Unit 1 – Mark scheme

Question	Quantitative skills assessed	Answer	Mark
1	–	B	(1)
2	–	C	(1)
3	–	D	(1)
4	**QS9**: Interpret, apply and analyse information in written, graphical and tabular forms	B	(1)
5	**QS8**: Make and interpret calculations of elasticity	A	(1)
6	**QS8**: Make and interpret calculations of elasticity	C	(1)

Question	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 and tabular forms. **Knowledge** • 1 mark for drawing original supply and demand (they do not have to include market equilibrium). **Application** Up to 3 marks for the following information included on diagram: • 1 mark for showing quantity demanded and quantity supplied with reference to rice • 1 mark for identifying excess supply / surplus of rice • 1 mark for drawing minimum price above market equilibrium. 	(4)

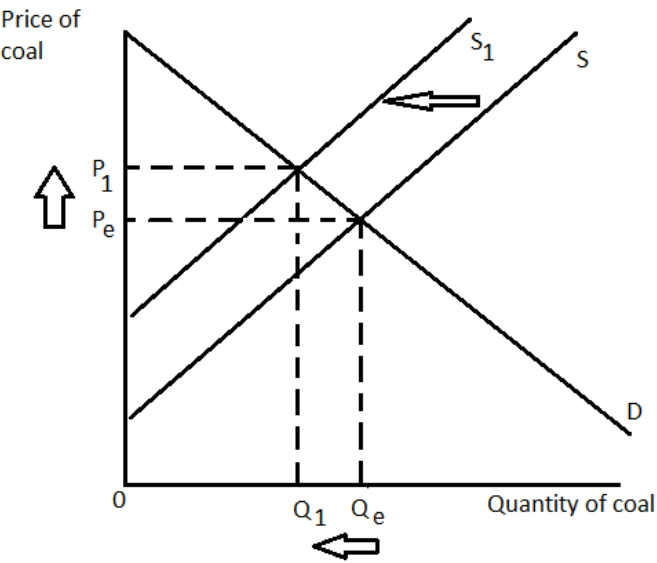| Question	Answer	Mark
8	**Knowledge 2, Application 2**	
	Knowledge	
	Up to 2 marks for defining 'moral hazard', e.g.	
	• It occurs where an economic agent makes a risky decision **(1)** knowing that, if losses are made, the burden will be borne by another party **(1)**.	
	• Where firms act immorally due to incentives that exist in the market **(1)**.	
	Application	
	Up to 2 marks for applying to the banking sector, e.g.:	
	• Banks know that if they go bankrupt, their customers' deposits will be protected up to €100 000 **(1)**, so may make more risky investments as they know customers would have most of their money protected **(1)**.	**(4)**

Question	Answer	Mark
9	**Knowledge 1, Application 1, Analysis 2**	
	Knowledge	
	Up to 1 mark for defining 'public goods', e.g.:	
	• Public goods are non-excludable and non-rival **(1)**.	
	Analysis	
	Up to 2 marks for explaining why governments have to provide them, e.g.:	
	• Firms will not provide public goods as they will not be able to generate a profit **(1)**, so governments have to provide them **(1)**.	
	• Firms profit maximise and because customers will use the goods without paying (the free rider problem) **(1)** the firms will not be able to generate profits and therefore firms will not provide the goods **(1).**	
	Application	
	Up to 1 mark for applying this to examples of public goods, e.g.:	
	• For example street lighting **(1)**	
		(4)

Question	Answer	Mark
10	**Knowledge 1, Application 3** Quantitative skills assessed: **QS8**: Make and interpret calculations of elasticity. **Knowledge** EITHER 1 mark for the formula for income elasticity of demand: $\qquad$ % change in quantity demanded $\qquad$ % change in income $\qquad\qquad\qquad$ **(1)** OR 1 mark for identifying that the good is a normal good: • International flights are normal goods as rising income has led to rising quantity demanded **(1)**. **Application** Up to 3 marks for calculations: • change in quantity: 53 894 326 – 51 899 308 = 1 955 018 $\qquad$ change in quantity / original quantity: 1 955 018 ÷ 51 899 308 × 100 = 3.77% **(1)** • change in income: 952.11 – 935.33 = 16.78 $\qquad$ change in income / original income: 16.78 ÷ 935.33 × 100 = 1.79% $\qquad\qquad$ **(1)** • YED 3.77 ÷ 1.79 = 2.11 $\qquad\qquad\qquad$ **(1)** **NB: if correct answer (2.11) is given, award full marks regardless of working.**	**(4)**

