PEARSON EDEXCEL IAL ECONOMICS · YEC11

ECONOMICS



MARK SCHEME

UNIT 1: MARKET FAILURE

SCORE	PERCENTAGE
/289	%

STEMUP

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(Total for question = 14 marks)

Mark Scheme

Q1.

Question Number	Answer	Mark
	Knowledge 2, Application 2 Quantitative skills assessed: **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 2 marks for defining 'external costs of production' • Negative impacts **(1)** on third parties **(1)** • Negative **(1)** spillover effects **(1)** • Where social marginal costs/MSC are greater than **(1)** private marginal costs/MPC **(1)** - May be shown diagrammatically • Where production leads to a cost **(1)** to third parties **(1)** **Application** 2 marks for applying to the data in the table e.g.: • Producing 1kg of lamb causes 24kg of greenhouse gas emissions/producing 1kg of poultry causes 6kg of greenhouse gas emissions/producing 1kg of beef causes 60kg of greenhouse gas emissions **(1)** • which will contribute to global warming/climate change **(1)**	**(4)**

Q2.

Question	Define the term 'external costs' (Extract B, line 3). **Answer**	Mark
	Knowledge 2 Up to 2 marks for defining 'external cost', e.g.: • Negative impact **(1)** on third parties **(1)** • Cost on third party **(1)** • Where MSC > **(1)** MPC **(1)** • Accept examples from Extract B e.g. reducing air quality/children's respiratory diseases/asthma/cancers/noise pollution/greenhouse gases/pollution in city centres **(1)**	**(2)**

Q3.

Question	Define the term 'information gap' (Extract B, line 3). Answer	Mark
	Knowledge 2 Up to 2 marks for defining 'information gap', e.g.: • Where economic agents do not have full information **(1)** for example about the external costs associated with e.g. plastics/ meaning they are unable to calculate the costs and benefits associated with consumption **(1)** • Where there is a gap between the knowledge of consumers and producers **(1)** in that producers may know more about the damaging impact than consumers e.g. plastics **(1)** • Where economic agents lack information **(1)** to be able to maximise utility **(1)** • A form of market failure **(1)** where buyers and sellers do not have perfect information **(1)** • Asymmetric information is where the information held by buyers and sellers is different **(1)** meaning one has better information than the other **(1)** • Consumers and producers do not have enough information **(1)** to make a rational choice **(1)**	**(2)**

Q4.

Question	With reference to the provision of street lights, explain what is meant by the term 'public good'. Answer	Mark
	Knowledge 2, Application 2 **Knowledge** 2 marks for defining 'public good.' • A product that is both non-excludable **(1)** and non-rival **(1)** **Application** 2 marks for applying to the provision of street lights e.g.: • Street lights are non-excludable because it is impossible to prevent anyone from benefitting from the light **(1)** • Street lights are non-rival as when one person benefits from the light it does not reduce the benefit gained by others nearby **(1)** • People would free ride the street lights by not paying but benefiting from them **(1)** making it unprofitable for private sector firms to provide street lights **(1)** • Firms are reluctant to provide street lights due to the free rider problem **(1)** • Public goods are normally provided by the government/ customers can use the public goods free of charge **(1)**	**(4)**

Q5.

Question	Define the term 'market failure' (Extract A, line 14). **Answer**	Mark
	Knowledge 2 Up to 2 marks for defining 'market failure', e.g.: • Where the market/the price mechanism **(1)** leads to an inefficient allocation/misallocation/over allocation/under allocation of resources **(1)** • A market/housing bubble in New Zealand/homelessness **(1)**	**(2)**

Q6.

Question	Discuss reasons why the 'quantity of education is below the social optimum level' (Extract B, lines 2 and 3). Refer to external benefits in your answer. Illustrate your answer with an appropriate diagram. **Indicative content**

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.

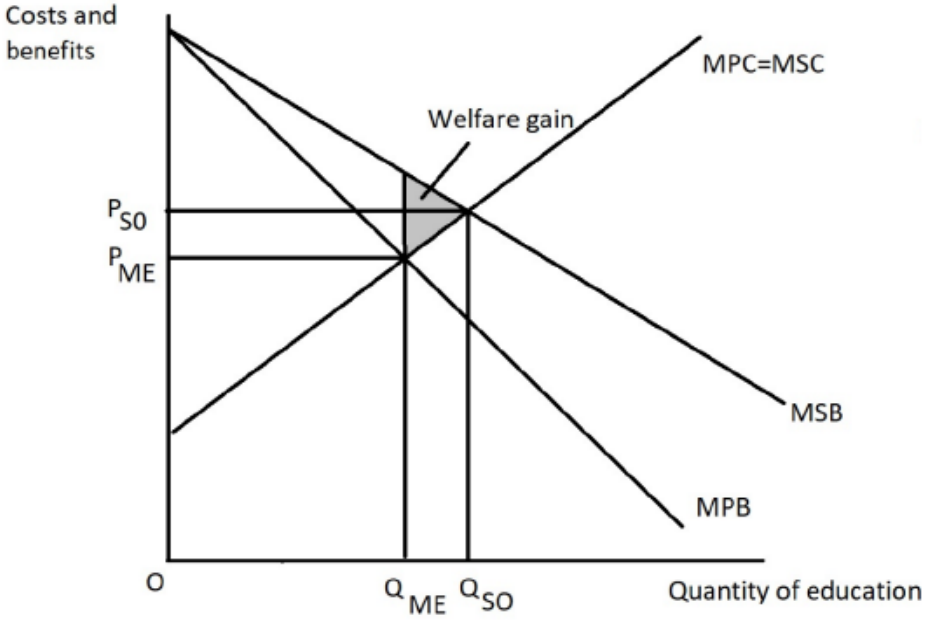
Quantitative skills assessed

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

- Definition of 'external benefits' – where there are positive impacts on third parties/where MSB is greater than MPB
- Diagram showing external benefits



	• Consumers only consider their private costs and their private benefits • Consumers ignore impacts on third parties/ external benefits • Consumers are undervaluing the benefit of education to society • The market equilibrium price, P_{ME} is below the social optimum price, P_{SO} • The market equilibrium quantity, Q_{ME} is below the social optimum price, Q_{SO} • Limited number of years of education just 4.4 years for adults • The welfare gain that can be achieved by moving to social optimum is shaded/ labelled • Under-consumption of education Q_{SO}-Q_{ME}, • Private benefits could include higher income over life time • External benefits could include lower government spending on health, welfare, and prisons; less poverty, better international competitiveness, new ideas and improved technology • Under-investment in education as wages can be earned in vanilla production • Benefits of employment may be greater than any lost benefit from under-consumption of education • 20 000 children aged 12 to 17 work in vanilla production/ 32% of workforce • Families need the child to work to supplement income • With rising costs of living children need to work so families can afford food • Poor conditions and overcrowding make education less attractive • Cyclones destroyed schools and money not available to improve schools • Public funds for education have been reduced • This is not a choice for families but a necessity to ensure survival/meeting of basic needs

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.

