3	**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms	**The only correct answer is B** **A** is not correct because furniture is not purchased using forward markets **C** is not correct because smartphones are not traded on forward markets **D** is not correct because clothing is not traded on forward markets	**(1)**

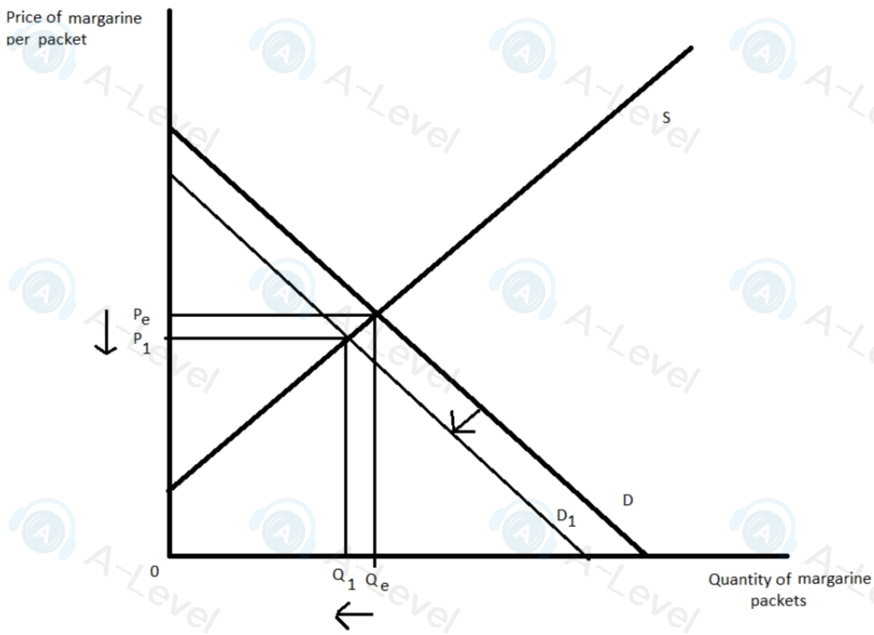
5	**QS9**: Interpret, apply and analyse information in written, graphical and tabular forms	C	**(1)**

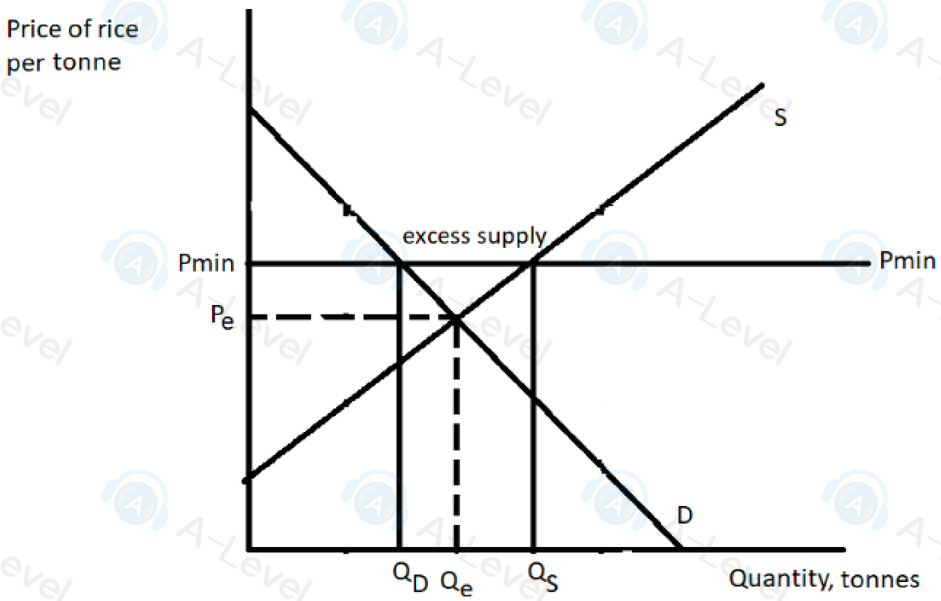
5	**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms	**The only correct answer is C** **A** is not correct because if consumers experienced inertia they would not have used the energy to cancel their subscription **B** is not correct because if consumers experienced habitual behaviour they would keep their Amazon subscription **D** is not correct because rational consumers maximise their utility by switching	**(1)**

