

# Mark Scheme (Results)

January 2014

Pearson Edexcel  
International Advanced Level (IAL)  
Economics (WEC01) Unit 1

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## General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.



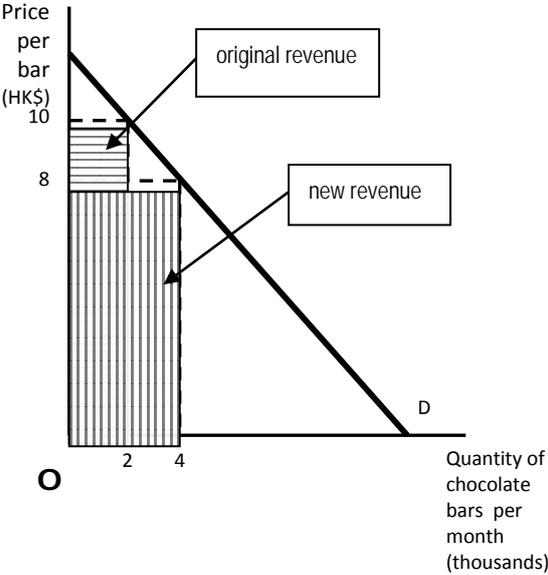
## Section A: Supported multiple choice

NB: Candidates may achieve up to 3 explanation marks even if the incorrect option is selected.

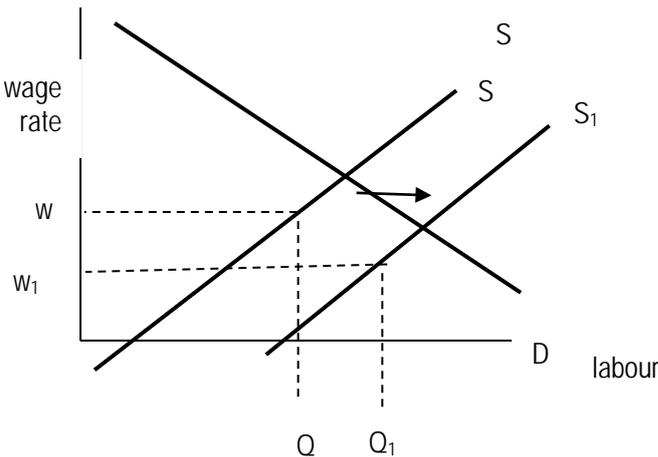
NB: Candidates may achieve up to 3 marks for explaining three incorrect options (provided three different reasons are offered **and each option key is clearly rejected**).

Question Number	Answer	Mark
1	<p><b>Answer D (1 mark)</b></p> <p><b>Explanation (up to 3 marks)</b></p> <ul style="list-style-type: none"> <li>• Definition of a mixed economy (both the price mechanism and the state guide resource allocation) <b>(1)</b></li> <li>• Definition of public goods (goods which are non-rivalrous and non-excludable in consumption) <b>(1)</b> <b>Must refer to both non-rival and non-excludable.</b></li> <li>• Public goods are under-provided in the free market due to the free rider problem <b>(1)</b></li> <li>• Explanation of the free rider problem (as a good cannot be withheld from a consumer who has not paid for its provision, no-one has an incentive to pay for it) <b>(1)</b></li> <li>• Example of a public good provided by the state in a mixed economy (e.g. national defence, street lights, public park etc.) <b>(1)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>• Option A: governments often intervene to reduce price flexibility to protect consumers' or producers' interests, e.g. maximum and minimum price schemes <b>(1)</b></li> <li>• Option B: this is how a free market economy works when it is free from government intervention <b>(1)</b></li> <li>• Option C: the government may be concerned if goods fulfilling wants (rather than needs) are scarce, but will be happy to leave the price mechanism to ration luxury goods, as these are not essential for a decent standard of living <b>(1)</b></li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
2	<p><b>Answer A (1 mark)</b></p> <p><b>Explanation (up to 3 marks)</b></p> <ul style="list-style-type: none"> <li>• Definition of a subsidy (a government grant to producers to encourage production) <b>(1)</b></li> <li>• A subsidy reduces production costs for firms <b>(1)</b></li> <li>• The value of the subsidy per unit/flight is <math>P_2P_1</math> (or AE or BD) <b>(1)</b></li> <li>• The area <math>P_2BCP</math> represents the producer subsidy (value of the subsidy that the producer retains) <b>(1)</b></li> <li>• The area <math>PCDP_1</math> represents the consumer subsidy (value of the subsidy passed on to consumers) <b>(1)</b></li> </ul> <p><b>NB: The variables identified in the final three bullet points above may be shown on the diagram- must be explicitly labelled.</b></p> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>• Option B: This is the subsidy paid for the original quantity of flights only, not the new higher quantity <b>(1)</b></li> <li>• Option C: This is the producer subsidy (value of the subsidy that the producer retains) <b>(1)</b></li> <li>• Option D: This is the consumer subsidy (value of the subsidy passed on to consumers) <b>(1)</b></li> </ul>	(4)

