



# Mark Scheme (Results)

Summer 2017

Pearson Edexcel International Advanced  
Subsidiary in Economics  
(WEC01)  
Paper 01 Markets in Action

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## General Marking Guidance

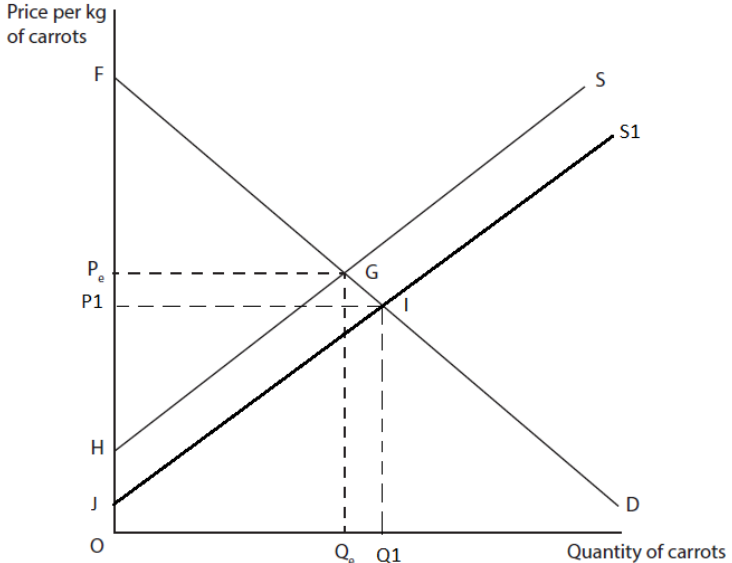
- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should 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.

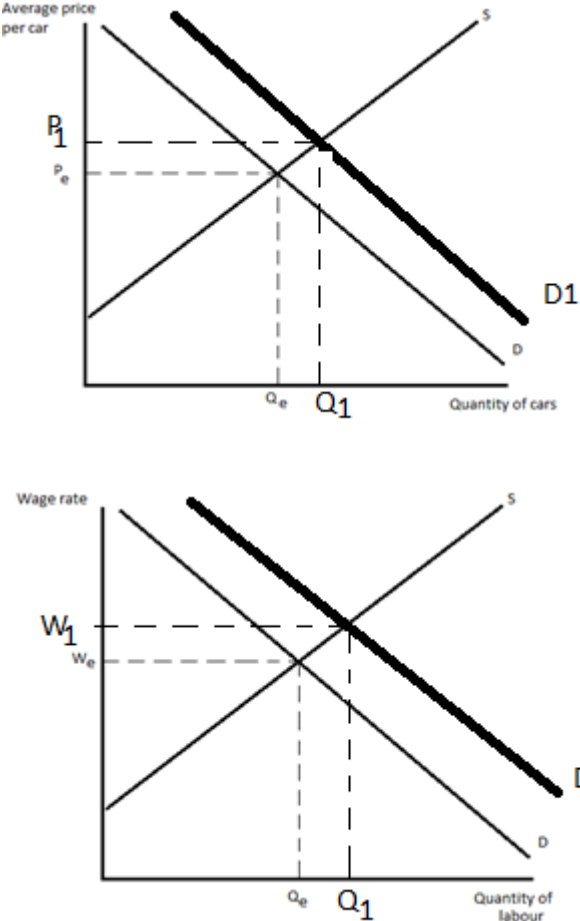
NB: Candidates may achieve up to 3 marks (rejected marks) for explaining three incorrect options (provided three different reasons are offered and each option key is clearly rejected).