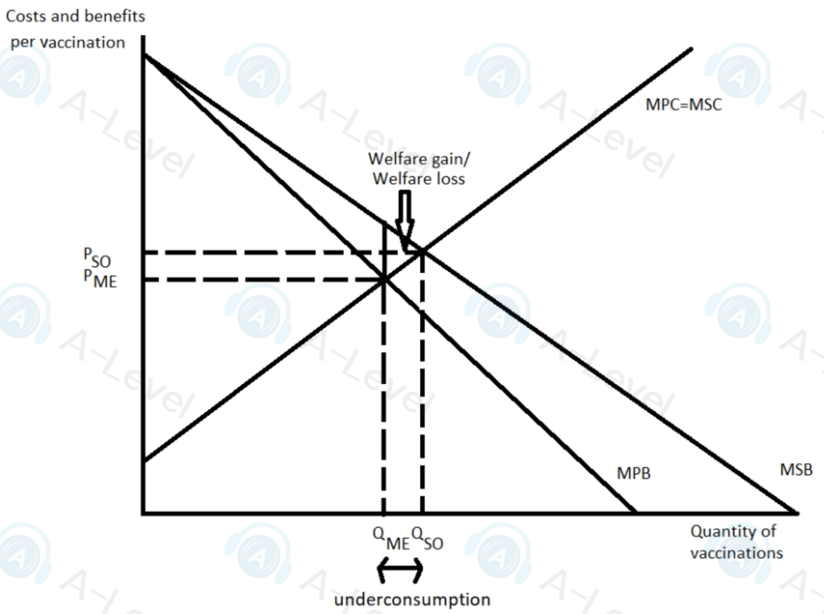
5	**QS4**: Construct and interpret a range of standard graphical forms **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms	**The only correct answer is B** **A** is not correct because renewable resources generated 39% which is less than 50% **C** is not correct because non-renewable resources generated 61% of electricity **D** is not correct because renewable resources generated 39% of electricity	**(1)**

6	**QS8**: Make calculations of elasticity and interpret the result	**The only correct answer is C** ***A*** *is not correct as demand would increase 24.6%* ***B*** *is not correct as demand would increase 14.8%* ***D*** *is not correct as demand would fall as the good is inferior*	**(1)**

2		**The only correct answer is C** **A** is not correct because increased boredom is a disadvantage **B** is not correct because costs to make each garment are likely to decrease **D** is not correct because less time will be required for training as they focus on fewer parts of the production process	**(1)**

Question	Draw a diagram to illustrate the likely impact of this increase in real incomes on the equilibrium price and quantity of margarine. **Answer**	Mark
7	**Knowledge 1, Application 3** Quantitative skills assessed: **QS4**: Construct and interpret a range of standard graphical forms **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 1 mark for showing knowledge on diagram • Original supply and demand and correctly labelled axes **(1)** **Application** Up to 3 marks for the following information included on diagram: • Leftward shift of demand **(1)** • Original equilibrium price and quantity **(1)** • New equilibrium price and quantity **(1)** 	**(4)**

Question	Draw a diagram to illustrate the impact of the introduction of this minimum price for rice. **Answer**	Mark
7	**Knowledge 1, Application 3** Quantitative skills assessed: **QS4**: Construct and interpret a range of standard graphical forms **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 1 mark for showing knowledge on diagram • Original supply and demand **(1)** **Application** Up to 3 marks for the following information included on diagram: • Minimum price above equilibrium price **(1)** • Quantity demanded and supplied at minimum price **(1)** • Excess supply/surplus **(1)**  	**(4)**