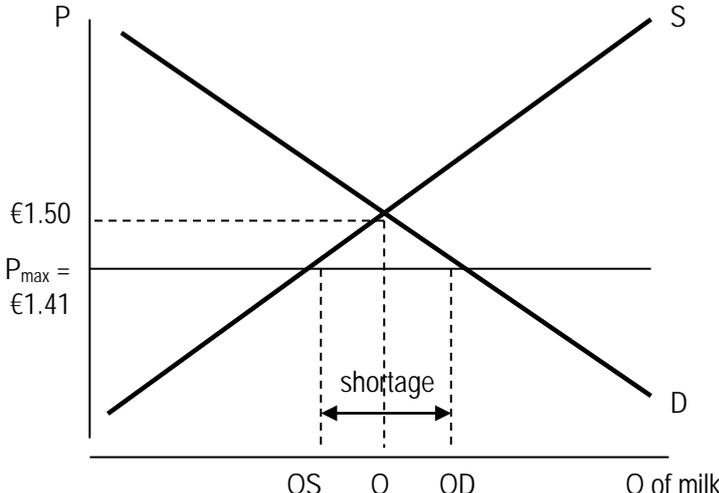
Question Number	Answer	Mark
3	<p><b>Answer C (1 mark)</b></p> <p><b>Explanation (up to 3 marks)</b></p> <ul style="list-style-type: none"> <li>• Definition of price elastic demand (a change in price results in a proportionally greater change in quantity demanded) <b>(1)</b> OR Definition or formula for PED OR Definition of (Total) Revenue <b>(1)</b></li> <li>• Application: <math>PED = +100\% / -20\% \text{ (1)} = -5 \text{ (1)}</math></li> <li>• Demand is price elastic as <math>PED &lt; -1 \text{ (1)}</math></li> <li>• Application:  Original revenue = HK\$10 x 2000 = HK\$20 000 /  New revenue = HK\$8 x 4000 = HK\$32 000/ <b>(1)</b>  Change in revenue 32 000-20 000= 12 000 <b>(1)</b> OR  relevant areas shaded and labelled on diagram <b>(1+1)</b></li> </ul>  <ul style="list-style-type: none"> <li>• Drawing TR diagram and showing TR rising as price falls.</li> </ul> <p><b>Rejection marks (Do not double award marks)</b></p> <ul style="list-style-type: none"> <li>• Option A: for price inelastic demand, <math>0 &gt; PED &gt; -1</math>, whereas here <math>PED = -5 \text{ (1)}</math></li> <li>• Option B: revenue rises as price falls, from HK\$20,000 to HK\$32,000 <b>(1)</b></li> <li>• Option D: for price inelastic demand, <math>0 &gt; PED &gt; -1</math>, whereas here <math>PED = -5</math> / revenue rises as price falls, from HK\$20,000 to HK\$32,000 <b>(1)</b></li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
4	<p><b>Answer C (1 mark)</b></p> <p><b>Explanation (up to 3 marks)</b></p> <ul style="list-style-type: none"> <li>• Definition or formula for cross price elasticity of demand (the responsiveness of demand for good A to a change in the price of good B <b>OR</b> <math>XED = \frac{\% \Delta D \text{ of good A}}{\% \Delta P \text{ of good B}}</math>) <b>(1)</b></li> <li>• Complement goods have a negative XED <b>(1)</b></li> <li>• When the price of fruit rises, the demand for dairy products will fall <b>OR</b> when the price of fruit falls, the demand for dairy products will rise <b>OR</b> 10% rise in price of fruit will lead to a 3.1% fall on dairy <b>(1)</b></li> <li>• Fruit and dairy products are in joint demand <b>(1)</b></li> <li>• Fruit and dairy products are <u>weak</u> complements <b>OR</b> have cross price <u>inelastic</u> demand <b>(1)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>• Option A: fruit and grains are substitute goods, as they have a positive XED <b>(1)</b></li> <li>• Option B: cannot deduce this from the table as it only gives data on XED, not YED <b>(1)</b></li> <li>• Option D: cannot deduce this from the table as it only gives data on XED, not PED / an XED of 0 means that there is no relationship between the price of fruit and the demand for vegetables <b>(1)</b></li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
5	<p><b>Answer B (1 mark)</b></p> <p><b>Explanation (up to 3 marks)</b></p> <ul style="list-style-type: none"> <li>• Real (wage) means adjusted for inflation <b>(1)</b></li> <li>• If the retirement age is raised, then the supply of labour in Spain will increase <b>(1)</b> and this results in a fall in the price of labour, or the wage rate <b>(1)</b></li> <li>• Application: diagram showing an increase in supply of labour with original and new equilibria labelled <b>(1+1)</b></li> </ul>  <p><b>Do not double award- e.g. supply increasing written in diagram and text</b></p> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>• Option A: net outward labour migration would reduce the supply of labour causing a rise in average wage rates, whereas in 2011 wages rates fell in the USA <b>(1)</b></li> <li>• Option C: this is a result of changes in the wage rate, not a cause of them. Also, as wage rates rose in this year, the opportunity cost of not working also increased <b>(1)</b></li> <li>• Option D: as the wage rate rose in Japan in 2011, a consequence (not cause) of this would be an increase in demand for goods and services, OR as labour is a derived demand, a cause of rising wage rates would be an increase in demand for goods and services, not a decrease <b>(1)</b></li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
6	<p><b>Answer B (1 mark)</b></p> <p><b>Explanation (up to 3 marks)</b></p> <ul style="list-style-type: none"> <li>• Definition of market failure (when the price mechanism leads to an inefficient allocation of resources) <b>(1)</b></li> <li>• Definition of occupational (im)mobility (the (in)ability/(un)willingness of workers to change occupation to obtain or change jobs) <b>(1)</b></li> <li>• If workers are unable to change occupation, there may be long-term shortages of labour in some occupations / and long-term surpluses (unemployment) of labour in other occupations <b>(1+1)</b></li> <li>• This may be due to lack of demanded / transferable skills / qualifications <b>(1)</b></li> <li>• Application: example of region/occupation suffering from long term unemployment <b>(1)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>• Option A: this is the efficient working of the price mechanism, as a rise in price would reduce QD and increase QS, eliminating the shortage <b>(1)</b></li> <li>• Option C: this is nothing to do with market failure, and instead is the reason why the demand curve has a negative gradient <b>(1)</b></li> <li>• Option D: this is an example of <u>government</u> failure, not market failure <b>(1)</b></li> </ul>	<b>(4)</b>