Question Number	Answer	Mark
<b>1</b>	<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 positive statements- use facts to support/ can be proved/can be tested value free/ objective/ scientific approach <b>(1)</b></li> <li>• Definition of normative statement- based on value judgements/ cannot be tested/ subjective <b>(1)</b></li> <li>• Statement 1 is normative as it is a value judgement containing the word unfair <b>(1)</b></li> <li>• Statement 2 is positive as you can check whether the supply of agricultural commodities increases due to the subsidy <b>(1)</b></li> </ul> <p><b>Rejection marks</b> <b>Do not double award</b></p> <ul style="list-style-type: none"> <li>• Option A: incorrect as statement 2 can be proved by checking the amount of subsidy <b>(1)</b></li> <li>• Option C: incorrect as statement is based on value judgement <b>(1)</b></li> <li>• Option D: statement 1 is normative as it has word unfair, statement 2 is positive based on fact <b>(1)</b></li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
2	<p><b>Answer C (1 mark)</b>  <b>Explanation (up to 3 marks)</b></p> <ul style="list-style-type: none"> <li>• Definition of consumer surplus- difference between price willing to pay and actually paid/ area between equilibrium price and demand line <b>(1)</b></li> <li>• Supply increases/ rightward shift <b>(1)</b></li> <li>• Price falls from <math>P_e</math> to <math>P_1</math> <b>(1)</b></li> <li>• Consumer surplus increases from <math>FGP_e</math> to <math>FIP_1</math> <b>(1)</b></li> <li>• The increase in consumer surplus is by the area <math>GIP_1P_e</math> <b>(1)</b></li> <li>• Award marks for each of these identified on diagram (do not double award)</li> </ul>  <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>• Option A: incorrect as whilst the price does fall from <math>P_e</math> to <math>P_1</math>, the producer surplus rises as the gap between the willingness to sell and amount paid will be larger <b>(1)</b></li> <li>• Option B: Although producer surplus does rise, more supply means that there can be an extension of demand causing price to fall <b>(1)</b></li> <li>• Option D: Producer surplus was <math>P_eGH</math> and is now <math>P_1IJ</math> which shows producer surplus has risen. Price falls to <math>P_1</math> not rises <b>(1)</b></li> </ul> <p>NB: They may explain why either the price change or change in consumer / producer surplus is wrong and do not need to explain both.</p>	<b>(4)</b>

Question Number	Answer	Mark
3	<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 habitual behaviour- where customers continue an action even when it does not maximize utility to do so <b>(1)</b></li> <li>• Customers will be familiar/ comfortable with their financial provider/ bank and will prefer to use them even if they could save money elsewhere/ trust current provider <b>(1)</b></li> <li>• Switching would save customers £70 so could increase their utility as they could consume other products/ failing to maximise utility as lose out on £70 / irrational as failing to maximise utility <b>(1)</b></li> <li>• might be another reason for not changing bank account such as customer 'inertia', where there is too much hassle switching accounts including debits and credits/ ignorance/ tied to a deal <b>(1)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>• Option A: Rational customers will maximize their utility and switching helps them to do so as they will have more funds to consume other goods <b>(1)</b></li> <li>• Option B: if people were good at computation they would see the benefit of switching and would be more likely to switch <b>(1)</b></li> <li>• Option C: external costs are negative third party effects and these are unlikely to occur based on who someone choose to bank with <b>(1)</b></li> </ul>	<b>(4)</b>

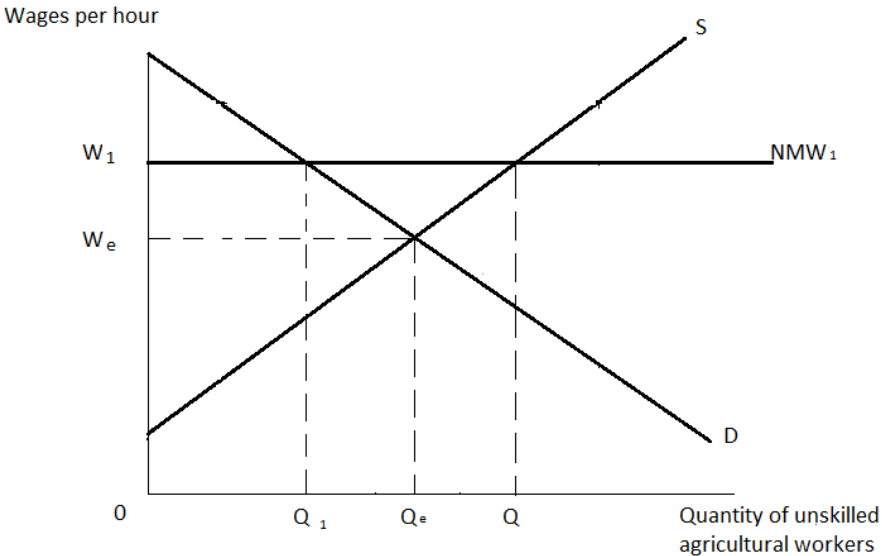
Question Number	Mark	
4	<p><b>Answer B (1 mark)</b></p> <p><b>Explanation (up to 3 marks)</b></p> <ul style="list-style-type: none"> <li>• Definition of diminishing marginal utility- where the additional utility from consuming additional unit starts to fall/ where the marginal utility falls as quantity rises <b>(1)</b></li> <li>• Definition of utility- the benefit or satisfaction experienced by the consumer <b>(1)</b></li> <li>• When consumers go up for their second/third portion they often become full/ satiated <b>(1)</b></li> <li>• Each visit will gain less additional utility which is why a smaller percentage each time will go for an additional visit <b>(1)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>• Option A: Incorrect as free rider problems is associated with public goods and not private goods/ public goods have the free rider problem and are non-excludable and non-rival. You eating your breakfast will exclude others from eating it/ free rider is someone who does not pay but hotel guests do pay <b>(1)</b></li> <li>• Option C: Incorrect as excess demand for breakfast cereal would see the demand exceeding supply and it is likely to breakfasts would sell out/ No excess demand as only 10% visit 3 x or more <b>(1)</b></li> <li>• Option D: incorrect as someone greeting them for breakfast might make them feel valued but how many times they collect food will not <b>(1)</b></li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
5	<p><b>Answer D (1 mark)</b></p> <p><b>Explanation (up to 3 marks)</b></p> <ul style="list-style-type: none"> <li>• Identification of derived demand <b>(1)</b></li> <li>• The demand for labour is dependent on the demand for the final product <b>(1)</b></li> <li>• So if the demand for cars rise it causes the price for cars to rise <b>(1)</b></li> <li>• This means firms make more profit and they have more incentive to increase output <b>(1)</b></li> <li>• This pushes up wages and employment <b>(1)</b></li> </ul> <p>Award 1 mark for showing Demand rising and price rising on global market for cars.</p> <p>Award 1 mark for showing demand rising and wages rising in the labour market for car factory workers.</p> <p>1 mark for showing increased employment in the labour market for car factory workers.</p> 	