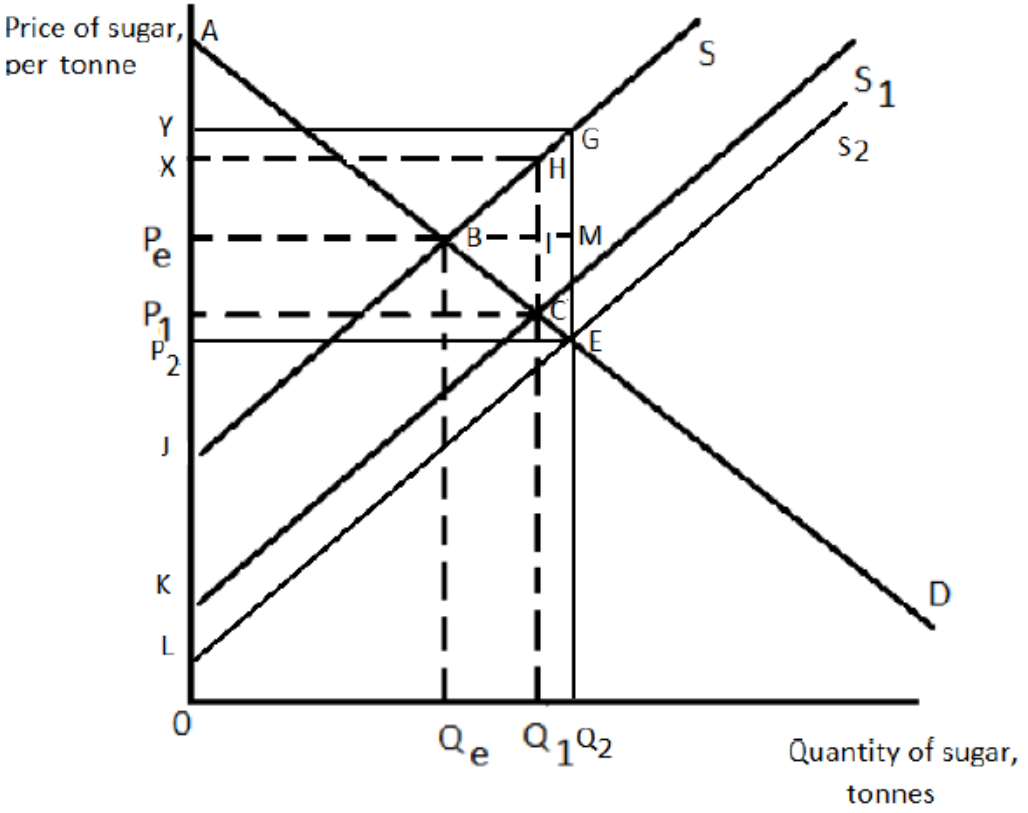
	Evaluation (6 marks) – indicative content • Magnitude of external benefits. • Magnitude of welfare gain/loss- with only 4.4 years of education the welfare loss could be significant in size • Measurement – it is hard to measure the external benefits of education • Overcrowding in schools means private and external benefits may be small • There are significant numbers benefiting from education • Policy is only rewarded when evaluating the reasons given	
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.

Q7.

Question Number	With reference to Extract C, discuss the likely effects of the increase in the subsidy for sugar production. Illustrate your answer with an appropriate diagram. Indicative content
	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

- Definition of 'subsidy' – cash grants/payments by a government to suppliers, reduce the costs for suppliers encouraging them to increase supply
- Increased subsidy from 55 rupees a tonne to 138 rupees a tonne
- Diagram showing increased subsidy



	• There is an extension of demand as supply increases • Quantity produced/consumed rises from Q_1 to Q_2 • Exports per year grew from 620 000 to 3.3 million tonnes when previous subsidy was introduced • Increasing the subsidy is likely to see further growth in exports- estimate is to 7 million tonnes • Production increases from 20.3 million tonnes to 33 million tonnes. • Increasing exports may improve the balance of trade/current account of balance of payments/injection into the Indian economy • Price decreases from P_1 to P_2 • Consumer surplus increases from ACP_1 to AEP_2 • Producer surplus increases from CKP_1 to ELP_2 • Government spending increases from P_1XHC to P_2EGY • Producer subsidy increases from P_eXHI to P_eYGM • Consumer subsidy increases from P_eICP_1 to P_eMEP_2 • WTO might intervene • Market may become unprofitable for farmers outside of India- e.g. in Brazil and Australia • The subsidy is likely to increase consumption which may have implications for health in terms of obesity and cancers. These external costs will impose costs on those not associated with sugar consumption- for e.g. healthcare costs for the Government • Impact on businesses using sugar as an ingredient- e.g. biscuits, chocolates, sweet manufacturers **NB Diagram may refer to businesses using sugar as an ingredient** **NB If no diagram maximum of Level 3**

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	0	No rewardable material
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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 of change in subsidy 55 to 138 rupees is a large increase/151% increase • Magnitude of subsidy- 138 rupees is still not a significant amount of money per tonne • Measurement – it is hard to measure the level of subsidy that should be paid • Over-production may cause waste • Third parties may benefit from the subsidy- suppliers to sugar growers • Elasticity of demand and supply may affect the size of the producer and consumer subsidy • Dependency culture- the growers may become dependent on the subsidy and its withdrawal would cause significant problems • Retaliation from other countries in terms of subsidising supply • May not be the only country subsidising growers- EU, Japan and USA have heavily protected agricultural growers • Opportunity costs of funds that could be better used in providing education/ healthcare/poverty reduction • Impact may be significant because India is the world's second largest sugar producer

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.

Q8.

Question	With reference to Figure 1, Extract A and Extract B, discuss the likely microeconomic effects of a housing market bubble in New Zealand. **Indicative content**
	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** • Housing market bubble: the price of an asset is above the true value often the result of speculation • Explicit reference to Figure 1 e.g. prices increased 20.4% in Marlborough and 23.7% in Manawatu/Whanganui • An average house now costs NZ$925 000 • Houses are 40% overvalued- going from 8.6x to 10x average income • New Zealand PM many buyers are speculators- In 2020 approximately 15 000 buyers owned five or more properties

	Negative effects • 1% of New Zealand's population are homeless and the housing market bubble has pushed prices beyond their earnings. • Consumers may struggle to find it affordable to buy a home when they require 10x income to purchase • Rental prices may also rise affecting those that rent • Problem with a housing market bubble is that it may burst • People will realise that the houses are over-valued and there will be a correction when prices fall • Speculators may make profits by selling at the peak- but if some waited they may make losses • Home owners may pay a high price for the property but the true value of the property may be less • House builders will find that profits will fall if price fall after the bubble bursts • It may encourage illegal building which may be of a poor standard **NB Negative effects of a housing market bubble may be presented as KAA and positive effects as evaluation or vice versa**

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	0	No rewardable material
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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

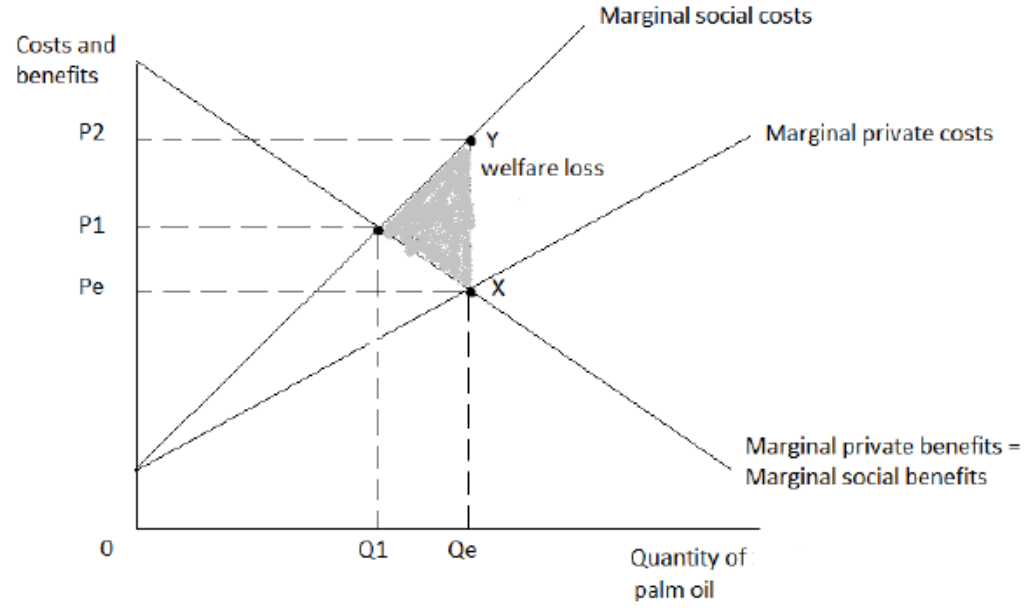
- Magnitude- a significant bubble with 40% overvalued/ 10x income
- The price rises may reflect true value- higher real incomes, low interest rates and immigration/ limited supply
- Significant impact with higher rate of homelessness than in other developed countries
- No guarantee the bubble will burst
- Consumers may have stored/saved funds during global health crises and had more funds available helping to boost demand