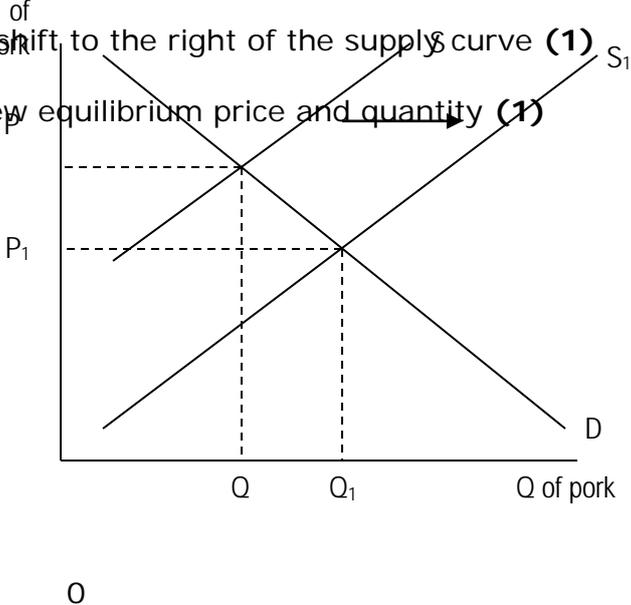
Question Number	Answer	Mark
7	<p><b>Answer B (1 mark)</b></p> <p><b>Explanation (up to 3 marks)</b></p> <ul style="list-style-type: none"> <li>• Definition of a production possibility frontier (The maximum combinations of 2 goods which an economy can produce when all its resources are fully/efficiently employed) <b>(1)</b></li> <li>• Definition of opportunity cost (the value of the next best alternative foregone) <b>(1)</b></li> <li>• Application: the movement from X to Z involves producing 20 more units of consumer goods or consumer goods increase from 80 to 100 <b>(1)</b> but reducing production of capital goods from 60 units to 0 units <b>(1)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>• Option A: the opportunity cost of the movement V to W is 10 units of capital goods <b>(1)</b></li> <li>• Option C: the opportunity cost of the movement Y to V is 100 units of consumer goods / point Y is inaccessible as it is outside the PPF <b>(1)</b></li> <li>• Option D: the opportunity cost of the movement Z to W is 60 units of consumer (not capital) goods <b>(1)</b></li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
8	<p><b>Answer A (1 mark)</b></p> <p><b>Explanation (up to 3 marks)</b></p> <ul style="list-style-type: none"> <li>• Definition of a maximum price (a legally imposed price ceiling, above which market price cannot rise) <b>(1)</b></li> <li>• Diagram showing the maximum price below the market equilibrium price / new QS and QD labelled / shortage marked (accept excess demand) <b>(1+1+1)</b></li> </ul>  <ul style="list-style-type: none"> <li>• The QD of milk is greater than the QS / there is excess demand of milk <b>(1)</b></li> <li>• At a lower price suppliers will contract supply as it is less profitable (1)</li> <li>• This was likely done to protect consumer surplus / consumer interests / to keep milk affordable <b>(1)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>• Option B: as the price that farmers can sell their milk for has decreased, producer surplus/profit will decrease causing contraction in supply (may be shown on diagram), disincentivising new producers from joining the market <b>(1)</b></li> <li>• Option C: as price falls there will be an extension of demand (may be shown on the diagram) <b>(1)</b></li> <li>• Option D: as the price of milk has fallen, its purchase involves a lower opportunity cost, as consumers could buy fewer other goods with €1.41 than with €1.50 <b>(1)</b></li> </ul>	<b>(4)</b>

