



*Rewarding Learning*

**ADVANCED SUBSIDIARY (AS)  
General Certificate of Education  
2012**

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## **Economics**

**Assessment Unit AS 1**

*assessing*

**Markets and Prices**

**[AE111]**

**TUESDAY 12 JUNE, AFTERNOON**

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# **MARK SCHEME**

## General Marking Instructions

This mark scheme is intended to ensure that the AS examinations are marked consistently and fairly. The mark scheme provides examiners with an indication of the nature and range of candidate responses likely to be worthy of credit. It also sets out the criteria which they should apply in allocating marks to candidates' responses. The mark scheme should be read in conjunction with these general marking instructions which apply to all papers.

### Quality of candidates' responses

In marking the examination papers, examiners will be looking for a quality of response reflecting the level of maturity which may reasonably be expected of 17-year-olds, which is the age at which the majority of candidates sit their AS examinations.

### Flexibility in marking

The mark scheme is not intended to be totally prescriptive. For many questions, there may be a number of equally legitimate responses and different methods by which the candidates may achieve good marks. No mark scheme can cover all the answers which candidates may produce. In the event of unanticipated answers, examiners are expected to use their professional judgement to assess the validity of answers. If an answer is particularly problematic, then examiners should seek the guidance of the Supervising Examiner for the paper concerned.

### Positive marking

Examiners are encouraged to be positive in their marking, giving appropriate credit for valid responses rather than penalising candidates for errors or omissions. Examiners should make use of the whole of the available mark range for any particular question and be prepared to award full marks for a response which is as good as might reasonably be expected for 18-year-old candidates. Conversely, marks should only be awarded for valid responses and not given for an attempt which is completely incorrect or inappropriate.

### Types of mark schemes

Mark schemes for questions which require candidates to respond in extended written form are marked on the basis of levels of response which take account of the quality of written communication. These questions are indicated on the cover of the examination paper. Other questions which require only short answers are marked on a point for point basis with marks awarded for each valid piece of information provided.

### Levels of response

Questions requiring candidates to respond in extended writing are marked in terms of levels of response. In deciding which level of response to award, examiners should look for the "best fit" bearing in mind that weakness in one area may be compensated for by strength in another. In deciding which mark within a particular level to award to any response, examiners are expected to use their professional judgement. The following guidance is provided to assist examiners.

**Threshold performance:** Response which just merits inclusion in the level and should be awarded a mark at or near the bottom of the range.

**Intermediate performance:** Response which clearly merits inclusion in the level and should be awarded a mark at or near the middle of the range.

**High performance:** Response which fully satisfies the level description and should be awarded a mark at or near the top of the range.

## Marking calculations

In marking answers involving calculations, examiners should apply the “own figure” rule so that candidates are not penalised more than once for a computational error.

## Quality of written communication

Quality of written communication is taken into account in assessing candidates’ responses to questions that require them to respond in extended written form. These questions are marked on the basis of levels of response. The description for each level of response includes reference to the quality of written communication. Where the quality of candidates’ economics is not matched by the quality of written communication, marks awarded will not exceed the maximum for Level 2 in questions which have three levels of response or the maximum for Level 3 in those which have four levels of response.

For conciseness, quality of written communication is distinguished within levels of response as follows:

Level 1: Quality of written communication is limited.

Level 2: Quality of written communication is satisfactory.

Level 3: Quality of written communication is of a high standard.

In interpreting these level descriptions, examiners should refer to the more detailed guidance provided below:

**Level 1 (Limited):** The candidate makes only a limited attempt to select and use an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

**Level 2 (Satisfactory):** The candidate makes a reasonable attempt to select and use an appropriate form and style of writing, supported with appropriate use of diagrams as required. Relevant material is organised with some clarity and coherence. There is some use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

**Level 3 (High Standard):** The candidate successfully reflects and uses an appropriate form and style of writing, supported with the effective use of diagrams where appropriate. Relevant material is organised with a high degree of clarity and coherence. There is widespread use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of a sufficiently high standard to make meaning clear.