	<p><b>Rejection marks</b></p> <ul style="list-style-type: none"><li>• Option A: rising demand would see an extension of supply pushing up prices/ with rising demand the demand for labour would rise and this causes wages to rise not fall <b>(1)</b></li><li>• Option B: Incorrect as car prices would rise not fall as demand rises. Car workers will also see their wages rise as more cars need to be made to meet demand <b>(1)</b></li><li>• Option C: the rising demand and price would see firms manufacture more cars and the demand for labour would rise which would push up wages <b>(1)</b></li></ul> <p><b>Candidates must explain why the key is wrong</b></p>	<p><b>(4)</b></p>
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Question Number	Answer	Mark
6	<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 or formula of price elasticity of demand- the responsiveness of quantity demanded to a change in price <b>(1)</b></li> <li>• Definition or formula of price elasticity of supply- the responsiveness of quantity supplied to a change in price <b>(1)</b></li> <li>• Price inelastic- where quantity demanded or supplied is less responsive than the price change <b>(1)</b></li> </ul> <p><b>Maximum 2 for definitions</b></p> <p><b>Candidates can define price inelastic demand or price inelastic supply</b></p> <ul style="list-style-type: none"> <li>• Value between 0 and 1 shows it will be inelastic <b>(1)</b></li> <li>• 10% rise in price will see supply rise 1.4% <b>(1)</b> and demand fall by 1% <b>(1)</b></li> <li>• Diagrams showing price inelastic demand/price inelastic supply and supply curves <b>(1)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>• Option A: incorrect as supply would rise by less than 10% at 1.4% <b>(1)</b></li> <li>• Option B: incorrect as supply changes by greater percentage than demand at 1.4% versus 1% <b>(1)</b></li> <li>• Option C: incorrect as whilst demand is inelastic it is price inelastic/ the data does not relate to income but price <b>(1)</b></li> </ul>	<b>(4)</b>

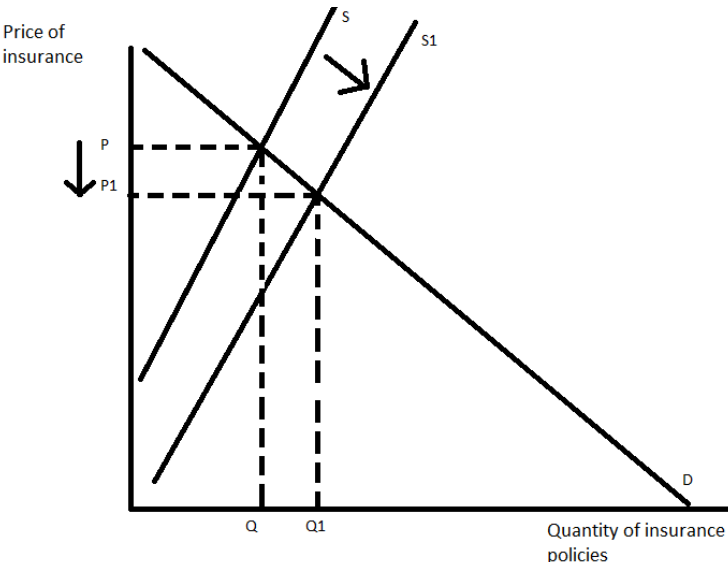
Question Number	Answer	Mark
7	<p><b>Answer A (1 mark)</b></p> <p><b>Explanation (up to 3 marks)</b></p> <ul style="list-style-type: none"> <li>• Definition of minimum wage- the lowest amount a business can pay workers/ Floor wage below which firms cannot pay <b>(1)</b></li> </ul>  <ul style="list-style-type: none"> <li>• Minimum wage sees wage rise above equilibrium / <math>W_e</math> to <math>W_1</math> <b>(1)</b></li> <li>• Contraction of demand for labour/ quantity demanded falls <math>Q_e</math> to <math>Q_1</math> <b>(1)</b></li> <li>• Extension of supply of labour/ quantity of labour supplied rises <math>Q_e</math> to <math>Q</math> <b>(1)</b></li> <li>• Excess supply/ Unemployment rises to <math>Q-Q_1</math> <b>(1)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>• Option B: Incorrect as the higher wage will see firms demand less labour <math>Q_e</math> to <math>Q_1</math> <b>(1)</b></li> <li>• Option C: Incorrect as employment was <math>Q_e</math> and is now lower at <math>Q_1</math> <b>(1)</b></li> <li>• Option D: incorrect as supply of labour will extend as the wage offered will be higher <b>(1)</b></li> </ul>	<b>(4)</b>