## Section B: Data response

**NB:** KAA marks relates to those awarded for AO1, AO2 and AO3

**NB:** Evaluation marks relates to those awarded for AO4

Question Number	Answer	Mark
9(a)	<p><b>Knowledge, Application and Analysis (up to 6 marks)</b></p> <ul style="list-style-type: none"> <li>• Explicit reference to Figure 1 (e.g. wholesale pork prices fell from around 23 RMB per kg to around 21 RMB per kg in March 2013) This may be shown on the diagram. <b>(1)</b></li> <li>• An increase in supply because of:               <ul style="list-style-type: none"> <li>○ a high stock of breeding sows <b>(1)</b></li> <li>○ no outbreak of swine flu <b>(1)</b></li> <li>○ falling corn prices / mean a decrease in production costs <b>(1+1)</b></li> </ul> </li> </ul> <p><b>Diagrammatic analysis which shows:</b></p> <ul style="list-style-type: none"> <li>• original equilibrium price and quantity <b>(1)</b></li> <li>• a shift to the right of the supply curve <b>(1)</b></li> <li>• new equilibrium price and quantity <b>(1)</b></li> </ul>  <p><b>NB: Award a maximum of 4 marks if no diagram.</b></p>	<b>(6)</b>

**Please turn over for Q09b**

Question Number	Answer	Mark
<b>9(b)</b>		<b>(10)</b>
<b>Knowledge, Application and Analysis – Indicative content</b>		
	<ul style="list-style-type: none"> <li>• A swine flu epidemic would reduce the amount of supply of pork available to restaurants</li> <li>• Increase in restaurants' production costs</li> <li>• Costs also rise as stock may go to waste</li> <li>• Decrease in supply of pork dishes / rise in price of pork dishes – this may be shown diagrammatically</li> <li>• Decrease in producer surplus</li> <li>• Decrease in demand for pork dishes due to falling consumer confidence in pork - this may be shown diagrammatically</li> <li>• Decrease in demand for restaurants as people start cooking from home as they worry about the meat in restaurant</li> <li>• Restaurants may make less profit</li> <li>• Restaurants may be forced to cut other costs / e.g. make workers redundant, reduce wages, switch to using cheaper factors of production</li> <li>• Restaurants may change their menus so they include fewer pork dishes / increased use of other meats</li> </ul>	<b>(6)</b>
Level	Marks	Descriptor
0	0	A completely inaccurate response.
1	1-2	Shows some awareness of the effect of a decrease in supply or demand of pork
2	3-4	Understanding of the effect of a decrease in supply or demand, with some application to context.
3	5-6	Clear understanding of the effect of a decrease in supply or demand with appropriate application to context.

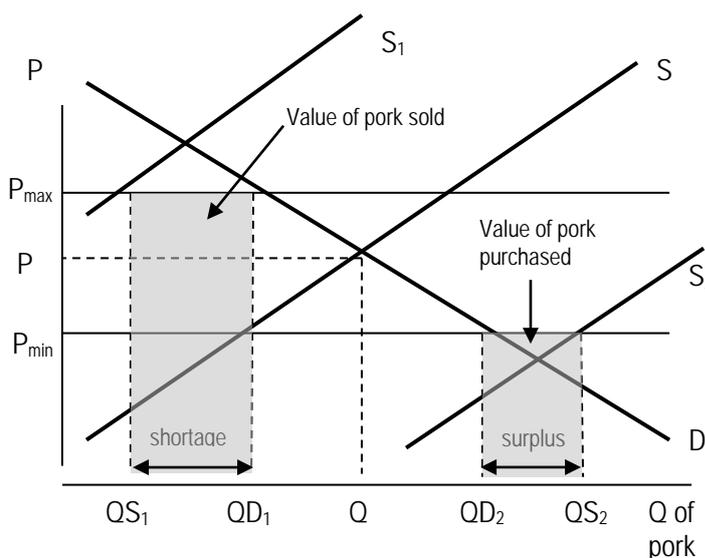
Question Number	Answer	Mark
<b>9(b) contd.</b>		
<b>Evaluation – Indicative content</b>		
	<ul style="list-style-type: none"> <li>• Whether or not restaurants pass on the increased cost to consumers depends on consumers' PED for pork dishes</li> <li>• Cost of pork as a proportion of overall production costs</li> <li>• May be able to import pork from another country, so price does not rise so much</li> <li>• Government could release stocks from its pork reserve so price does not rise so much</li> <li>• Pork is very important in Chinese diets, so effect could be very significant / restaurants unlikely to switch away from pork dishes entirely</li> <li>• Pork substitutes- link to closeness of substitutes- e.g. Impact will depend on the extent to which Chinese rest diners will accept chicken as a white meat substitute</li> <li>• Those specialising in pork may suffer more</li> <li>• Effect on price of pork dishes depends on relative magnitude of shifts in supply and demand</li> <li>• Restaurants have other dishes reducing impact- pork could be substituted by other meats to minimise potentially negative impact on sales, profits.</li> <li>• Imperfect information- time lag/ delays in the spread of information</li> </ul>	<b>(4)</b>
Level	Marks	Descriptor
0	0	No evaluative comments.
1	1-2	For identifying a number of evaluative comments without explanation. Or identifying one evaluative comment and offering development.
2	3-4	For evaluative comments supported by relevant reasoning.