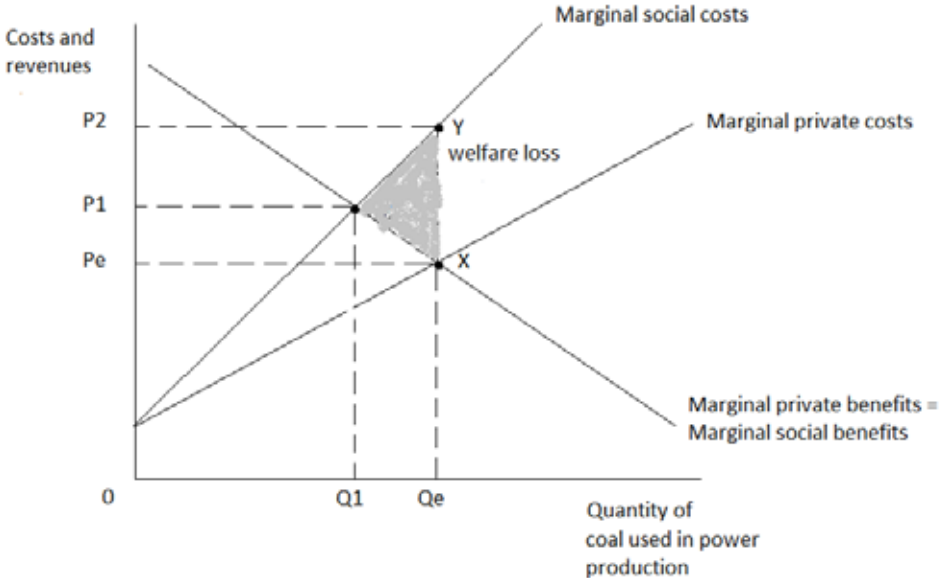| Question	Answer	Mark
11	**Knowledge 1, Application 1, Analysis 2**	

Knowledge 1, Application 1, Analysis 2

Quantitative skills assessed:
QS4: Construct and interpret a range of standard graphical forms
QS8: Make and interpret calculations of elasticity.

Knowledge

1 mark for defining price elasticity of supply:

<u>% change in quantity supplied</u>
% change in price   **(1)**

OR

1 mark for defining elastic or inelastic supply:
- Elastic supply is where the PES is greater than 1 **(1)**
- Inelastic supply is where the PES is less than 1 **(1)**

Application

1 mark for the following diagram, showing supply is inelastic:

Analysis

Up to 2 marks for explaining the change:
- The price elasticity of supply is price inelastic **(1)**.
- The rise in quantity of 33.41% is greater than the price rises 78.21% **(1)**.
- The price elasticity of supply will be 33.41/78.21 **(1)** = 0.43 **(1)**.

(4)

Question	Answer	Mark
12 (a)	**Knowledge 2** Up to 2 marks for defining a 'renewable resource', e.g.: • A resource that can be used again and again **(1)**. • Where consumption does not deplete the supply of a product **(1)**. • A good that replenishes after use **(1)**.	**(2)**

Question	Answer	Mark
12 (b)	**Knowledge 2 Application 2** **Knowledge** Up to 2 marks for definitions of cross-price elasticity of demand (XED): • The responsiveness of quantity demanded for Product X **(1)** to a change in the price of Product Y **(1)** **OR** • **Formula for XED:** % change in quantity demanded of good X **(1)** % change in price of good Y **(1)** **Application** Up to 2 marks for application to energy production, e.g.: • Coal and renewable energy resources are substitutes **(1)** and have a positive cross-elasticity of demand **(1)**. • As the price of coal rises, the quantity demanded of renewable resources will rise **(1)** making them substitutes **(1)**.	**(4)**

Question	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 and tabular forms. **Knowledge** Up to 2 marks for the diagram showing: • Original supply, demand and equilibrium **(1)** • Final equilibrium showing higher price **(1)**. **Analysis** Up to 2 marks for development of how reason(s) leads to higher prices, e.g.: • Regulations / higher transport costs lead to higher total production costs for the firm **(1)**, making production less profitable, leading to lower supply **(1)**. • Alternative sources of energy production may become relatively more profitable, so firms switch production **(1)**. **Application** Up to 2 marks: 1 mark for interpreting data from Figure 1: • showing a change in price / China introduced regulations / regulation limited the number of days that miners could work / higher cost of transporting coal **(1)**. PLUS 1 mark for a diagram showing leftward shift in supply **(1)**. 	
		(6)

Question	Answer	Mark
12(d)	**Knowledge 2, Application 2, Analysis 2, Evaluation 2**	

Knowledge

Up to 2 marks for knowledge of indirect taxation, e.g.:

- Definition of indirect taxation: expenditure tax / tax paid through third party / charge on consumption **(1)**.
- Adds to costs of production **(1)**.