Question Number	Answer	Mark
8	<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/explanation of tradable permit scheme- a permitted amount each firm can pollute to <b>(1)</b> and scheme where firms can buy and sell permits to each other <b>(1)</b></li> <li>• If a firm cuts its emissions it can sell excess permits <b>(1)</b></li> <li>• If firms produce more than permit allows they will purchase from those with spare permits/cost of buying additional permits acts as incentive to reduce emissions <b>(1)</b></li> <li>• The Chinese Government will set a quantity of permits and allocate to firms <b>(1)</b></li> <li>• The Government will normally reduce the number of permits each year to reduce the amount of pollution and external costs over time <b>(1)</b></li> </ul> <p><b>Rejection marks</b></p> <ul style="list-style-type: none"> <li>• Option A incorrect as subsidies are not used within a tradable permit scheme as market forces are used to eliminate external costs <b>(1)</b></li> <li>• Option C incorrect as tax is not used within a tradable permit scheme as market forces are used to eliminate external costs <b>(1)</b></li> <li>• Option D firms are able to pollute up to their allowance it is when they go over that they will have to buy permits <b>(1)</b></li> </ul>	<b>(4)</b>

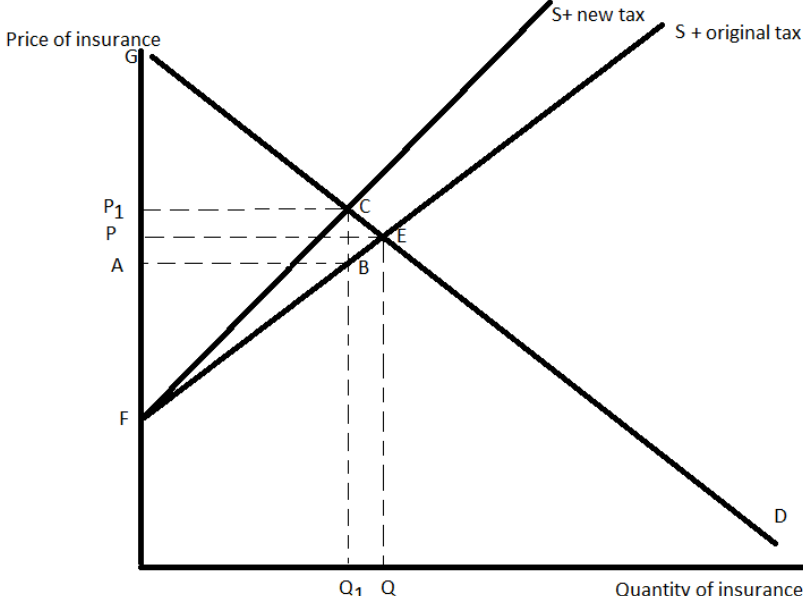
## Section B: Data response

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>• Data reference car insurance fell from approximately £850 to £580 <b>(1)</b> Accept 830-870 and 550-600. Accept an explicit change in price.</li> <li>• increase in the number of insurance companies offering car insurance/costs have fallen for car insurance companies because of new laws/lower administration costs <b>(1+1)</b></li> </ul> <p>Diagrammatic analysis which shows:</p> <ul style="list-style-type: none"> <li>• a shift to the right of the supply curve <b>(1)</b></li> <li>• original equilibrium price and quantity <b>(1)</b></li> <li>• new equilibrium showing lower price and higher quantity <b>(1)</b></li> </ul>  <p>(if they depict a shift in the demand curve, award a maximum of 2 out of the 3 marks available for the diagram)</p>	<b>(6)</b>