Question Number	Answer	Mark
9(c)		(14)

Knowledge, Application and Analysis – Indicative content

**Diagrammatic analysis**

- Maximum and minimum prices
- Amount ( $QS_1QD_1$ ) of pork released onto market when low supply ( $S_1$ ) means price rises above maximum
- Amount ( $QD_2QS_2$ ) of surplus pork bought when high supply ( $S_2$ ) means price falls below minimum
- Diagrams may be drawn with inelastic supply curves.



**Written analysis**

Definition of buffer stock scheme

- When the supply of pork is high, the government will buy up the surplus ( $QD_2QS_2$ ), preventing prices from dropping below  $P_{min}$
- When the supply of pork is low, the government will release stores of pork equal to the amount of the shortage ( $QS_1QD_1$ ), preventing prices from rising above  $P_{max}$
- This keeps the price of pork between  $P_{max}$  and  $P_{min}$ , reducing fluctuations in farmers' incomes / reducing uncertainty / maintaining investment / keeping pork affordable for consumers

(8)

Question Number		Answer	Mark
<b>9(c) contd.</b>			
Level	Marks	Descriptor	
0	0	A completely inaccurate response.	
1	1-3	Shows some awareness of a buffer scheme. Material presented is often irrelevant and lacks organisation. Frequent punctuation and/or grammar errors are likely to be present and the writing is generally unclear.	
2	4-6	Understanding of a buffer scheme in the context of the pork market. This may be supported by a labelled diagram. Material is presented with some relevance but there are likely to be passages which lack proper organisation. Punctuation and/or grammar errors are likely to be present which affect the clarity and coherence.	
3	7-8	Clear understanding of a buffer scheme in the context of the pork market. This may be supported by an accurately labelled diagram which is explained and applied effectively. Material is presented in a relevant and logical way. Some punctuation and/or grammar errors may be found, but the writing has overall clarity and coherence.	

Evaluation continued on next page.

Question Number	Answer	Mark
<b>9(c) contd.</b>		
<b>Evaluation – Indicative content</b>		
	<ul style="list-style-type: none"> <li>• Discussion of magnitude of likely price fluctuations</li> <li>• Discussion of the likely costs of running the scheme, e.g. frozen storage costs. Opportunity cost of this money.</li> <li>• The pork is frozen but even then there is a limited time you can store pork safely</li> <li>• Discussion of price elasticity of demand and supply for pork. If price inelastic demand and supply then the surpluses/shortages created will be smaller</li> <li>• Discussion of time period/fluctuations in pork prices. It might be that pork prices will fall back in the future so little long term impact.</li> <li>• Discussion of the need for the government to set <math>P_{max}</math> and <math>P_{min}</math> well, and the amount of information required to do so</li> <li>• Discussion of the need for all pork producers to keep to the terms of buffer stock scheme for it to be successful - would they not look to export their product if they could get a price above <math>P_{max}</math> abroad</li> <li>• Swine flu- reduced supply so buffer stock will be useful to release stock</li> </ul>	<b>(6)</b>
Level	Marks	Descriptor
0	0	No evaluative comments.
1	1-2	For identifying evaluative comments without explanation
2	3-4	For evaluative comments supported by some reasoning and application to context.
3	5-6	For evaluative comments supported by relevant reasoning and clear application to context.

