclear power |

| Level | Mark | Descriptor |
|---|---|---|
| | 0 | No rewardable material. |
| **Level 1** | 1–2 | Identification of generic evaluative comments.<br>No supporting evidence/reference to context.<br>No evidence of a logical chain of reasoning. |
| **Level 2** | 3–4 | Evidence of evaluation of alternative approaches.<br>Some supporting evidence/reference to context.<br>Evaluation is supported by a partially-developed chain of reasoning. |
| **Level 3** | 5–6 | Evaluation recognises different viewpoints and/or is critical of the evidence.<br>Appropriate reference to evidence/context.<br>Evaluation is supported by a logical chain of reasoning. |