Question Number	Answer	Mark
9(b)	<p><b>Knowledge, application and analysis (Up to 4 marks):</b></p> <ul style="list-style-type: none"> <li>• Definition of complements- where the XED is negative/ where goods are consumed jointly <b>(1)</b></li> <li>• breakdown insurance and car insurance/car and car insurance <b>(1)</b></li> <li>• Definition of substitutes- where the XED is positive/ where goods are consumed in place of another/ where goods meet the same need or want <b>(1)</b></li> <li>• Drivers substituting between one insurance company and another <b>(1)</b></li> </ul> <p>Maximum 2 marks if not related to context</p>	<b>(4)</b>

Question Number	Answer	Mark
<b>9(c)</b>		<b>(14)</b>
Knowledge, application and analysis – indicative content		
	<ul style="list-style-type: none"> <li>• Definition of indirect tax- tax paid via third party</li> <li>• Ad valorem tax may be identified/defined</li> </ul> <p>Diagram may be drawn to show impact of increase in tax</p>  <p>Ad valorem tax showing tax revenue or incidence will achieve L3</p> <p>Impact on insurance companies</p> <ul style="list-style-type: none"> <li>• Price received falls to A</li> <li>• Quantity falls to <math>Q_1</math></li> <li>• Incidence of tax on producer- AP</li> <li>• Reduced producer surplus</li> </ul> <p>Impact on car drivers</p> <ul style="list-style-type: none"> <li>• Price paid rises P to <math>P_1</math></li> <li>• Incidence of tax on consumer <math>PP_1</math></li> <li>• Reduced consumer surplus</li> <li>• Less motor insurance cover- more risk and costs if in accident</li> <li>• More risk of fine, bans for driving uninsured, being hit by uninsured driver</li> </ul> <p>Impact on Government</p> <ul style="list-style-type: none"> <li>• Government revenue <math>ABCP_1</math></li> <li>• Funds that can be used elsewhere- e.g. roads</li> <li>• Externalities as more uninsured drivers</li> </ul>	

Level	Marks	Descriptor
0	0	A completely inaccurate response.
1	1-3	Shows some awareness of the effect of the introduction of tax but information 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 the effect of the effect of the introduction of tax in the context. This may be supported by a 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 the effect of the introduction of tax in the context. 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 – indicative content**

	<ul style="list-style-type: none"> <li>Quantity unlikely to fall as illegal not to have car insurance – likely to make demand more price inelastic</li> <li>Effect depends on enforcement on uninsured drivers as to whether people stop purchasing</li> <li>Magnitude – depends on how much tax rises- 6 to 9.5%</li> <li>Extent of any changes will depend on the PED</li> <li>Measurement issue measuring the size of changes in producer/ consumer surplus and incidence</li> <li>Time period: short term little impact but long term may cause more change</li> <li>People may substitute to trains/ bikes as these substitutes are relatively cheaper/ depends on the extent to which trains/bikes are substitutes for car ownership</li> <li>government failure or unintended consequences</li> </ul>	
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Level	Marks	Descriptor
0	0	No evaluative comments.
1	1-2	For identifying evaluative comments without explanation or for developing one evaluative comment.
2	3-4	For developing evaluative comments supported by some reasoning and application to context.
3	5-6	For well-developed evaluative comments supported by relevant reasoning and clear application to context.