Question Number	Answer	Mark
9(d)	<p><b>Knowledge, Application and Analysis (4 marks)</b></p> <ul style="list-style-type: none"> <li>• A normal good is one for which demand rises when income rises (or vice versa) <b>OR</b> a normal good has a positive YED <b>OR</b> there is a positive relationship between income and demand <b>OR</b> Diagram with consumers income against quantity demanded for normal good <b>(1)</b></li> <li>• An inferior good is one for which demand falls when income rises (or vice versa) <b>OR</b> an inferior good has a negative YED <b>OR</b> there is a negative relationship between income and demand <b>OR</b> Diagram with consumers income against quantity demanded for normal good <b>(1)</b></li> <li>• Definition or formula for <math>YED = \frac{\% \text{ change in QD}}{\% \text{ change in Y}}</math> <b>(1)</b></li> </ul> <p><b>Maximum 2 marks for above 3 bullet points on normal, goods, inferior goods and income elasticity of demand.</b></p> <ul style="list-style-type: none"> <li>• Use of Extract 2: "When people have more income, they will eat more meat, especially pork" <b>OR</b> "Greater wealth throughout much of the developing world is leading more people to consume beef, pork and chicken than ever before." <b>(1)</b></li> <li>• For identifying pork is a normal good <b>(1)</b></li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
9(e)		(14)

Knowledge, Application and Analysis – Indicative content

**Definition of external cost:**

- cost external to an exchange
- negative third party effect
- spillover from production or consumption
- cost which the price mechanism fails to take into account
- difference between private costs and social costs

**Examples of external costs of pork production:**

- Increased carbon dioxide and methane emissions / leading to global warming
- Use of water resources / means less water available for human consumption or irrigation of agricultural land
- 'Most of this water returning to the environment is polluted' / which may spread disease or contaminate agricultural land

**Diagram:**

The diagram illustrates the economic impact of external costs in the pork market. It plots Price on the vertical axis and Quantity of pork on the horizontal axis. Three curves are shown: Marginal Social Cost (MSC), Marginal Private Cost (MPC), and Marginal Benefit (MPB=MSB). The MSC curve is steeper than the MPC curve. The market equilibrium is at the intersection of MPC and MPB, resulting in quantity  $Q_e$  and price  $P_e$ . The socially optimal quantity is at the intersection of MSC and MPB, resulting in quantity  $Q_s$  and price  $P_s$ . A grey shaded triangle between the MSC and MPC curves from  $Q_s$  to  $Q_e$  is labeled 'Net welfare loss'.

- MPC and MB curves
- MSC curve
- Social optimum and market equilibrium positions labelled or explained in text
- Welfare loss area shaded in (grey triangle above) and named

(8)

Question Number	Answer	Mark
<b>9(e) contd.</b>		
Level	Marks	Descriptor
0	0	A completely inaccurate response.
1	1-3	Shows some awareness of external costs. Application to context of pork may be limited. The diagram may not be fully labelled or have errors. Material presented is often irrelevant and lacks organisation. Frequent punctuation and/or grammar errors are likely to be present and the writing is generally unclear.
2	4-6	Understanding of external costs in the context of pork production. At the bottom of this level there may be errors and omissions and at the top of this level this is supported by a diagram which is largely accurate. Material is presented with some relevance but there are likely to be passages which lack proper organisation. Punctuation and/or grammar errors are likely to be present which affect the clarity and coherence.
3	7-8	Clear understanding of external costs in the context of pork production. This is supported by an accurately labelled diagram which is explained and applied effectively. Material is presented in a relevant and logical way. Some punctuation and/or grammar errors may be found, but the writing has overall clarity and coherence.

Level descriptors for 'Evaluation' on next page.

Question Number	Answer	Mark
<b>9(e) contd.</b>		
<b>Evaluation – Indicative content</b>		
	<ul style="list-style-type: none"> <li>• Magnitude of external costs – extract says effects ‘could be significant’, use of Extract 2 to discuss severity of effects</li> <li>• Time period: destruction has been going on for many years /a tipping point may come in terms of irreversible climate change / little effect on climate change may be noticeable in short run</li> <li>• Discussion of possible benefits, e.g. employment and income for local communities / increase availability of food / reduction in prices / reduction in hunger</li> <li>• Difficulty of putting a monetary value on the external costs</li> <li>• Estimates of costs will not be exact as we are predicting what will happen in 36 years’ time – pork production methods may have changed drastically by then, or demand may not continue to rise at the expected rate</li> </ul>	<b>(6)</b>
Level	Marks	Descriptor
0	0	No evaluative comments.
1	1-2	For identifying evaluative comments without explanation
2	3-4	For evaluative comments supported by some reasoning and application to context.
3	5-6	For evaluative comments supported by relevant reasoning and clear application to context.