- 1 (a) The UK invests 1.3% of GDP in higher education compared to 2.9% in the USA and 2.8% in Canada, both of which invest more than twice as much as the UK. The UK also invests less than the OECD average which is 1.5%. The UK does however invest more than Germany and Italy. It should be noted however that UK public expenditure in higher education compares quite favourably with most other countries except Canada and Denmark and is comparable with the OECD average.

**Level 1 ([1]–[2])**

- candidate provides little comparison of UK investment in higher education with that of other OECD countries
- quality of written communication is limited.

**Level 2 ([3]–[4])**

- candidate provides some comparison of UK investment in higher education with that of other OECD countries
- quality of written communication is satisfactory.

**Level 3 ([5]–[6])**

- candidate provides clear and comprehensive comparison of UK investment in higher education with that of other OECD countries
- quality of written communication is of a high standard. [6]

- (b) In comparison to emerging economies such as India and China the UK has a relatively low rate of economic growth. In part this is due to lack of competitiveness and higher wage costs.

One solution is for the UK to become a world leader in industries such as pharmaceuticals and information technology.

An increase in university funding would make a substantial contribution to this and push the economy's PPF outwards.

**Level 1 ([1]–[2])**

- candidate provides little analysis of the impact of increased university funding on the UK's PPF
- there is no significant attempt to show or to explain an outward shift in the PPF
- quality of written communication is limited.

**Level 2 ([3]–[4])**

- candidate provides some analysis of the impact of increased university funding on the UK's PPF
- candidates will typically show an outward movement but provide little supporting explanation
- quality of written communication is satisfactory.

**Level 3 ([5]–[6])**

- candidate provides a clear and comprehensive analysis of the impact of increased university funding on the UK's PPF
- the outward shift is shown and explained
- quality of written communication is of a high standard. [6]

- (c) A regressive charge is a charge that takes a larger proportion from a low income person than from a high income person. The tuition fee charged for any particular course will be the same for each student regardless of income. Therefore, when calculated as a proportion of income the fee will represent a higher proportion of a poor persons income than of a person on higher income.

[3] for definition/explanation of regressive charges

[3] for application to tuition fees

**Level 1 ([1]–[2])**

- candidate provides little explanation of why tuition fees could be considered to be regressive
- quality of written communication is limited.

**Level 2 ([3]–[4])**

- candidate provides some explanation of the why tuition fees could be considered to be regressive
- quality of written communication is satisfactory.

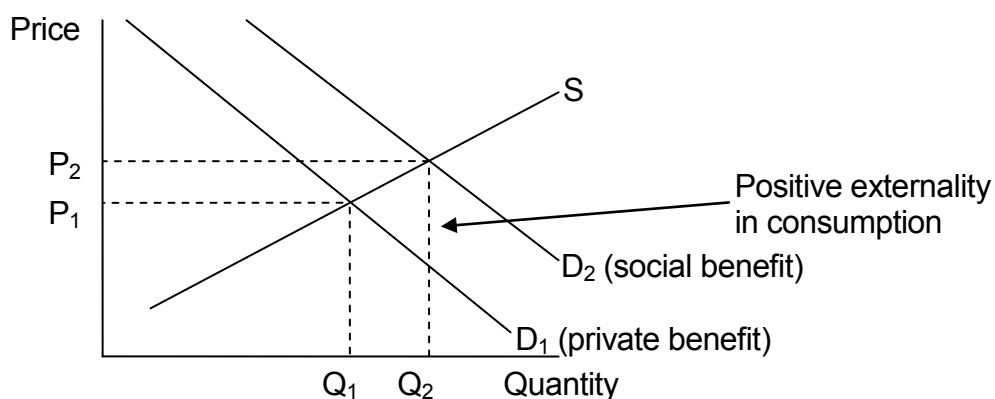
**Level 3 ([5]–[6])**

- candidate provides a clear and comprehensive explanation of why tuition fees could be considered to be regressive
- quality of written communication is of a high standard. [6]

- (d) University education is considered by many economists to be an example of a merit good. Merit goods are goods or services which in a paternalistic sense the government believe we should consume. The consumption of a merit good such as higher education by one economic agent will often confer positive externalities on society and therefore would be under valued and under-consumed if provided through the market.