Positive effects

- Existing homeowners will benefit from the increase in house prices
- Builders/ construction companies may benefit from securing higher prices- increasing their revenue and profit
- Creates an incentive for more houses to be built - 26% increase in supply in 2021
- Government may earn more tax revenue as people buy new properties
- Construction workers may benefit from increased demand for construction workers and higher wages/ more secure employment
- Those that own homes that they rent may also benefit from higher rental income

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.
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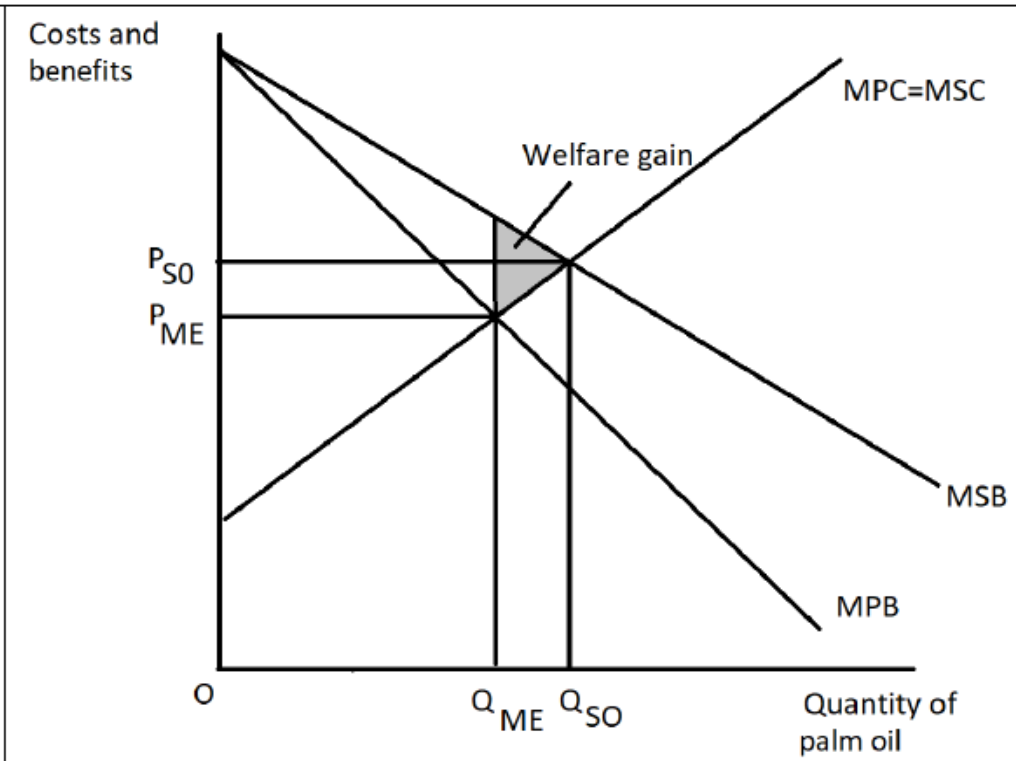
Q9.

Question Number	Indicative content
	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** Externalities- where third parties are affected by a transaction negatively or positively
	External costs • Definition of 'external cost' – where there are negative impact on third parties Diagram showing external costs 

- Producers consider their private costs
- Producers ignore impacts on third parties/ external costs
- Producers are undervaluing the costs of producing palm oil
- The market equilibrium price, P_e is below the social optimum price, P_1.
- The market equilibrium quantity, Q_e is above the social optimum quantity, Q_1. there is overconsumption
- The welfare loss is indicated by the welfare loss triangle as shaded.
- The rapid and poorly managed expansion of production has caused large scale deforestation- loss of biodiversity/ loss of potential medicines- future generations affected through this loss/ less oxygen in environment- causing health issues and costs to health services/ greater risk of flooding affecting farmers and the local community
- Caused significant greenhouse gas emissions from the destruction and burning of rainforests- may lead to global warming and health issues- third party Government affected by spending on healthcare
- In Indonesia and Malaysia production has caused habitat and biodiversity loss- third party affecting animals and humans through loss of medicines
- Third party affected- endangered animals population of orangutans reduced by 100 000. 69% of the elephant's habitat has been lost, there are only 100 rhinos left

External benefits

- Definition of 'external benefits' – where there are positive impact on third parties
- Diagram showing external benefits



	• Consumers consider their private benefits • Consumers ignore impacts on third parties/ external benefits • Consumers are undervaluing the benefit of palm oil • The market equilibrium price, P_{ME} is below the social optimum price, P_{SO}/ The market equilibrium price P_{ME} is below the social optimum price P_{SO}. • The market equilibrium quantity, Q_{ME} is below the social optimum quantity, Q_{SO} there is underconsumption • The welfare gain that can be achieved by moving to social optimum is shaded/ labelled • 36 000 000 tonnes produced in Indonesia/ 21 000 000 tonnes produced in Malaysia will generate substantial export income helping to fund the import of more capital goods helping to boost long term growth for all • Private benefit of palm oil production tripling between 1998 and 2018- generating more revenue creates an external benefit as firms spent more within economy • The palm oil sector employs 4.7 million in Malaysia and Indonesia, with these workers spending more money within their economies • A further 11 million are employed in the two countries who are indirectly dependent on the sector **Positive or negative externalities may be offered as KAA and evaluation may consider the other type of externality**

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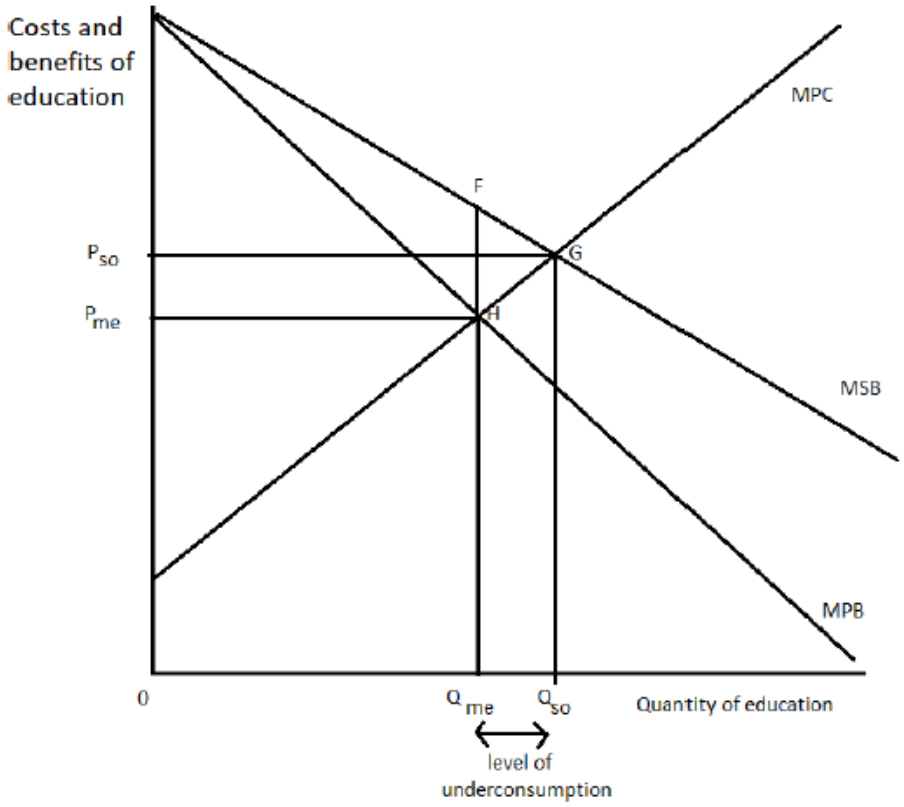
Evaluation (6 marks) – indicative content