Question Number	Answer	Mark
10(a)	<p><b>Knowledge, Application and Analysis (Up to 4 marks):</b></p> <ul style="list-style-type: none"> <li>• Explicit reference to Extract 1: petroleum and natural gas are non-renewable resources <b>(1+1)</b></li> <li>• <b>Allow other examples of non-renewable resources (1+1)</b></li> <li>• A non-renewable resource is one which <b>(up to 2 marks):</b> <ul style="list-style-type: none"> <li>○ once used will never be replenished <b>OR</b> is replenished at a much slower rate than it is used <b>(1)</b></li> <li>○ if used now is not available for use in the future <b>(1)</b></li> <li>○ can only be used once / cannot be used again and again in the production process/ cannot be reproduced <b>(1)</b></li> <li>○ will run out one day <b>(1)</b></li> <li>○ unlike solar/ wind/ hydro power which does not run out <b>(1)</b></li> </ul> </li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
10(b)	<p><b>Knowledge, Application and Analysis (Up to 6 marks):</b></p> <ul style="list-style-type: none"> <li>• Definition or understanding of rationality (aiming to maximise utility) <b>(1)</b></li> <li>• Definition of opportunity cost (value of the next best alternative foregone) <b>(1)</b></li> <li>• As plastic bags tend to be given away for free / there is no opportunity cost to the consumer / large consumer surplus generated by their use <b>(1+1+1)</b></li> <li>• Application: Plastic bags are convenient for consumers to use / light yet strong / have many uses <b>(1+1+1)</b></li> <li>• Accept other rational motivations for using a plastic bag, e.g. waterproof, hygienic, versatile, simplify the way we carry goods etc. <b>(1)</b></li> </ul>	<b>(6)</b>

Question Number	Answer	Mark
<b>10(c)</b>		<b>(14)</b>
<b>Knowledge, Application and Analysis – Indicative content</b>		
	<ul style="list-style-type: none"> <li>• Definition or formula for price elasticity of demand (PED): (The responsiveness of demand for a good due to a change in price) or <math>(\% \Delta QD \div \% \Delta P)</math></li> <li>• Definition of tax</li> <li>• This tax raises production costs for retailers</li> <li>• Decrease in supply of plastic bags / rise in price of plastic bags – <b>this may be shown diagrammatically</b></li> <li>• Decrease in quantity of plastic bags used</li> <li>• Decrease in consumer surplus / producer surplus - <b>this may be shown diagrammatically</b></li> <li>• Reduction in harmful effects (negative externalities) of plastic bag use: litter / harm to animals and seas / landfill</li> <li>• Correction of market failure / internalising the externality</li> <li>• Money raised through tax can be used for recycling / environmental work/ education about reusing</li> <li>• Manufacturers of plastic bags- higher costs, lower profits leads to redundancies</li> <li>• More paper / fabric (substitute goods) used</li> </ul> <p><b>Use of data to determine PED may be awarded either KAA or evaluation marks:</b></p> <ul style="list-style-type: none"> <li>• In Ireland following the tax rise in 2007, <math>\% \Delta QD = -16.7\%</math>, <math>\% \Delta P = 46.7\%</math>, <math>PED = -0.36</math>, so demand for plastic bags was price inelastic</li> </ul>	<b>(8)</b>
Level	Marks	Descriptor
0	0	A completely inaccurate response.
1	1-3	Shows some awareness of the effect of a tax on plastic bags. Likely to ignore PED. Material presented is often irrelevant and lacks organisation. Frequent punctuation and/or grammar errors are likely to be present and the writing is generally unclear.

Level	Marks	Descriptor
2	4-6	Understanding of the effect of an indirect tax, with some application to context. This may be supported by an accurately labelled diagram. PED will be included but development superficial. Material is presented with some relevance but there are likely to be passages which lack proper organisation. Punctuation and/or grammar errors are likely to be present which affect the clarity and coherence.
3	7-8	Clear understanding of the effect of an indirect tax with appropriate application to context. There may be an accurately labelled diagram which is explained and applied effectively to the context. PED is well utilised in response. Material is presented in a relevant and logical way. Some punctuation and/or grammar errors may be found, but the writing has overall clarity and coherence.
Evaluation – Indicative content		
	<ul style="list-style-type: none"> <li>• Whether or not the tax will be passed on to consumers by retailers, and how much use of plastic bags will fall by depends on consumers' PED for plastic bag: <ul style="list-style-type: none"> <li>◦ In Ireland, demand appears to be price inelastic so a higher proportion of it would be passed on to consumers</li> </ul> </li> <li>• Other kinds of bags may entail just as great / greater external costs</li> <li>• Magnitude: depends on the size of the tax, how many plastic bags consumers were buying</li> <li>• SR/LR: it will take time before positive effects on the environment/landfill are noticed</li> <li>• Depends on how well policed the regulation is / some retailers may try to avoid/evade the tax</li> </ul>	<b>(6)</b>
Level	Marks	Descriptor
0	0	No evaluative comments.
1	1-2	For identifying evaluative comments without explanation.
2	3-4	For evaluative comments supported by some reasoning and application to context.
3	5-6	For evaluative comments supported by relevant reasoning and clear application to context.