This is illustrated on the diagram below where the social benefit of consumption ( $D_2$ ) is greater than the private benefit ( $D_1$ ).

Since rational economic agents only consider their own private benefit they will not consider the social benefit and therefore the free market will lead to consumption  $Q_1$  which is below the socially optimal level  $Q_2$ .



Alternatively, merit goods may be under valued and under consumed due to a lack of information on the part of the person consuming the good. Some people may not be fully aware of the benefits involved in consuming a good such as higher education or may simply discount the benefits since they are likely to occur some time in the future.

Issues, analysis and areas for discussion include:

- discussion of external benefits associated with higher education
- discussion of future internal benefits associated with education
- distinction between private and social benefits
- analysis of information failure
- reference to market failure
- appropriate diagrams
- appropriate examples.

#### **Level 1 ([1]–[3])**

- candidate provides little explanation of how the free market leads to the under-consumption of merit goods such as higher education
- no attempt is made to represent this in a diagram or if an attempt is made it will contain significant errors
- no significant economic analysis
- quality of written communication is limited.

#### **Level 2 ([4]–[7])**

- candidate provides some explanation of how the free market leads to the under-consumption of merit goods such as higher education
- an attempt is made to represent this in a diagram but it may contain some minor errors
- there is a degree of economic analysis
- quality of written communication is satisfactory.

#### **Level 3 ([8]–[10])**

- candidate provides a clear and comprehensive explanation of how the free market leads to the under-consumption of merit goods such as higher education
- a clear and accurate diagram is drawn
- there is significant economic analysis
- quality of written communication is of a high standard. [10]

(e) Those who support the removal of the cap on tuition fees argue that:

- in recent years the numbers attending university has increased dramatically, and that it would be almost impossible for government to fully fund university education adequately
- the people who gain most from university education are the students themselves, who will gain highly paid employment. It is estimated that a typical graduate will earn over £200,000 more over their lifetime (referred to as the graduate premium) than a non-graduate, therefore they should be the ones who contribute most to its cost

- the fees paid will only cover a portion of the actual cost of a university place and therefore education will still be subsidised
- making students pay will reduce the number who drop-out before completing their course. In the past up to 15% of students dropped-out: this represents a huge waste of resources
- introducing a market in higher education will increase efficiency and improve the quality of higher education.

However those opposed to higher student fees argue the following:

- higher education confers positive externalities on society and therefore others should pay something towards the cost
- fees and the subsequent debt of up to £30,000 will reduce the number of students from low-income groups attending university. This will widen further the gap between the rich and the poor
- the graduate premium is over-stated, with many graduates earning less than non graduates
- students will be forced to work in low paid, part-time jobs to fund university. This will lead to under-achievement, which will affect future earning potential
- fees will reduce the number of students who do arts degrees, or, who do courses, which lead to low paid jobs, e.g. teaching
- drop-out rates could increase, as students will find it impossible to cope and are reluctant to borrow huge sums of money
- the total cost to government of paying student fees is relatively small when compared to expenditure in other areas.

#### **Level 1 ([1]–[4])**

- candidate shows little understanding of the arguments for and against the proposal to remove the cap on tuition fees
- there is no significant evaluation of the issues
- quality of written communication is limited.

#### **Level 2 ([5]–[8])**

- candidate provides some understanding of the arguments for and against the proposal to remove the cap on tuition fees
- there is a degree of evaluation
- quality of written communication is satisfactory.