- Magnitude of external benefit/ external costs
- Magnitude of welfare gain/loss- with high levels of production welfare losses/ gains significant
- Measurement – it is hard to measure the external benefits/ costs of production
- Weighing of the external benefits with external costs
- Short term little external costs or benefits noticed but long term these may be more noticeable/significant
- Palm oil requires one-tenth as much land as soybean production so causing less damage to land- lower external costs
- One-seventh of the fertiliser used compared to soybean, so less impact on quality of water supply and damage to animals
- One-sixth of the energy to produce the same amount of soybean, so less external costs when less energy produced

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.

Q10.

Question	Draw a diagram to illustrate these external benefits. Answer	Mark
	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 • Downward sloping MSB above MPB **(1)** **Application** Up to 3 marks for the following information included on diagram or in supporting write up: • Market equilibrium price **and** quantity **(1)** • Social optimum price **and** quantity **(1)** • Welfare loss/welfare gain area FGH/ size of external benefit FH/ level of underconsumption Qme - Qso **(1)**	



NB accept a parallel shift of MPB to MSB

(4)

Q11.

Question Number	Indicative content
	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** • Asymmetric information- where one party has more information than another • Information gap- where consumers lack information about the risks of being uninsured • 10 million consumers not taking out travel insurance may lack information to make decision to be insured • 30% of consumers have to make a claim, yet many do not take out insurance – consumers may not be aware about the numbers that need to claim
	• £5 620 average medical bill claim-consumers unlikely to be aware of these costs when travelling abroad • The lack of information could lead to underconsumption compared to social optimum quantity of output • Without insurance if someone had a plane cancelled they would have to pay for replacement travel/if injured they would have to pay for their own medical treatments • Consumers may lack funds/ face high opportunity costs- have to give up consumption of other goods • Rational consumers maximise utility • The decision not to insure may be based on the assessment of risks, benefits and costs of insurance - may be rational behaviour • It may be rational decision given high costs associated with taking out travel insurance • Irrational consumers do not maximise utility • Decision not to insure may be due to computational issues/ inertia/ herding/ habitual behaviour in not purchasing • Lack of perfect information means consumers unable to assess decision

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 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 • Information gaps may be filled by insurance companies and governments sharing information on costs • Internet helps provide better information on likely costs if a consumer has an accident on holiday • Some of the 10 million not taking insurance may be on low risk/ short holidays and be less likely to insure • May be rational as some may perceive the likelihood of successfully making a claim to be low • Magnitude- 10 million is a large number of consumers not taking out insurance/ may be a smaller numbers compared to the number of travellers in a given year

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.

Q12.

Question Number	In 2017 floods in Bangladesh resulted in 8 million people having to move from their homes. 100 000 houses were destroyed and many crops were lost. The Institute of Water and Flood Management claim that there had been an under-investment in flood defences. Evaluate reasons for this under-investment in flood defences. Make reference to public goods in your answer.
	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** • Public goods defined- non-rival and non-excludable. • Non-rival: one person's consumption does not negatively impact on another consumption. • Non-excludable: one person's consumption does not prevent another from consuming. • Flood defence is a public good as ○ If flood defence is in place then protecting one house does not prevent the protection of another house ○ If flood defence is protecting one house it does not reduce the protection offered to the next house • Free riders: if one person puts in place flood defences others will benefit. • This means private individuals are unlikely to contribute to flood defences, as they know they would benefit anyway if they do not contribute/ or that others would benefit if they did. • This leads to an under-provision and under-investment in the public good of flood defences. • This is an example of market failure as there is an inefficient allocation of resources. • The cost of flood defences may exceed the costs of damage from flooding. • There may be imperfect market information- where people do not know the benefits of flood defence/ costs of not putting in place flood defences. • May be a lack of Government funds to afford flood defences/ May be difficult to effectively defend against flooding. • Bangladesh is a low-income country and finance for flood defences is limited. • May lack technology/ engineers to put in place flood defences

Level	Mark	Descriptor
	0	No rewardable material.
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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 • The cost of flood defences may be less than the costs of damage from flooding as 8 million moved from their homes, crops destroyed and 100 000 homes lost. • It is not necessarily imperfect information but nature is unpredictable and it is hard to predict amount of rainfall or ice melting in mountains. • Measurement problem: it is hard to estimate the amount of flood defence that is needed. • Opportunity costs if resources are used for flood defence than funds are not available for education or health care. • Provision of information: Government could correct any information failure.	
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.

Q13.

Question Number	With reference to Extract B, examine the external costs associated with the production of cocoa beans.	Mark
	Knowledge 2, Application 2, Analysis 2, Evaluation 2 **Knowledge** Up to 2 marks for knowledge of external costs, e.g.: • Definition of external costs: negative impacts on third parties **(1)**. • Where MSC are above MPC- this may be shown diagrammatically **(1)**. **Application & Analysis** Up to 2 marks for application to external costs in the extract and up to 2 marks for linked explanation showing the external costs of cocoa production, e.g.: • Rainforest being lost **(1Ap)** is likely to be chopped down, this means less trees are available to turn carbon dioxide in to oxygen causing health issues **(1An)**. • To increase production some farmers start to use fertiliser **(1Ap)** which can pollute rivers which could have a negative impact on fishing industry as fish are damaged **(1An)**. • The reduction in rainforest in Indonesia from 30% to 15% **(1Ap)** means a loss of biodiversity which means species may be lost and possible future cures and medicines lost **(1An)**. **Evaluation** Up to 2 marks for evaluative comments, e.g.: • Whilst cocoa farmers benefit from production other producers lose out such as fishing industry **(1+1)**. • External costs may be balanced with private benefits of production/ profit is generated for cocoa farmers **(1+1)**. • External cost may be balanced with external benefits e.g. resulting from increased rural incomes/employment leading to increased expenditure **(1+1)**. • Magnitude: it depends on production as to the size of external costs **(1+1)**. • Training on how to produce in an environmentally friendly way can help reduce the size of external costs **(1+1)**. • Measurement of the size of any external costs is difficult to determine **(1+1)**. • In the long-term, having more Rainforest Alliance producers should help reduce these external costs **(1+1)**.	**(8)**

Q14.