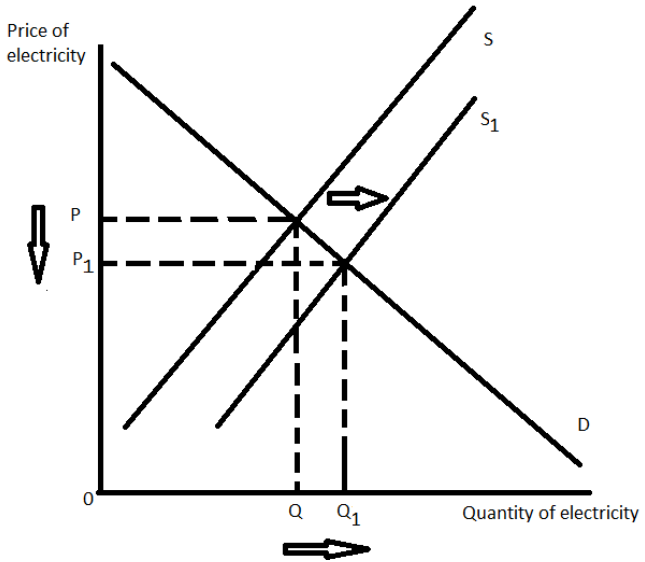
Question Number	Answer	Mark
<b>9(d)</b>		<b>(10)</b>
<b>Knowledge, application and analysis – indicative content</b>		
	<ul style="list-style-type: none"> <li>• Definition asymmetric information- where one economic agent has different information to another/where one party has less information than another.</li> <li>• Claims against uninsured drivers increased from 12 884 in 2013 to 13 483 in 2014.</li> <li>• Consumers not aware of the risk involved in driving uninsured.</li> <li>• It is illegal to drive in the UK without insurance.</li> <li>• The police can take away uninsured cars.</li> <li>• Uninsured drivers face a £300 fine/ losing driving licence.</li> <li>• Uninsured drivers kill 130 people and injure 26 500 every year.</li> <li>• The annual cost of uninsured driving is estimated to be £400 million.</li> </ul>	
Level	Marks	Descriptor
0	0	A completely inaccurate response.
1	1-2	Shows some awareness of asymmetric information. 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	3-4	Understanding of asymmetric information in the context of insurance market in UK. 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	5-6	Clear understanding of asymmetric information in the context of insurance market in UK. 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>• Magnitude- only 2.8% of drivers/ million drivers significant</li> <li>• Measurement problem- it is only an estimate</li> <li>• May not however be a lack of information but a rational decision. Fines for being caught uninsured average £300 but the average premium costs £2000 for young drivers</li> <li>• Uninsured drivers, having full knowledge, may take the conscious decision to be uninsured because of the cost</li> <li>• Young drivers might decide to take the risk of getting caught and fined than pay the cost of insurance</li> <li>• Thus uninsured drivers may take the conscious decision of being uninsured with full knowledge. In other words asymmetric information may not be significant</li> <li>• Government can promote and provide this information</li> <li>• Some drivers may be uninsurable given past history and drive uninsured</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 relevant reasoning.

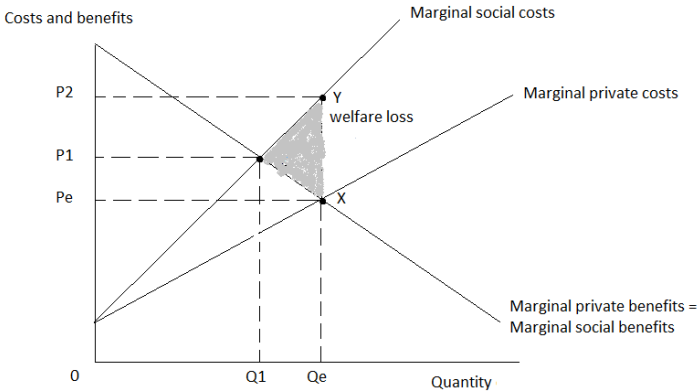
Question Number	Answer	Mark
<b>9(e)</b>		<b>(14)</b>
<b>Knowledge, application and analysis – indicative content</b>		
	<p>Possible measures identified in the extract. (accept other relevant responses)</p> <ul style="list-style-type: none"> <li>• subsidise insurance of young people to encourage them to take out insurance.</li> <li>• providing information on the effects of being uninsured on all drivers.</li> <li>• maximum price would prevent insurance companies from charging excessive amount to young people</li> <li>• insurance providers offer cheaper insurance for safe young drivers or those with a mileage monitoring device</li> <li>• accept reference to fines and taking car away/ reducing indirect taxes</li> </ul> <p>'measures' in question implies the need to talk about at least 2 policies</p> <p>Subsidies</p> <p>Advantages</p> <ul style="list-style-type: none"> <li>• Lowers costs for producers</li> <li>• Increases supply</li> <li>• Lowers price</li> <li>• (may be drawn diagrammatically)</li> <li>• Increases quantity insurance taken out</li> <li>• Link to benefits- to third parties hit by drivers</li> <li>• Increased consumers and producer surplus</li> <li>• Consumer and producer subsidy</li> </ul> <p>Disadvantages</p> <ul style="list-style-type: none"> <li>• Cost to Government for subsidy</li> <li>• Opportunity costs of public money so private individuals insured.</li> <li>• More motorists on road and so more congestion</li> </ul> <p>Information provided</p> <p>Advantages</p> <ul style="list-style-type: none"> <li>• Consumers aware of risks</li> <li>• More likely to take out insurance as true costs taken account of</li> <li>• Less uninsured drivers</li> <li>• Less costs to individuals hit by uninsured drivers</li> </ul>	