#### **Level 3 ([9]–[12])**

- candidate provides a clear and comprehensive understanding of the arguments for and against the proposal to remove the cap on tuition fees
- there is significant evaluation and judgement
- quality of written communication is of a high standard. [12]

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## 2 Firms make little use of estimates of price elasticity of demand

- (a) Price elasticity of demand measures how responsive quantity demanded is to a change in price.

It is calculated by dividing the percentage change in quantity demanded by the percentage change in price.

Appropriate development

- calculation
- relevance of numerical values
- diagrams
- examples of elastic and inelastic products.

### Level 1 ([1]–[3])

- candidate shows little understanding of the term price elasticity of demand
- there is no significant development
- quality of written communication is limited.

### Level 2 ([4]–[7])

- candidate shows some understanding of the term price elasticity of demand
- there is a degree of development
- quality of written communication is satisfactory.

### Level 3 ([8]–[10])

- candidate shows clear and comprehensive understanding of the term price elasticity of demand
- there is significant development
- quality of written communication is of a high standard. [10]

- (b) Economists have identified a number of factors which are likely to influence the PED of goods and services.

These include:

- the degree to which the good or service is seen as a necessity or a luxury
- the proportion of income needed to purchase the good or service
- availability of substitute goods and services
- the time period over which the PED is measured
- the strength of the brand
- the extent to which the good is habit forming or addictive.

### Level 1 ([1]–[5])

- candidate displays little understanding of the factors which influence the PED
- there is no significant economic analysis and quality of written communication is limited
- a candidate at this level may identify one or two factors which influence PED but will make no attempt to apply it to any market.



**Level 2 ([6]–[10])**

- candidate displays some understanding of the factors which influence the PED
- there is a degree of economic analysis and application
- quality of written communication is satisfactory.

**Level 3 ([11]–[15])**

- candidate displays clear and comprehensive understanding of the factors which influence the PED
- there is extensive and accurate application and analysis
- quality of written communication is of a high standard. [15]

(c) Economists argue that estimates of price elasticity of demand are useful to firms in that it allows them to estimate the likely change in quantity demanded in response to a change in price. For example, if a firm calculated its PED to be  $-0.5$  it will know that if it increases price by 10%, quantity demanded will fall by approximately 5% and therefore the firm will gain extra revenue. However, the usefulness of PED estimates should not be overstated. There are a number of potential problems with the values calculated.

- one problem is that estimates of elasticity vary with the timeframe over which they are measured with most measures becoming more elastic the longer the time frame
- often the estimated values for elasticity of demand are calculated using past data. However, just because a 10% increase in price brought about a 20% increase in quantity demanded in the past does not mean that a further 10% increase in price will bring about a further 20% increase in quantity demanded. It must always be remembered that past performance can be a very poor indicator of future performance
- in addition not all goods have a set price. Some goods, e.g. tea, sugar are sold to consumers at different prices from different outlets, therefore when measuring PED how do we measure the change in price? Do we take an average price? If so then this will surely affect the accuracy of the figure
- finally when calculating elasticity values, we use an assumption known as “*ceteris paribus*”, which means “*all other things remain unchanged*”. Therefore, if we calculate  $\text{PED} = -4$  we make the claim that a 10% increase in price brought about a 40% decrease in quantity demanded. However, in reality the 40% decrease in quantity demanded may have occurred for reasons other than the increase in the price, e.g. bad publicity about the product, a decrease in income of consumers or a range of other factors.

For this reason using elasticity estimates to make predictions about what might happen in the future is fraught with difficulty.

Despite these problems however, if used with caution and in conjunction with a range of other data, estimates of price elasticity of demand can prove to be very useful to firms and government.

Issues for analysis and discussion include:

- examples of how firms use PED estimates
- use of past data
- ceteris paribus assumption
- difficulty in determining average price
- different methods of calculation – point, arc, etc.
- impact of timeframe on elasticity figures
- appropriate diagrams.

**Level 1 ([1]–[5])**

- candidate displays little understanding of the view that estimates of price elasticity of demand are so inaccurate as to make them of little use to firms
- there is no significant evaluation of the issues
- quality of written communication is limited.