Question	With reference to the second and third paragraphs of Extract A, examine **two** external costs associated with chicken production. **Answer**	Mark
	QS9: Interpret, apply and analyse information in written, graphical, tabular and numerical forms **Knowledge 2, Application 2, Analysis 2, Evaluation 2** **Knowledge and Analysis** Up to 2 marks for identifying two impacts and up to 2 marks for linked explanations, e.g.: • This leaves less water in the natural environment/ water becomes scarcer **(1K)** meaning animals and humans find it more difficult to find water for consumption **(1AN)** • The grain used for chicken feed means more land needs to be farmed **(1K)** which may result in deforestation as trees are removed to make room for growing crops resulting in habitat destruction for animals/loss of possible future medications **(1AN)** • Additional carbon dioxide emissions may cause global warming **(1K)** this may increase the risk of flooding as water levels rise/ increase the risk of wildfires as global temperatures rise causing damage to peoples' homes **(1AN)** • 1 Knowledge mark for accurate diagram showing external costs of production OR for correct definition of external costs **(1K)**	

	Application Up to 2 marks for application to Extract A One kilogram of chicken uses: • Uses 957 litres of water per kg **(1AP)** • 0.9kg of grain to feed the chickens per kg **(1AP)** • 0.7kg of carbon dioxide per kg **(1AP)** **Evaluation** Up to 2 marks for evaluative comments (2+0 or 1+1), e.g.: • 50% less negative impact on the environment compared to 1965 so a reduction from approximately 2000 litres of water/ 1.8kg of grain/ 1.4kg CO2 **(1+1)** • Difficult to quantify external costs, putting a value on the external costs of chicken production is difficult **(1+1)** • 345 billion kg chicken produced- substantial impact **(1)** • The external costs may only be experienced in the long-run **(1+1)** • There may be external benefits, such as employment associated with chicken production **(1+1)** • Other meat products may contribute more carbon dioxide emissions meaning chicken is less environmentally damaging **(1+1)**	**(8)**

Q15.

Question	With reference to Extract B, examine **two** external costs associated with rice production. **Answer**	Mark
	QS9: Interpret, apply and analyse information in written, graphical, tabular and numerical forms **Knowledge 2, Application 2, Analysis 2, Evaluation 2** **Knowledge and Analysis** 2 knowledge marks for identifying external costs and 2 analysis marks for linked explanation of each external cost, e.g.: • Additional emissions may cause global warming **(1K)** this may increase the risk of flooding as water levels rise/ increase the risk of wildfires as global temperatures rise causing damage to peoples' homes **(1AN)** • Rice production leaves less water in the natural environment **(1K)** meaning animals and humans find it more difficult to find water for consumption **(1AN)** • Insecticides kill off insects/ bees reducing the amount of honey/crops produced **(1K)** reducing the revenue and profits of beekeepers/farmers **(1AN)** • Respiratory problems **(1K)** resulting in additional health costs to the individual and government **(1AN)** • Up to 1 mark for definition of external costs or accurate diagram showing external costs of production **Application** Up to 2 marks for external costs with application to Extract B • 12% of global methane emissions/ 1.5% of all greenhouse gas emissions/ Vietnam's paddy fields produce more carbon emissions than its transport network **(1AP)** • 1 kg of rice requires 2 500 litres of water/ Rice uses 33% of the world's irrigation water **(1AP)** • Insecticides resulted in a 44% decline in bee population in the USA **(1AP)**	

	Evaluation Up to 2 marks for evaluative comments (2+0 or 1+1), e.g.: • 90% of rice is consumed within the country reducing emissions from transporting rice **(1)** • Difficult to quantify external costs, putting a value on the impact on third parties e.g. farmers, bee keepers **(1+1)** • Substantial impact e.g. 12% global methane emissions/2 500 litres of water **(1+1)** • The external costs may only be experienced in the long-run as it takes a long time for the third party impact to emerge e.g. climate change **(1+1)** • There may be external benefits, such as employment associated with rice production **(1+1)** • The magnitude of the external costs may be small as only 1.5% of global emissions contributed by rice **(1+1)**	**(8)**

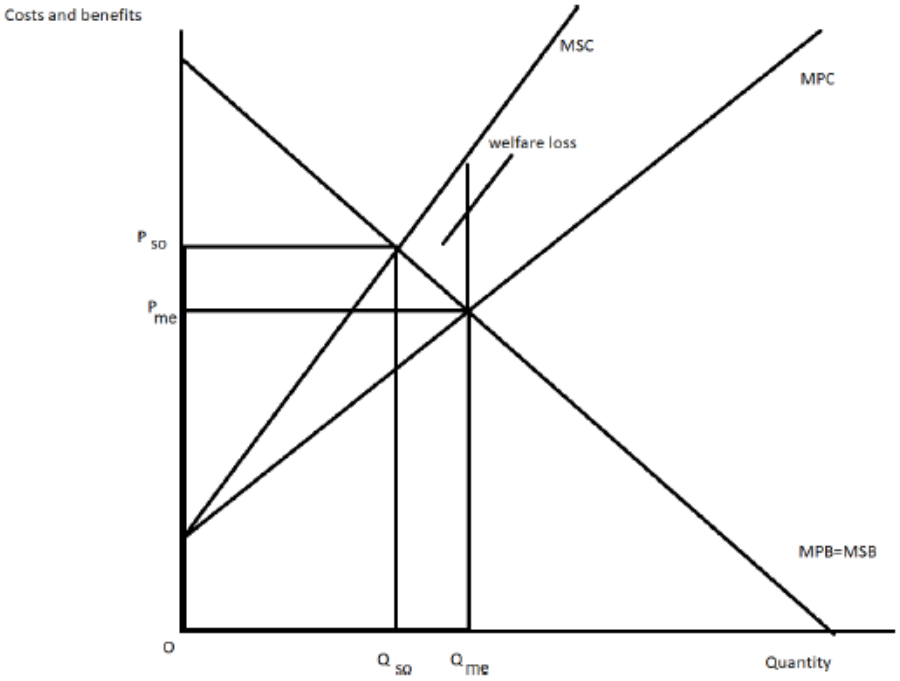
Q16.

Question	With reference to Extract C, examine whether national parks in New Zealand are public goods. **Answer**	Mark
	QS9: Interpret, apply and analyse information in written, graphical, tabular and numerical forms **Knowledge 2, Application 2, Analysis 2, Evaluation 2** **Knowledge and Analysis** up to 2 knowledge marks for identifying two points; and up to 2 analysis marks for linked explanations, e.g. • consumption is non-excludable **(1K)** as no-one can be prevented from using the national park land **(1AN)** • there is non-rivalry **(1K)** as one person enjoying the national park has little impact on others **(1AN)** • the land is too large to be able to exclude people **(1K)** as there would be too many fences to put up around each national park **(1AN)** • people will free ride the park **(1K)** by using it without paying **(1AN)** **Application** Up to 2 marks for reference to Extract C • 13 national parks/30 000km² **(1AP)** • So much space that that an individual will rarely meet another person **(1AP)** • Parks can be explored on foot/by boat/car **(1AP)** • Walk, run or cycle across the national parks without charge **(1AP)**	

	Evaluation Up to 2 marks for evaluative comments (2+0 or 1+1), e.g.: • Very busy in the summer season meaning there may be rivalry with other national park visitors **(1+1)** • Car parking spaces are hard to find making national parks excludable **(1+1)** • Some activities like skiing or kayaking are paid for suggesting they are excludable **(1+1)** • At different times of the year, when the weather is good it is likely rivalry may emerge **(1+1)** • It depends on the activity being undertaking in the park as the requirement for equipment may make it excludable **(1+1)**	**(8)**

Q17.

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.
	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.

Q18.

Question Number	Adam Smith wrote that by applying the division of labour in a pin factory, ten workers were able to increase production from 200 pins per day to 48 000 pins per day. Explain **one** advantage to firms of using the division of labour to organise production. Answer	Mark
	Knowledge 1, Application 1, Analysis 2 **QS1:** Calculate, use and understand ratios and fractions. **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 1 mark for identifying an advantage of the division of labour, e.g.: • Increased output per worker/increased productivity/lower training costs/reduce costs per unit/machinery can replace workers **(1)** OR 1 mark for definition of division of labour, e.g. • Where production is broken down into tasks and each worker focuses on one task **Application** 1 mark for applying to the stem/Adam Smith/ pin factory or production, e.g.: • Output per worker has increased from 20 to 4 800/workers will only be trained in one element of putting together the pins **(1)**	

	Analysis Up to 2 marks for linked expansion of the advantage e.g.: • The workers will focus on one task **(1)** and will become experts at that task **(1)** • The workers will not need to keep changing tools **(1)** enabling them to save time **(1)** • Workers will only need to be trained in how to do one task **(1)** rather than having to know how to complete every stage of production **(1)** • With the same number of workers being able to produce more output **(1)** the costs of making each item will be lower **(1)** • The tasks become simpler **(1)** and can often be automated **(1)**	**(4)**

Q19.