Analysis

Up to 2 marks for linked explanations showing the impact of these indirect taxes, e.g.:

- Reduction in supply, leading to higher prices for coal powered electricity **(1+1)**.
- The indirect tax will result in a lower quantity, which reduces the external costs of coal / reducing the welfare losses experienced by third parties **(1+1)**.
- The indirect tax will see an incidence of the tax where part of the tax is borne by consumers who have to pay more and producers who receive less than the market equilibrium **(1+1)**.
- The contraction of demand leads to consumer and producer surplus falling **(1+1)**.
- May make coal production less profitable / unprofitable **(1)**.

[The above may be drawn diagrammatically.]

Application

Up to 2 marks for reference to the given sources, e.g.:

- There will be 'revenue raised' for government, according to Extract 2 **(1)**.
- The tax revenue can 'fund developments of cleaner renewable energy', as suggested in final paragraph of Extract 2 **(1)**.
- Firms will have an 'incentive to reduce the use of coal' **(1)**.

Evaluation

Up to 2 marks for evaluative comments, e.g.:

- If energy prices rise, it may harm the poor, making energy unaffordable – link to fuel poverty **(1+1)**.
- The jobs of coal miners and those in coal powered energy production would be at risk **(1+1)**.
- Magnitude: it depends on size of the tax – if only a small change, then it will have little impact **(1+1)**.
- Incidence of the tax depends on elasticities of supply and demand **(1+1)**.
- Measurement of the ideal tax is difficult to determine **(1+1)**.
- In the long-term, it is likely to have an impact on decisions as to which power plants to use, e.g. more renewable-energy plants may be built **(1+1)**.

(8)

Question	Indicative content
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 and tabular forms. **Knowledge, Application and Analysis (8 marks) – indicative content** • Definition of 'external costs' – they are costs incurred by third parties / negative impacts on those not involved in transaction. • External costs mean marginal social costs are greater than marginal private costs. • Diagram of welfare loss triangle caused by over consumption: • External costs to property owners – it was the largest source of carbon dioxide (CO2) emissions in the USA. It emitted a total of 1.7 billion tonnes of CO2, leading to global warming, melting polar ice caps and more severe weather. Third parties will be affected by flooding, which may damage properties. Those affected may have the costs of rebuilding or repairing homes. • External costs to agriculture – it causes acid rain, which damages crops, forests and soils, and affects lakes and streams. This has an impact on farmers as their production quality and quantity is negatively affected. This may result in lower revenues and profits. • External costs to health services and individuals – mercury, a toxic heavy metal that causes brain damage and heart problems adds costs to health services to treat. / Particulate matter is also known as soot and can cause chronic bronchitis, aggravated asthma, and premature death – this adds costs to health services. / Soot also causes smog, which makes visibility

difficult for pilots and pedestrians, increasing the risk of accidents that costs health services.
- External costs to fishermen – mercury leaking into lakes kills fish and other wildlife. This adds costs to fishermen and biodiversity. It also causes acid rain, which affects lakes and streams, which has an impact on fishermen as the quantity and quality of fish caught will worsen.

Level	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
- The technology is available to reduce these negative impact.
- Magnitude of external costs is large at it is largest contributor, e.g. to CO2.
- Measurement – it is hard to measures the size of these external costs.
- Benefits of coal production – it helps keep price lower so accessible to poor / maintains employment for coal miners and those in coal-fired power stations.
- Short-term effects are harder to see but long-term accumulation is a big problem.

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.