Question Number	Answer	Mark
<b>10(d)</b>		<b>(10)</b>
Knowledge, Application and Analysis – Indicative content		
	<ul style="list-style-type: none"> <li>• Definition of asymmetric information (when either the buyer or seller has more information than the other party) OR definition of imperfect information</li> <li>• Asymmetric information may exist since: <ul style="list-style-type: none"> <li>○ consumers may not know the harm that plastic bags can do to animals / seas</li> <li>○ consumers may not know the problems associated with landfill / how long a plastic bag takes to biodegrade in landfill</li> <li>○ consumers may not know that plastic bags are made from petroleum and natural gas</li> <li>○ consumers may not know the health concerns due to using re-usable bags</li> <li>○ consumers may not know the different amounts of global warming caused by different kinds of bags / use of Figure 1</li> </ul> </li> </ul>	<b>(6)</b>
Level	Marks	Descriptor
0	0	A completely inaccurate response.
1	1-2	Shows some awareness of asymmetric information by offering a definition
2	3-4	Understanding of asymmetric information, with some application to context by offering a definition and identifying relevant examples or developing one example
3	5-6	Clear understanding of asymmetric information with appropriate application to context. The examples offered will be developed

Evaluation on next page

Question Number	Answer	Mark
<b>10(d) contd.</b>		
<b>Evaluation – Indicative content</b>		
	<ul style="list-style-type: none"> <li>• Asymmetric information seems unlikely due to extensive advertising and public awareness campaigns in developed economies</li> <li>• Access to more information due to internet etc may reduce asymmetric information</li> <li>• Different levels of asymmetric information may exist, e.g. young / more educated likely to have more environmental knowledge than old / less educated</li> <li>• Many governments have put measures in place to correct imperfect information</li> <li>• Level of asymmetric information likely to be reducing over time as we become more environmentally aware</li> <li>• Imperfect information caused by chemical company funded research</li> </ul>	<b>(4)</b>
Level	Marks	Descriptor
0	0	No evaluative comments.
1	1-2	For identifying evaluative comments without explanation.
2	3-4	For evaluative comments supported by relevant reasoning.

Question Number	Answer	Mark
<b>10(e)</b>		<b>(14)</b>
<b>Knowledge, Application and Analysis – Indicative content</b>		
	<ul style="list-style-type: none"> <li>• Definition of government failure (government intervention in a market leads to a less efficient allocation of resources / net welfare loss)</li> <li>• May result in government failure since: <ul style="list-style-type: none"> <li>○ In China, inspections were too weak to police policies, meaning usage of plastic bags did not decrease / but government spent time and money on programme (opportunity cost)</li> <li>○ In Ireland, sale of bin bags / nappy bags rose following the ban / meaning that just the same quantity of plastic bags may have been produced and used</li> <li>○ Alternative types of grocery bags may have a worse environmental impact (create more negative externalities) / use of Figure 1</li> <li>○ Re-usable bags may create a health hazard / acting as a breeding ground for bacteria</li> <li>○ The ban reduces demand for bags and manufacturers output falls resulting in redundancies.</li> <li>○ Government revenue is lost as no ability to tax if there is ban- this money could have been used to clear up damage</li> </ul> </li> </ul>	
Level	Marks	Descriptor
0	0	A completely inaccurate response.
1	1-3	Shows some awareness of the concept of government failure. Material presented is often irrelevant and lacks organisation. Frequent punctuation and/or grammar errors are likely to be present and the writing is generally unclear.
2	4-6	Understanding of government failure, with some application to context. Material is presented with some relevance but there are likely to be passages which lack proper organisation. Punctuation and/or grammar errors are likely to be present which affect the clarity and coherence.
3	7-8	Clear understanding of government failure with effective application to context. Material is presented in a relevant and logical way. Some punctuation and/or grammar errors may be found, but the writing has overall clarity and coherence.

Question Number	Answer	Mark
<b>10(e) contd.</b>		
<b>Evaluation – Indicative content</b>		
	<p>May not result in government failure since:</p> <ul style="list-style-type: none"> <li>• Government intervention can correct the market failure caused by the external costs of plastic bags by reducing litter / reducing harm to animals and seas / reducing use of non-renewable resources / reducing pressure on landfill sites</li> <li>• 3 uses of a paper bag is not unreasonable, and then it will have caused less global warming than a plastic bag (not re-used)</li> <li>• The study that found that re-usable bags are a health hazard may not be reliable</li> </ul>	
Level	Marks	Descriptor
0	0	No evaluative comments.
1	1-2	For identifying evaluative comments without explanation.
2	3-4	For evaluative comments supported by some reasoning and application to context.
3	5-6	For evaluative comments supported by relevant reasoning and clear application to context.



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