Question Number	Answer	Mark
7	**Knowledge 1, Application 3** Quantitative skills assessed: **QS4**: Construct and interpret a range of standard graphical forms **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 1 mark for showing knowledge on the diagram • MPB and MSB drawn in correct positions **(1)** **Application** Up to 2 marks for the following information included on diagram: • Market equilibrium **(1)** • Social optimum **(1)** • Welfare gain/loss triangle **(1)** 1 mark for the following information included on diagram or referred to in written explanation: • Clearly identifying the size of the underconsumption **(1)**	
		**(4)**

]Question	With reference to the table, explain one factor likely to influence the price elasticity of demand for energy. **Answer**	**Mark**
8	**Knowledge 1, Application 1 Analysis 2** Quantitative skills assessed: **QS8**: Make calculations of elasticity and interpret the result **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 1 mark for understanding of 'price elasticity of demand' • %Δ in Qd/ %Δ in P/ responsiveness of quantity demanded to a change in price **(1)** **Application** 1 mark for reference to data • PED in Australia/Japan/India/Philippines is relatively inelastic / All 4 countries have price inelastic demand/ PED in Australia is -0.04/ Japan -0.12/ India -0.15/ Philippines -0.35/most inelastic in Australia/ least inelastic in Philippines **(1)** **Analysis** Up to 2 marks for analysis • Necessity of energy **(1)** if consumers regard it as essential they will not change consumption when prices rise **(1)** • Lack of available substitutes **(1)** so when the price rises they do not have alternatives to buy **(1)** • The proportion of total income spent on energy **(1)** if it is small there will not be a significant change in quantity demanded **(1)**	**(4)**

Question	Explain **one** reason why there might have been a housing market bubble in Australia in 2021. **Answer**	Mark
8	**Knowledge 1, Application 1 Analysis 2** Quantitative skills assessed: **QS2**: Calculate, use and understand percentages, percentage changes and percentage point changes. **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 1 mark for understanding of 'market bubble': • A period where prices rise rapidly/ where prices are above their true/intrinsic value/ an adjustment may lead to rapid price reductions **(1)** **Application** 1 mark for reference to data: • Prices rising rapidly in 2021 24.5%/ Price fell rapidly 2022 -4.9% **(1)** **Analysis** Up to 2 marks for linked analysis: • Speculators **(1)** buying houses in the hope that their value will increase/ so that they can sell them for profit later (**1**) • Very low interest rates **(1)** causing more demand/people to purchase houses **(1)** • Consumer exuberance/overconfidence **(1)** meaning they are willing to pay prices above the value of the house **(1)** • Excess demand for houses **(1)** as demand far outstrips the supply of housing **(1)** • Shortage of supply of housing **(1)** resulting in prices being bid up substantially by many buyers **(1)** • Poor lending decisions by bankers/banks **(1)** may result in borrowers with poor credit history/no deposit adding to demand for housing **(1)** • Large increase in immigration **(1)** may lead to increased demand for housing **(1)**	**(4)**

Question	Define the term 'supply'. (Extract A, line 8) **Answer**	Mark
12 (a)	**Knowledge 2** Up to 2 marks for defining 'supply', e.g.: • The amount/quantity firms are willing to sell/ The amount of goods firms make available for sale **(1)** • At any given price/in a time period/ for consumers to purchase in the market **(1)** • 'The global supply of energy produced from renewable resources is expected to increase by 8% in 2022' **(1)**	**(2)**