Question	Indicative content
13	**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.
	Knowledge, application and analysis (12 marks) – indicative content
	• Private benefits – there are benefits to the individual who is consuming education.
	• It may result in higher skill levels, enabling them to earn more for employment.
	• Higher income over their lifetime enables them to have a higher standard of living.
	• They are able to make better decisions as they are more informed, meaning they benefit from higher returns.
	• They are more likely to be able to choose the job they do, enabling them to get better satisfaction in work.
	• Education has external benefits – benefits to third parties not considered by those in the transaction.
	• When someone is educated and becomes a doctor, the people they treat benefit from their education as they receive the right treatment.
	• When someone is educated and becomes a teacher, students may benefit from better-quality education.
	• Employers will benefit from higher-skilled workers and this will raise productivity.
	• A diagram for external benefits – clearly identifying:
	- MSB>MPB
	- Market equilibrium and social optimum identified
	- Welfare loss area identified.
	• There is under-consumption as people do not consider these benefits to third parties.

Level	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.
		Limited application of knowledge and understanding to economic problems in context.
		A narrow response or superficial, only two-stage chains of reasoning in terms of cause and/or consequence.

Level	Mark	Descriptor
Level 3	7–9	Demonstrates accurate 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.
		Analysis is clear and coherent. 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 4	10–12	Demonstrates accurate and precise knowledge and understanding of economic terms, principles, concepts, theories and models.
		Ability to link knowledge and understanding in context, using appropriate 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 (8 marks) – indicative content	
		• Measurement problem – it is difficult to measure the size of external benefits.
		• Magnitude – depends on quality of education as to the size of any private or external benefits.
		• Time frame – education is long term, so private and external benefits occur over a long period of time.
		• Some of those receiving the best education may leave their own countries to seek better salaries abroad.
		• It depends on what education is received – if in the wrong areas then there is little benefit.
		• Curriculum design is important.
Level	**Mark**	**Descriptor**
	0	No rewardable material.
Level 1	1–3	Identification of generic evaluative comments.
		No supporting evidence/reference to context.
		No evidence of a logical chain of reasoning.
Level 2	4–6	Evidence of evaluation of alternative approaches.
		Some supporting evidence/reference to context.
		Evaluation is supported by a partially-developed chain of reasoning.
Level 3	7–8	Evaluation recognises different viewpoints and/or is critical of the evidence, leading to an informed judgement.
		Appropriate reference to evidence/context.
		Evaluation is supported by a logical chain of reasoning.

Question	Indicative content
14	**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.
	Knowledge, application and analysis (12 marks) – indicative content
	• Subsidies – these are cash grants to encourage production.
	• This lowers production costs for firms.
	• It increases supply of planes, lowering the price and increasing the quantity of planes for firms receiving subsidy.
	• It makes Airbus's planes more affordable to airlines.
	• Airbus can use the subsidy to invest to improve quality of planes.
	• The Airbus subsidy protects employment across Europe.
	• Subsidy costs European governments / EU.
	• Answers may make reference to there being an incidence of subsidy.
	• Accept a diagram drawn to show how Airbus is affected.
	• There will be a negative impact on competitors not in receipt of subsidy.
	• Boeing will suffer if not provided with subsidies.
	• Boeing may need to lower prices to compete, which might lower its profit margins.
	• Reducing profits means there is less available for investment by Boeing, making it more difficult to compete with Airbus.
	• Boeing achieving lower revenue and profit could affect employment in America.

Level	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.
		Limited application of knowledge and understanding to economic problems in context.
		A narrow response or superficial, only two-stage chains of reasoning in terms of cause and/or consequence.
Level 3	7–9	Demonstrates accurate 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.
		Analysis is clear and coherent. 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	Mark	Descriptor
Level 4	10–12	Demonstrates accurate and precise knowledge and understanding of economic terms, principles, concepts, theories and models.
		Ability to link knowledge and understanding in context using appropriate 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 (8 marks) – indicative content

- Measurement problem – is all the $22m a subsidy?
- Magnitude – depends on size of subsidy as to whether it will disadvantage competitors.
- Time frame – if it is a one off payment, then less of an issue but if long term then it is more unfair.
- It depends on when and how the payments are received.
- It depends if competitors get subsidies, too.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	Identification of generic evaluative comments.
		No supporting evidence/reference to context.
		No evidence of a logical chain of reasoning.
Level 2	4–6	Evidence of evaluation of alternative approaches.
		Some supporting evidence/reference to context.
		Evaluation is supported by a partially-developed chain of reasoning.
Level 3	7–8	Evaluation recognises different viewpoints and/or is critical of the evidence, leading to an informed judgement.
		Appropriate reference to evidence/context.
		Evaluation is supported by a logical chain of reasoning.