Question	Explain **one** microeconomic reason why people might have unnecessary operations in the USA. **Answer**	**Mark**
	Knowledge 1, Application 1, Analysis 2 Quantitative skills assessed: **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 1 mark for understanding e.g.: • Asymmetric information- where one economic agent has more information than another/ where the producer has more information than the consumer **Or** • Information gap- where information is not available to the consumer **Application** 1 mark for applying to unnecessary operations e.g.: • $200 billion per year spent on unnecessary operations **(1AP)** **Analysis** up to 2 marks for linked expansion • Doctors use their superior knowledge **(1AN)** to recommend surgeries/operations that the patient may not need **(1AN)** • Consumers are not aware of whether they need the operations **(1AN)** as they do not have medical training **(1AN)** • The private health insurance model in the USA provides an incentive to complete unnecessary operations **(1AN)** as it is an insurance company, not the patient who will pay/ which will increase revenue for the health provider **(1AN)** • Consumers may be more willing to have operations **(1AN)** as their insurance provider is paying **(1AN)** **NB moral hazard is a reason for people taking more risks leading to more operations and not more unnecessary operations**	**(4)**

Q20.

Question	With reference to the Maldives, explain the difference between 'market failure' and 'government failure'. **Answer**	Mark
	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 'market failure' • Where the price mechanism/ supply and demand/ buyers and sellers lead to an inefficient allocation of resources/ misallocation of resources **(1)** 1 mark for understanding of 'government failure' • Where government intervention leads to a net welfare loss/ a worse allocation of resources **(1)** **Application** 1 mark for reference to data on market failure • Market failure – under-provision of public goods/ under-investment in flood defences **(1)** 1 mark for reference to data on government failure • Government failure - excessive administrative costs/required to complete extensive paperwork **(1)**	**(4)**

Q21.

Question	With reference to lighthouses, explain the difference between 'non-rivalry' and 'non-excludability'. **Answer**	**Mark**
	Knowledge 2, Application 2 **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 1 mark for definition of non-rivalry e.g.: • Where the consumption by one person does not reduce the benefit for another person/ where people can consume a good without affecting the benefit derived by others **(1K)** 1 mark for definition of non-excludability e.g.: • Where you cannot prevent another person from consuming the same good / when it is impossible to provide a good without others being able to benefit from it **(1K)** **Application** Up to 2 marks for applying to stem e.g.: • 24 300 lighthouses globally **/** Number of losses of ships at sea reduced from 109 to 38 **(1AP)** • Lighthouses are a public good **(1AP)** • The consumption of light from a lighthouse by one ship does not reduce the light available to other ships at sea **(1AP)** • One ship's consumption of light does not exclude/prevent another ship consuming the same light **(1AP)**	**(4)**

Q22.

Question	With reference to the information provided, explain the difference between private benefits and external benefits. **Answer**	Mark
	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 'private benefits' • Private benefits are benefits/positive impacts on the buyer or seller/first/second party **(1)** 1 mark for understanding of 'external benefits' • External benefits are benefits/positive impacts on third parties/positive spillovers/ MSB > MPB **(1)** **Application** 1 mark for reference to private benefits in stem • Benefits to her neighbour, Tania, of earning revenue through selling honey/ • Benefits to Emiliana of earning revenue through selling sunflower seeds **(1)** 1 mark for reference to external benefits in stem • Emiliana's production increased from 300kg of sunflower seeds to 620kg of sunflower seeds/ • The honey bees help pollinate Emiliana's sunflowers increasing her output **(1)**	**(4)**

Q23.

Question	Quantitative skills assessed	Answer	Mark
	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 A** **B** is not correct because the welfare loss area is found by going up from the market equilibrium at point W **C** is not correct because this is producer surplus at the market equilibrium **D** is not correct because this is producer surplus at the social optimum	**(1)**

Q24.

Question	With reference to Extract B, discuss the external costs associated with tyre production and consumption. **Indicative content**
	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** **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/ the cost incurred by an individual, firm or community as a result of an economic transaction which they are not directly involved in / where MSC > MPC or MPB > MSB External costs of production • Costs to third parties associated with the production of rubber- tyres use 75% of world's supply • Deforestation (3 million hectares) in Mekong region causes a loss of natural habitats for animals, loss of biodiversity, future medicines • Reward external costs of production diagram External costs of consumption • Costs to third parties associated with consumption of tyres emitted 1 000 times more particles than from exhaust fumes. • Increased risk of lung cancer/Cardiovascular diseases affecting the heart and causing strokes- cost to healthcare/loss of workforce • Tyres contain chemicals and heavy metals that are released into the environment over time causing cancer and genetic mutations-costs to clean up If tyre production or consumption is omitted limit to Level 2

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

- Magnitude: the size of the impact of tyres is significant with so many cars on the roads
- Measurement of the impact of tyres may be difficult
- Innovations in tyre technology may reduce impact in future
- Research was based on testing one fully loaded car and one type of road surface. Emissions from tyres could be much lower or higher depending on the car-load or road surface- question reliability of test on tyres
- Environmental impacts reduced thanks to tyre recycling- reduced the number of used tyres left in the environment. One billion used tyres down to 60 million
- Tyres now recycled to produce fuel which produced 25% more energy than coal
- The ash from the tyres is less polluting than burning coal

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.

Q25.

Question	With reference to Extract B, examine the external costs associated with the consumption and disposal of plastic bags. Answer	Mark
	Knowledge 2, Application 2, Analysis 2, Evaluation 2 **Knowledge** Up to 2 marks for e.g.: • Definition of external costs: where costs are incurred by third parties **(1)** not included in the price mechanism **(1)** • The market ignores these costs and leads to an overconsumption of plastic **(1)** • The market price is below the socially optimal price **(1)** • External costs are an example of market failure **(1)** **Analysis & Application** 2 marks for each linked explanation of external costs, up to a maximum of 4 marks e.g.: • The contamination of soil may affect farmers who find they have a poor yield from the crops they grow or find it is contaminated/leading to lower revenues and profits **(1+1)** • The deaths of 100,000 marine animals reduce the supply available to the fishing industry and has negative impacts on the ecosystem **(1+1)** • 90% of debris is plastic and this may harm sea creatures who mistake it for food or get trapped in it **(1+1)** • Human health may be affected by the contamination of food with toxins. Healthcare providers may need to treat people affected by contamination costing tax payers where healthcare is provided by the state **(1+1)**	
	Evaluation Up to 2 marks for evaluative comments, e.g.: • Plastic bags benefit consumers as it makes transporting goods more hygienic /convenient/ protects products from damage **(1+1)** • It is difficult to place a value on external costs making it hard to quantify the size of external costs **(1+1)** • There is a significant external cost here with 100 000 marine animals being affected/ makes up 90% of debris in oceans **(1+1)** • The problems may not be identified immediately and extra costs may take a long time to emerge **(1+1)** • The plastic in the oceans may not only be caused by plastic bags **(1+1)** • The source for this information may be biased presenting evidence which is less reliable or valid as they are a conservation organisation campaigning for environmental protection **(1+1)**	**(8)**

Q26.