Question	With reference to Extract A, explain **one** advantage of Apple using energy produced from renewable resources. **Answer**	Mark
12 (b)	**Knowledge 2 Application 2** Quantitative skills assessed: **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 1 mark for understanding of renewable resources: • A resource that once used can be reused/used again and again/ Supply is unlimited/ infinite resource **/** Resource once used will regenerate quickly **(1)** 1 mark for an advantage • Renewable energy is often cleaner/less polluting than non-renewables/fossil fuels **(1)** • Will help reduce carbon emissions/external costs associated with non-renewable resources **(1)** • Renewable resources do not use up/deplete the resource like non-renewable do **(1)** • Prices of renewable resources are likely to be more stable than those of non-renewable resources **(1)** • Demand for Apple products may rise if it is seen as an environmentally friendly business **(1)** **Application** Up to 2 marks for application: • In 2020 100% of the energy used directly by Apple was from renewable resources **(1)** • 213 of its suppliers had agreed to use only renewable resources to power production of Apple's products **(1)** • Investment in a 2 300 acre solar project in Texas **(1)** • A data centre in Denmark is powered by a solar park and wind farm **(1)** • Supplier Keiwa in Japan will take its renewable energy from a wind farm **(1)**	**(4)**

Question	With reference to Figure 1 and Extract B, analyse **two** reasons why the 'world price of lithium increased by 191%' (Extract B, line 2). Illustrate your answer with a supply and demand diagram **Answer**	Mark

12 (c)

Knowledge 2, Application 2, Analysis 2

Quantitative skills assessed:
QS4: Construct and interpret a range of standard graphical forms
QS9: Interpret, apply and analyse information in written, graphical, tabular and numerical forms.

Knowledge

Up to 2 marks for the diagram showing:

- Original demand, supply and equilibrium price and quantity **(1)**
- New demand, supply and higher equilibrium price and quantity **(1)**

Analysis

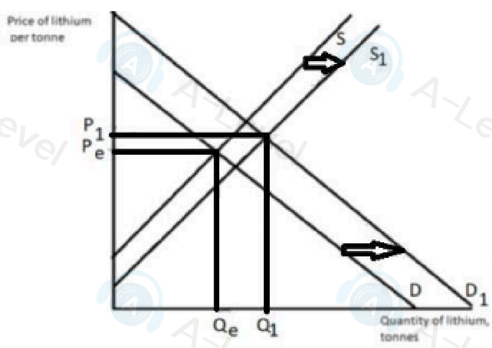
Up to 2 marks for analysis linked to Extract B e.g.:

- Demand increased by significantly more than supply **/**
  Supply is relatively price inelastic **(1)**
- With rising gas and oil prices many consumers are switching from traditional fuel cars to electric-powered cars. These require lithium in the batteries **/**
  In China electric vehicle sales increased by 157.5% in 2021 **/**
  Globally electric vehicle sales increased by 108%/to 6.75m in 2021 **(1)**
- Sales of Smartphones, which use lithium batteries, also increased by 11.4% in 2021/to 1.5bn **(1)**

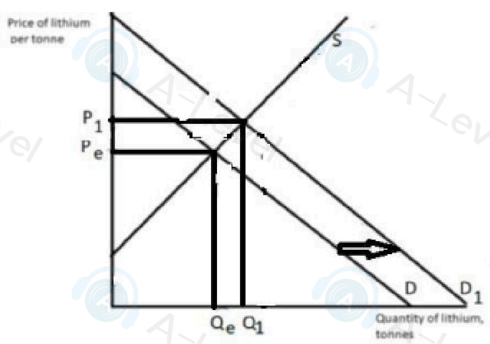
Application

2 marks for diagram **OR** 1 mark for diagram and 1 mark for reference to Figure 1:

- Shift demand to the right **(1)**
- Shift supply to the right **(1)**
- Reference to Figure 1- e.g. October 2021 price was 180 000 yuan and in October 2022 510 000 yuan/ an increase of about 330 000 yuan **(1)**