	<p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>• Opportunity cost to government to promote information</li> <li>• Assumes government holds accurate information</li> <li>• People may be risk loving and not take notice</li> </ul> <p><b>Maximum price</b></p> <p><b>Advantages</b></p> <ul style="list-style-type: none"> <li>• Lowers price of insurance below market price</li> <li>• This causes extension of demand</li> <li>• Ensures all can afford insurance</li> <li>• May persuade some to take out insurance</li> <li>• Reduces risk of being hit by an uninsured driver</li> <li>• (May draw a diagram)</li> </ul> <p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>• Insurance firms may contract supply</li> <li>• Excess demand exists</li> <li>• May be shown diagrammatically</li> <li>• Is this easy to enforce</li> <li>• May just lower quality of cover</li> </ul> <p><b>Devices</b></p> <p><b>Advantages</b></p> <ul style="list-style-type: none"> <li>• Risk of the individual can be assessed</li> <li>• Incentive to drive better/safer to reduce premium</li> <li>• More affordable for young people</li> </ul> <p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>• Costly to fit</li> <li>• Data provide to insurance provider may not be available to consumer- asymmetric information</li> <li>• Should it target all drivers</li> </ul> <p>Advantages or disadvantages may be used as either KAA or Ev</p>	
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Level	Marks	Descriptor
0	0	A completely inaccurate response.
1	1-3	Shows some awareness of the advantages or disadvantages of policies to reduce uninsured drivers
2	4-6	Understanding of advantages or disadvantages policies to reduce uninsured drivers with some application to context.
3	7-8	Clear understanding of advantages or disadvantages of policies to reduce uninsured drivers with detailed explanations of them and with appropriate application to context.
<b>Evaluation – indicative content</b>		
	<ul style="list-style-type: none"> <li>• Magnitude- depends on size of subsidy/ where maximum price set</li> <li>• Cost of subsidy to government/ promoting information</li> <li>• Incidence of subsidy- may benefit producer more</li> <li>• What price should maximum price be set up</li> <li>• Which drivers to target</li> <li>• Different ways different customers access information</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 relevant reasoning.
3	5-6	For well developed evaluative comments supported by relevant reasoning and clear application to context.

Question Number	Answer	Mark
<p><b>10(a)</b></p>	<p><b>Knowledge, application and analysis (up to 6 marks)</b></p> <ul style="list-style-type: none"> <li>• Lower costs <b>(1)</b></li> <li>• Prices likely to fall and output likely to rise <b>(1)</b></li> <li>• Explicit data reference to solar costs €125</li> <li>• Rapid fall in costs may bring about a large change in price <b>(1)</b></li> </ul> <p>Diagram</p> <ul style="list-style-type: none"> <li>• Original equilibrium <b>(1)</b></li> <li>• New equilibrium <b>(1)</b></li> <li>• Shift in supply <b>(1)</b></li> </ul>  <p>The diagram is a supply and demand graph for electricity. The vertical axis is labeled 'Price of electricity' and the horizontal axis is labeled 'Quantity of electricity'. The origin is marked '0'. A downward-sloping demand curve 'D' and two upward-sloping supply curves 'S' and 'S1' are shown. 'S1' is to the right of 'S', indicating a rightward shift in supply. The original equilibrium is at the intersection of 'S' and 'D', with price 'P' and quantity 'Q'. The new equilibrium is at the intersection of 'S1' and 'D', with price 'P1' and quantity 'Q1'. Dashed lines connect these equilibrium points to their respective values on the axes. A downward-pointing arrow is on the y-axis between 'P' and 'P1', and a rightward-pointing arrow is on the x-axis between 'Q' and 'Q1'. Another rightward-pointing arrow is placed between the two supply curves 'S' and 'S1'.</p>	<p><b>(6)</b></p>

Question Number	Answer	Mark
<b>10(b)</b>	<p><b>Knowledge, application and analysis (up to 4 marks)</b></p> <ul style="list-style-type: none"> <li>• Definition of renewable resources- resources that once used and can be used again and again/ ability to regenerate / replenish itself indefinitely <b>(1)</b></li> <li>• E.g. wind turbines, solar energy, hydroelectric <b>(1)</b></li>   <li>• Definition of non-renewable resources- resources that once used cannot be used again <b>(1)</b></li> <li>• E.g. coal, oil, gas <b>(1)</b></li> </ul>	<b>(4)</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 of external costs- costs incurred by third parties</li> <li>• air quality</li> <li>• pollution</li> <li>• climate change - people in areas affected by climate change</li> <li>• examples of third parties affected by external cost e.g. people with respiratory problems which add costs to health problems/visual pollution affecting local residents</li> <li>• The report says that onshore wind costs roughly €105 per MW/h, compared to gas, €164 and coal €233 Nuclear power, offshore wind and solar energy cost €125.</li> </ul> <p><b>Diagram</b></p>  <ul style="list-style-type: none"> <li>• Market failure from external costs such as over-production and under-pricing.</li> </ul>	



Level	Marks	Descriptor
0	0	A completely inaccurate response.
1	1-3	Shows some awareness of external costs. 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 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 external costs. 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.