Question	With reference to Extract B, examine two external costs associated with the production of clothing. **Answer**	Mark
	QS9: Interpret, apply and analyse information in written, graphical, tabular and numerical forms **Knowledge 2, Application 2, Analysis 2, Evaluation 2** **Application, Knowledge and Analysis** Up to 2 marks for reference to Extract B and up to 2 marks for identifying two effects and up to 2 marks for linked explanations , e.g.: • Definition of 'external costs' – negative impacts on third parties outside a transaction **(1K)** • Jeans use 3 781 litres of water **(1Ap)** leaving less for drinking water **(1K)** which may push up prices of drinking water **(1An)** • Jeans produce 33.4kg of carbon emissions **(1Ap)** which are greenhouse gases contributing to global warming **(1K)** which may cause rising sea levels/flooding **(1An)** • Globally clothing manufacturing uses 93 billion cubic metres of water **(1Ap)** leaving less clean water for water companies **(1K)** which may mean more needs spending on water treatment **(1An)** • Clothes dyeing produces 20% of waste-water **(1Ap)** which may need cleaning by water companies **(1K)** adding to their costs which are passed on as higher prices to consumers **(1An)** • Burning clothing **(1Ap)** causes air pollution which may cause breathing difficulties **(1K)** and costs to health services **(1An)** • Clothing manufacturers produce 10% of annual global carbon emissions **(1Ap)** which contribute to global warming **(1K)** which may make it difficult to farm certain crops as the weather is no longer ideal **(1An)** **1 A mark for a correctly drawn external costs of production diagram** **Evaluation** Up to 2 marks for evaluative comments, e.g.: • Magnitude of costs- 93 billion cubic metres is a significant number (1+1) • Measurement – it is hard to measure the size of external costs- e.g. the value placed on clean air/water (1+1) • Manufacturing countries will experience higher levels of external costs (1+1) • May be substantial external benefits- employs 75 million people who spend money where they live boosting the economy (1+1)	**(8)**

Q27.

Question	Define the term 'external costs' (Extract C, line 11). **Answer**	Mark
	Knowledge 2 Up to 2 marks for defining 'external cost', e.g.: • Costs to third parties **(1)** • Negative **(1)** impact on third parties **(1)** • Where MSC > **(1)** MPC **(1)** • Economic agents not involved in the transaction **(1)** experience costs **(1)** • Accept explicit examples from Extract C e.g. causes cancers, contaminated waste water **(1)**	**(2)**

Q28.

Question Number	Quantitative skills assessed	Answer	Mark
	–	D	**(1)**

Q29.

Question	Quantitative skills assessed	Answer	Mark
	QS9: Interpret, apply and analyse information in written, graphical, tabular and numerical forms	**The only correct answer is C** **A** is not correct because this is an example of asymmetric information **B** is not correct because this is an example of asymmetric information **D** is not correct because market failure occurs when there is asymmetric information	**(1)**

Q30.

Question	Many consumers do not buy travel insurance before going on holiday abroad despite substantial costs if they need medical care. Many car drivers do not provide complete and accurate information to car insurance companies when insuring their cars. Evaluate the microeconomic effects of imperfect information on insurance markets. **Indicative content**
	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. **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 • Information failure- where economic agents lack the information to make optimal decisions • Asymmetric information- where economic agents have different levels of informtion • Market failure- where the market leads to an inefficient allocation of resources • Many consumers holiday abroad without travel insurance despite substantial costs when they need medical care e.g. many are unaware of the possible large costs if they need to be returned home in an emergency • This results in underconsumption of travel insurance • When taking out health insurance policies many consumers fail to declare all information. This means the policy offered does not take account of the risks for the individual- it means that the insurance company may end up paying out more in claims • Incomplete information may result in claims being rejected • For example, on medical or health insurance they may not declare they smoke or drink alcohol regularly which increases the risk of a claim • Car drivers don't tell the whole truth on applications- meaning that the driver is a higher risk and therefore more likely to claim • When making claims the consumer may leave information out that would result in a lower or no payout- for example, they left the car or house unlocked or without the security alarm set • Imperfect information results in insurance companies making larger payouts increasing costs • These higher costs result in consumers having higher premiums / paying more for their insurance policy

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 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
	• Market failure may be reduced as the insurance company can gain permission to find medical records/ contact doctor • Information can be provided about costs of medical evacuation so consumers can take account of these costs • Consumers may have the information but with the chance of it happening being so small they calculate that is a risk worth taking not having the insurance • Consumers not taking out medical/ health insurance may be because they cannot afford the premium • The internet may help close the information gap that results in the market failure • Market failure in insurance markets may be the result of irrational behaviour rather than the result of imperfect information (habitual behaviour, inertia, herding and calculation problems) • Insurance companies may share information on consumers who may say they have not claimed in 5 years. This can be checked by the insurance company

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.

Q31.

Question	With reference to the Hong Kong housing market, explain what is meant by a 'market bubble'. **Answer**	**Mark**
	Knowledge 2, Application 2 **Knowledge** 2 marks for defining 'market bubble.' • A bubble is created by speculation/expectations of further price increases **(1)** • To a level which is overinflated/above expected prices/increase to extreme levels/increasing constantly **(1)** • Price is unsustainable/value is higher than true/real value **(1)** • A market bubble is an example of a market failure **(1)** **Application** 2 marks for applying to the Hong Kong housing market e.g.: • In Hong Kong the house prices have increased by 10% per year between 2012 and 2018 **(1)** • House prices may be at risk of falling/ the housing price bubble may be at risk of bursting/ demand may fall when potential buyers can no longer borrow money/ loss of confidence about future price rises **(1)**	**(4)**

Q32.

Question	**Quantitative skills assessed**	**Answer**	**Mark**
	–	B	**(1)**

Q33.

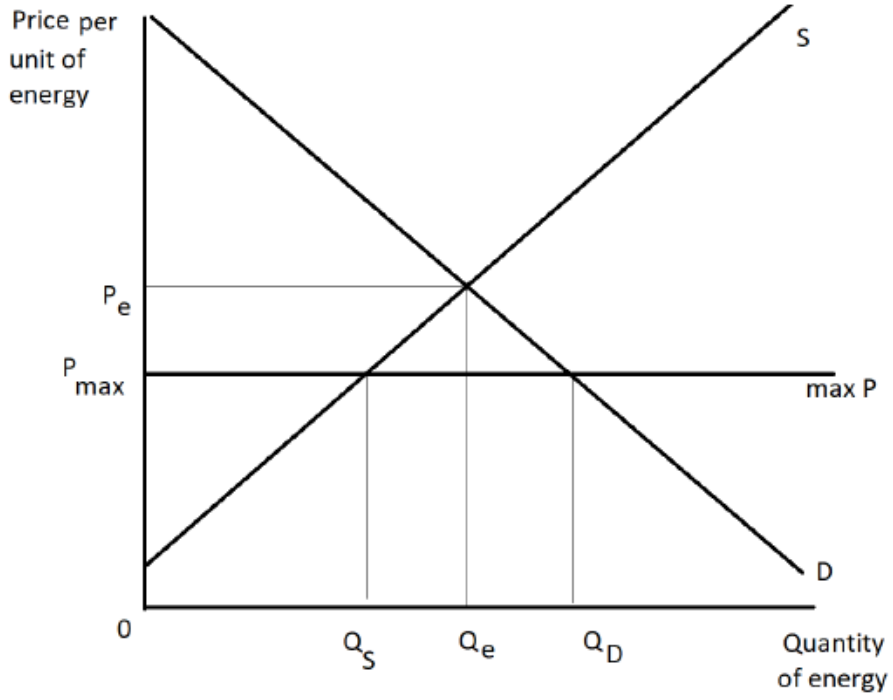
Question Number	Quantitative skills assessed	Answer	Mark
		The only correct answer is C ***A*** *is not correct because this is a government failure* ***B*** *is not correct because diminishing marginal utility occurs in any normally functioning market* ***D*** *is not correct because this is a government failure*	**(1)**

Q34.