4 mark diagram

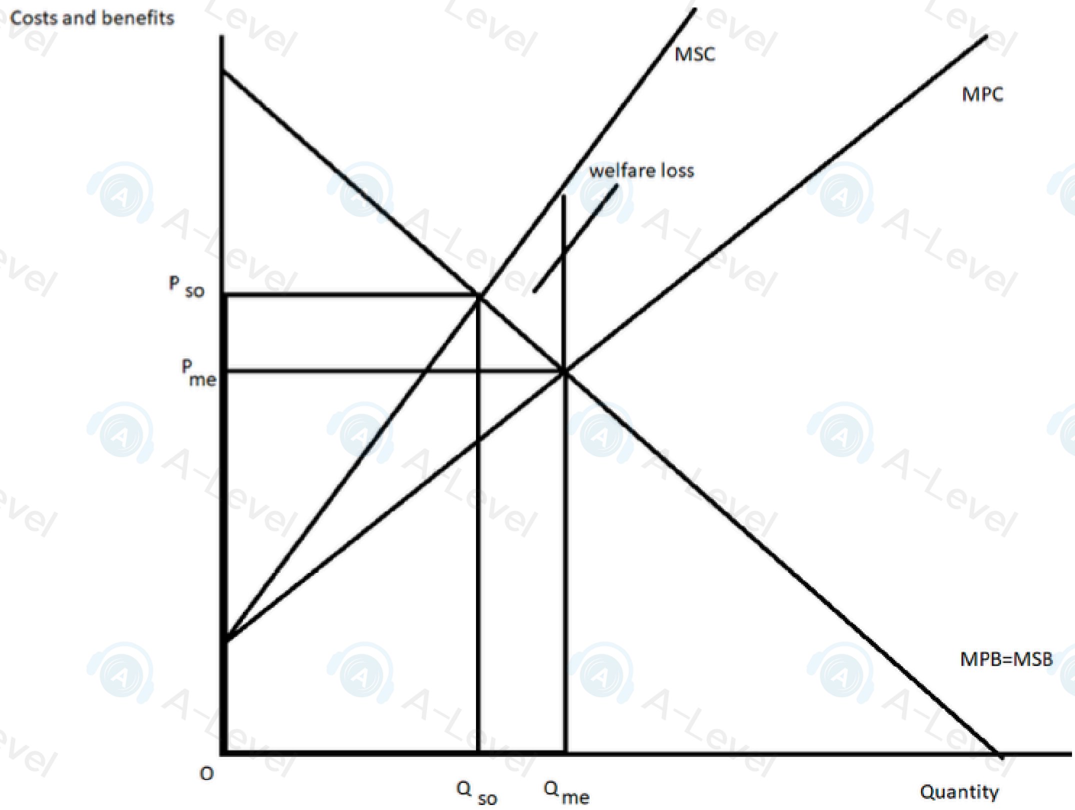


3 mark diagram

(6)

Question	With reference to the last paragraph of Extract C, examine **two** likely effects on smartphone manufacturers of the growth in the market for refurbished smartphones. **Answer**	Mark
12(d)	**Knowledge 2, Application 2, Analysis 2, Evaluation 2** Quantitative skills assessed: **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms **Knowledge and Analysis** Up to 2 marks for identifying two effects (K) and up to 2 marks for linked explanation (AN), e.g.: • New smartphone manufacturers lose revenue **(1K)** as consumers substitute to refurbished smartphones **(1AN)** • New smartphone manufacturers achieve lower profit/producer surplus **(1K)** as the demand for new smartphones decreases **(1AN)** • Manufacturers of refurbished smartphones gain revenue **(1K)** as consumers look to save money by purchasing the cheaper alternative **(1AN)** • Manufacturers of refurbished smartphones achieve higher profit/producer surplus **(1K)** they purchase the phones and sell them at a higher price **(1AN)** • Manufacturers of new smartphones have the incentive to encourage customers to return their smartphones after use **(1K)** and then refurbish these to add to the firms total revenue **(1AN)** **Application** Up to 2 marks for reference to Extract A, e.g.: • The market for smartphones that have been refurbished is forecast to be worth $65 billion by 2024 **(1)** • Typically, a consumer can sell a one-year-old smartphone for 50% of its original price **(1)** • The manufacturer can sell the same refurbished smartphone for 80% of its original price **(1)** • Unwanted smartphones in developed countries are desired in emerging countries **(1)** **Evaluation** Up to 2 marks for evaluative comments (2+0 or 1+1), e.g.: • We do not know how this value compares to revenues generated by producing new smartphones **(1+1)** • There may be other external costs involved in refurbishment that manufacturers do not take account of **(1+1)** • The consumers may find reliability issues/inferior product compared to new models **(1+1)** • Profits may be limited by production requiring a large amount of labour **(1+1)**	**(8)**