**Evaluation – indicative content**

	<ul style="list-style-type: none"> <li>• Hard to put value on external costs</li> <li>• Short term/ long term- impact may worsen if prolonged production</li> <li>• Magnitude- depends on the amount of gas and coal used</li> <li>• Can cost more to generate power through renewables</li> <li>• benefits' from generating electricity from coal and gas such as reliability and employment</li> </ul>	
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Level	Marks	Descriptor
1	1-2	For identifying evaluative comments without explanation or for developing one evaluative comment.
2	3-4	For developing evaluative comments supported by some reasoning and application to context.
3	5-6	For well developed 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/ formula of PES- <math>\% \Delta</math> in <math>Q_s</math>/<math>\% \Delta</math> in <math>P</math></li> <li>• Inelastic supply- where the proportionate change in supply is less than the proportionate change in price</li> <li>• Elastic supply- where the proportionate change in supply is greater than the proportionate change in price</li> </ul> <p>Elastic</p> <ul style="list-style-type: none"> <li>• Spare electricity sold to Germany and Denmark- spare capacity so supply can be increased as price rises</li> <li>• Countries can store energy in hydroelectric plants.</li> <li>• Denmark not operating at full capacity- can increase supply in response to rising prices</li> <li>• Denmark investing in more production- will be able to respond</li> <li>• Ability to buy from other countries makes more elastic as can buy supply from them when needed</li> </ul> <p>Inelastic</p> <ul style="list-style-type: none"> <li>• €38.3 billion- costs to subsidise renewables- expensive so response might be slower</li> <li>• €22.3 billion - costs to subsidise non-renewables- expensive so response might be slower</li> <li>• Take some time to build new wind farms- so cannot increase electricity straight away.</li> <li>• expensive to store, (or storage sites are expensive to build/power lost when charging/discharging)</li> <li>• storage is limited</li> </ul> <p>Diagram showing PES appropriately drawn</p>	
Level	Marks	Descriptor
0	0	A completely inaccurate response.
1	1-2	Shows some awareness of PES.
2	3-4	Understanding of PES linked to fossil fuels.
3	5-6	Clear understanding of PES linked to fossil fuels.

Evaluation – indicative content		
	<ul style="list-style-type: none"> <li>• Long run may become more elastic</li> <li>• Different electricity sources may have different elasticities</li> <li>• Relies on weather – little rain, wind, sun may reduce the ability to increase supply when price rises</li> </ul> <p>Arguments for elastic and inelastic can be used as either KAA and EV</p>	
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>
Knowledge, application and analysis – indicative content		
	<p>Benefits include</p> <ul style="list-style-type: none"> <li>• Onshore wind turbines are cheaper than coal, gas or nuclear energy when external costs like air quality, pollution and climate change are taken into account</li> <li>• high winds allowed Denmark to meet all of its electricity needs</li> <li>• was able to sell spare electricity to Germany, Norway and Sweden- generating income</li> <li>• Denmark could be producing half of its electricity from renewable sources well before 2020</li> <li>• Less external costs from windfarms compared to non-renewables / diagram to illustrate fall in external costs</li> <li>• Injection in to economy- creates employment</li> <li>• Help lower costs of production</li> <li>• Subsidies- will lower costs/ increase supply/ increase quantity/ lower prices</li> <li>• May be drawn diagrammatically</li> </ul>	
Level	Marks	Descriptor
0	0	A completely inaccurate response.
1	1-3	Shows some awareness of impact of building wind farms. Material presented is often irrelevant and lacks organisation or may be confused. Frequent punctuation and/or grammar errors are likely to be present and the writing is generally unclear.
2	4-6	Understanding of impact of building wind farms.. 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 impact of building wind farms. It will be applied effectively to the 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.

Evaluation – indicative content		
	<p>Problems include</p> <ul style="list-style-type: none"> <li>• Renewables are criticised for being too expensive. Renewable energy took €38.3 billion of government subsidies in 2012</li> <li>• Can damage wildlife/ landscape- negative externality</li> <li>• Not productive when not windy</li> <li>• Magnitude- depends on the size of the investment in windfarms</li> <li>• Measurement- hard to quantify costs/ benefits as hard to know how much power it will generate</li> <li>• Time period- short run- costs of environmental damage- long term – cleaner energy production</li> <li>• Reliability of the study suggesting that onshore wind power was cheaper than fossil fuels in generating electricity. Are all external costs of onshore wind power included? Is the study completely independent?</li> <li>• Subsidies- opportunity costs/ inefficiency</li> </ul>	
Level	Marks	Descriptor
0	0	No evaluative comments.
1	1-2	For identifying evaluative comments without explanation or for developing one evaluative comment.
2	3-4	For developing evaluative comments supported by some reasoning and application to context.
3	5-6	For well developed evaluative comments supported by relevant reasoning and clear application to context.