Question Number	'12 million consumers within the UK are on standard variable tariffs for their gas and electricity. One energy supplier, RWE npower, charged consumers on the standard variable rate £1 166 per year. However, its cheapest deal was £935 per year. Consequently the UK Government is introducing a maximum price for gas and electricity.' Evaluate the likely impact of the introduction of a maximum price for gas and electricity. Indicative content
	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

- Maximum price- the price ceiling above which price cannot be charged.
- The idea is to protect consumers from being charged very high prices for gas and electricity.
- When they pay £1 166 it is a high price compared to the cheapest deal- £231 more expensive.
- Diagram may be offered.



- The price charged to standard variable rate customers should fall from P_e to $P_{max.}$
- This will see a **contraction** in quantity supplied to Q_s as providing the good is less profitable.
- The lower price will see an **extension** in demand to Q_D as product is more affordable.
- Maximum price causes excess demand/ a shortage.
- Consumer surplus will rise for those being charged a lower price.
- Producer surplus will fall.
- Total revenue and profit may fall for electricity and gas providers.
- Could reduce choice to consumers as some firms may decide to leave the market, further increasing the shortage in the future.
- The emergence of informal activities, alternative sources of energy.

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 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 – what level should maximum price be set at. • Magnitude – depends on level of maximum price as to whether it will have desired impact/ 12 million may benefit from this policy. • Time frame – it will take time for the maximum price to be implemented. • Consumers may be worse off if they cannot secure a supplier as supply contracts. • Regulators will ensure customers still receive supply. • Firms may change the way they charge to get around the maximum price. • Long term energy supply problems if maximum prices discourage investment in the industry. • Demand likely to be inelastic so little change in quantity

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.

Q35.

Question	Quantitative skills assessed	Answer	Mark
	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 D** **A** is not correct because Q_1 is the market equilibrium output **B** is not correct because Q_2 is the social optimum output **C** is not correct because ABC is the welfare gain	(1)

Q36.

Question Number	Answer	Mark
	Knowledge 1, Application 1, Analysis 2 **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 1 mark for knowledge of moral hazard • Situation where one party gets involved in a risky event knowing that it is protected against the risk/ • Another party will incur the cost of a decisions **(1)** **Analysis** Up to 2 marks for explaining the concept of moral hazard linked to health insurance, e.g.: • The citizens are insured so take more risks **(1)** as they know that they will be covered by the insurer if they attend hospital **(1)** • The risk is transferred from the individual to the insurer **(1)** which may mean individuals are more willing to take risks/which increases the risk of injury **(1)** **Application** 1 mark for applying to the stem, e.g.: • 10000 Insured citizens had more hospital admissions/emergency department visits than the 45000 without insurance **(1)**	**(4)**

Q37.

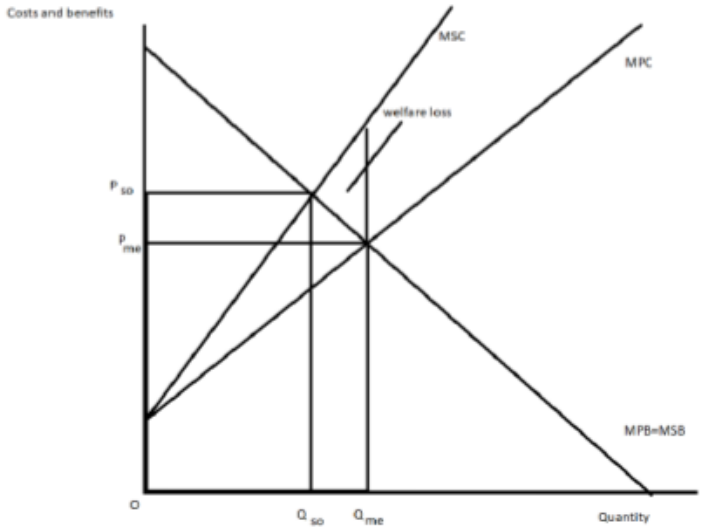
Question	Quantitative skills assessed	Answer	Mark
	QS9: Interpret, apply and analyse information in written, graphical, tabular and numerical forms	**The only correct answer is C** **A** is not correct because inertia is about consumers finding that the effort to secure a better deal is too great **B** is not correct because the free-rider problem is associated with public goods **D** is not correct because a market bubble emerges when the price of an asset rises above its true value	**(1)**

Q38.

Question Number	With reference to Extract B, examine the external costs resulting from increased meat production. Answer	Mark
	Knowledge 2, Application 2, Analysis 2, Evaluation 2 **Knowledge** Up to 2 marks for knowledge of external costs, e.g.: • Definition of external costs: negative impacts on third parties **(1)** • Where the marginal social costs are greater than the marginal private costs **(1)**. May be shown diagrammatically. **Application and Analysis** Up to 2 marks for each linked explanation showing the external costs of meat production up to a maximum of 4 marks, e.g.: • Meat production causes 15% of all global greenhouse gas emissions and extra greenhouse gases may contribute to global warming. This may affect farmer's ability to grow crops **(1+1)**. • Water pollution will affect water companies who have to invest more in cleaning the water/ will affect consumers who may become ill from drinking polluted water **(1+1)**. • Excessive use of antibiotics is also leading to resistance amongst humans which means when antibiotics need to be used they will be ineffective **(1+1)**. • Consuming too much meat damages health costing health services to treat those affected **(1+1)**	
	Evaluation Up to 2 marks for two evaluative points or one evaluative point developed, e.g.: • Whilst firms involved in meat production benefit from production other producers lose out such as water industry **(1+1)**. • External costs must be balanced with private benefits of production/ employment is created by meat production **(1+1)**. • Magnitude: it depends on production as to the size of external costs and 15% represents a significant contribution to greenhouse gases **(1+1)**. • Training on how to produce in an environmentally friendly way can help reduce the size of external costs **(1+1)**. • Measurement of the size of any external costs is difficult to determine and quantify **(1+1).** • Meat consumption may be just as damaging as meat production. Over time, rates of obesity, diabetes and cancer will rise **(1+1)**	**(8)**

Q39.

Question	With reference to Extract B, discuss the external costs associated with the production and the use of fertiliser. Illustrate your answer with an appropriate diagram. Indicative content
	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 impact on third parties • Between 1960 and 2019 there was a ten-fold increase in the use of fertiliser • The production of fertiliser requires substantial use of non-renewable resources such as gas and coal. It is responsible for 1% of all global energy use and 1.4% of all carbon emissions - this leads to the greenhouse effect and global warming- increasing the risk of flooding/droughts so affecting income of farmers • Fertiliser is produced by applying acids to phosphate rock - these acids may leak into the environment causing illness and additional health costs • The fertilisers that are used on farmland are often washed into rivers and lakes. This causes algae to develop and oxygen levels to decrease, resulting in a decline in fish stocks - impacting those in the fishing industry who will find it more difficult to find fish

	 • Diagram showing MSC above MPC • Q_{me} above Q_{so} shows overproduction • P_{me} below P_{so} shows price paid is below social optimum • Welfare loss triangle due to third party impacts

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 external costs • 1.4% of total carbon emissions- small relative to other sectors/a significant impact • Fertiliser use has helped increase crop production four-fold- increasing revenues for crop growers and manufacturers • Fertiliser production results in external benefits in terms of increased food supply and employment opportunities • Difficult to measure the size/value of external costs • Production of phosphate rock is focused mainly in 5 countries with 70% produced in Morocco so the external costs will be concentrated in these countries • Crop production using fertiliser is used by farmers globally and therefore has a global impact • The European Union's tradeable pollution permit scheme applies to fertiliser manufacturers – if the EU reduces the number of permits available this will reduce production of fertiliser and its associated external costs	

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.