Question	With reference to Extract C, discuss the microeconomic effects of the increase in smartphone manufacturing between 2011 and 2021. Refer to external costs in your answer. Illustrate your answer with an externalities diagram.
12(e)	**Indicative content guidance** Answers must be credited by using the level descriptors (below) in line with the general marking guidance. 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. **Quantitative skills assessed** **QS4**: Construct and interpret a range of standard graphical forms **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge, Application and Analysis (8 marks) – indicative content** • External costs- negative impacts on third parties • Between 2011 and 2021 smartphone production increased from 472 million to 1 433 million - Increase of 961 million by 2022 • By 2022 globally 4.5 billion people owned a smartphone • In 2022 smartphones will produce 146 million tonnes of CO_2 emissions. These emissions are produced by manufacturing, transportation, usage, refurbishing and recycling of smartphones • Additional global carbon emissions contribute to global warming e.g. those living on coast at risk of flooding/farmers face drought conditions or floods • Iron, aluminium and copper are the most common metals used- huge amounts of liquid and solid waste e.g. this causes pollution which reduces house values of those living nearby • In 2015 the waste at an iron ore mine spilled in Minas Gerais, Brazil releasing 33 billion litres of waste e.g. this may have a negative impact on the fish and the fishing industry/farmers land destroyed which reduces income of farming sector • Gold mining is a major cause of deforestation-impacts people/farmers as flooding more common/humans affected by reduced oxygen levels/reduces biodiversity/reduces supply of future medicines



- Diagram showing MSC above MPC
- Q_{me} greater than Q_{so} shows over-production
- P_{me} lower than P_{so} shows price paid is below social optimum
- Welfare loss triangle due to third party impacts

NB Maximum Level 1 if no reference to external costs

NB Maximum Level 2 if no externalities diagram

NB KAA may be presented as positives and negatives as evaluation 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. Use of generic material or irrelevant information or inappropriate examples. 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. Ability to apply knowledge and understanding to some elements of the question. Some evidence and contextual references are evident in the answer. 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. Ability to link knowledge and understanding in context using relevant examples which are fully integrated to address the broad elements of the question. Analysis is clear, coherent, relevant and focused. The answer demonstrates logical and multi-stage chains of reasoning in terms of cause and/or consequence.

	Evaluation (6 marks) – indicative content • Magnitude- a wide range of significant costs • 0.5% of total carbon emissions- small relative to other sectors/a significant impact • Smartphones are being used for longer- reducing the number of new smartphones that will be needed • Refurbished smartphone market is forecast to grow reducing the need to manufacture new smartphones. • Difficult to measure the size/value of external costs • External benefits- creates employment/reduces information gaps • The metals e.g. gold/iron are used in other sectors so external costs cannot all be attributed to smartphone manufacturing • If smartphone manufacturers use renewable sources this will reduce size of external costs as less fossil fuels used	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	Identification of generic evaluative comments. No supporting evidence/reference to context. No evidence of a logical chain of reasoning.
Level 2	3–4	Evidence of evaluation of alternative approaches. Some supporting evidence/reference to context. 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. Appropriate reference to evidence/context. Evaluation is supported by a logical chain of reasoning.