**Level 2 ([6]–[10])**

- candidate provides some understanding of the view that estimates of price elasticity of demand are so inaccurate as to make them of little use to firms
- there is a degree of evaluation
- quality of written communication is satisfactory.

**Level 3 ([11]–[15])**

- candidate provides a clear and comprehensive understanding of the view that estimates of price elasticity of demand are so inaccurate as to make them of little use to firms
- there is significant evaluation and judgement
- quality of written communication is of a high standard. [15]

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**3 Business leaders call for removal of National Minimum Wage**

- (a) The market equilibrium wage rate is the wage rate that equalises the demand for labour and the supply of labour. At the equilibrium wage rate the number of workers who are willing to take employment is equal to the number of jobs available.

Appropriate development

- diagrams
- explanation that demand for labour is derived from the demand for product
- reference to backward bending supply curve
- explanation of equilibrium and disequilibrium.

**Level 1 ([1]–[3])**

- candidate shows little understanding of the equilibrium wage rate
- there is no significant development
- quality of written communication is limited.

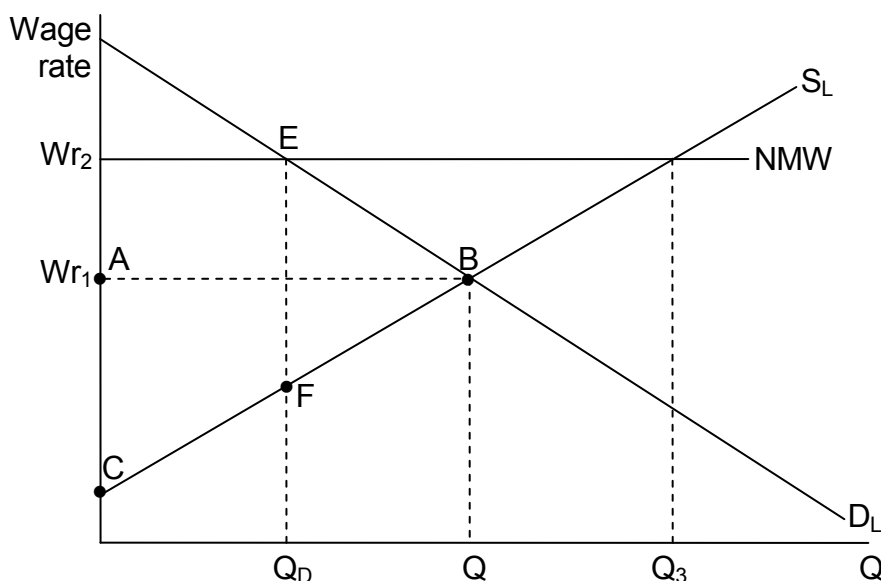
**Level 2 ([4]–[7])**

- candidate shows some understanding of the market clearing wage rate
- there is a degree of development
- quality of written communication is satisfactory.

**Level 3 ([8]–[10])**

- candidate shows clear understanding of the market clearing wage rate
- there is significant development
- quality of written communication is of a high standard. [10]

(b) Economic rent is defined as any payment to a factor of production over and above the minimum necessary to secure its services. Prior to the introduction of a national minimum wage (which is above the equilibrium wage) economic rent is equal to the area above the labour supply curve and below the equilibrium wage rate  $Wr_1$ . This is shown as the area ABC on the diagram below. After the introduction of the national minimum wage, the wage paid to workers increases to  $Wr_2$ , as a result economic rent increases to area C  $Wr_2EF$



Obliviously a minimum wage set below the equilibrium will have no impact on the labour market and therefore no impact on economic rent.

Issues, analysis and areas for discussion include:

- definition of economic rent
- appropriate diagram
- numerical example
- appropriate examples.

**Level 1 ([1]–[5])**

- candidate provides little explanation of the impact on economic rent of the introduction of a national minimum wage
- an attempt is made to represent this in a diagram but it may contain significant errors
- there is no significant economic analysis
- quality of written communication is limited.

**Level 2 ([6]–[10])**

- candidate provides some explanation of the impact on economic rent of the introduction of a national minimum wage
- an attempt is made to represent this in a diagram but it may contain some minor errors
- there is a degree of economic analysis
- quality of written communication is satisfactory.

**Level 3 ([11]–[15])**

- candidate provides a clear and comprehensive explanation of the impact economic rent of the introduction of a national minimum wage
- a clear and accurate diagram is drawn
- there is significant economic analysis
- quality of written communication is of a high standard. [15]

- (c) Those who support the removal of the national minimum wage argue that it prevents the labour market from functioning perfectly and as a result leads to unemployment. They argue that removing the national minimum wage would allow wages to fall to a level where the demand for labour and the supply of labour were equal and therefore there would be no unemployment. They also argue that the national minimum wage makes the UK a less attractive place for foreign investment and makes UK produced goods uncompetitive.

However, those who support the national minimum wage argue that it improves the incentive to work and therefore may actually reduce unemployment, they also argue that it helps to reduce the gap between the rich and the poor.

Issues for discussion and evaluation include:

- impact of national minimum wage on employment and unemployment
- impact of national minimum wage on tax revenue and government spending
- impact of national minimum wage on prices
- impact on FDI
- impact of national minimum wage on mobility of labour
- possible use of regional minimum wages which reflect differences in cost of living
- reference to non-compliance
- impact on relative poverty

- impact on economic welfare
- appropriate examples
- international comparisons
- appropriate diagrams.

**Level 1 ([1]–[5])**

- candidate displays little understanding of the case for and against the removal of the national minimum wage
- there is no significant evaluation of the issues
- quality of written communication is limited.

**Level 2 ([6]–[10])**

- candidate provides some understanding of case for and against the removal of the national minimum wage
- there is a degree of evaluation
- quality of written communication is satisfactory.

**Level 3 ([11]–[15])**

- candidate provides a clear and comprehensive understanding of the removal of the national minimum wage
- there is significant evaluation and judgement
- quality of written communication is of a high standard. [15]

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**4 Demand for electric cars increases as petrol prices keep on rising**

(a) Demand is defined as the quantity of a good or service that consumers are willing and able to buy at a given price in a given time period. An increase in demand means that consumers are willing to purchase more of a product at all price levels. It is represented by a rightward shift in the demand curve. An increase in demand can be caused by a range of factors such as a change in the price of compliments or substitutes, a change in government policy, advertising or changes in expectations.

Appropriate development

- definition of demand
- reference to demand curve
- conditions of demand
- appropriate diagrams
- appropriate examples.

**Level 1 ([1]–[3])**

- candidate shows little understanding of what is meant by an increase in demand
- there is no significant development
- quality of written communication is limited.

**Level 2 ([4]–[7])**

- candidate shows some understanding of what is meant by an increase in demand
- there is a degree of development
- quality of written communication is satisfactory.

**Level 3 ([8]–[10])**

- candidate shows clear understanding of what is meant by an increase in demand
- there is significant development
- quality of written communication is of a high standard. [10]

**(b)** An increase in the demand for electric cars may have an impact on a range of other markets.

The markets most likely to be affected are:

- the market for substitute goods such as petrol cars and public transport
- the market for complementary goods such as electricity
- the markets for the factors of production used in electric cars – electric batteries, etc.
- the market for petrol and diesel.

Issues for analysis include:

- use of appropriate diagrams
- appropriate examples
- reference to cross price elasticity of demand.

**Level 1 ([1]–[5])**

- candidate provides little explanation of how a change in demand for electric cars may have effects on other markets
- there is no significant economic analysis or application
- quality of written communication is limited.

**Level 2 ([6]–[10])**

- candidate provides some explanation of how a change in demand for electric cars may have effects on other markets
- there is a degree of economic analysis and application
- quality of written communication is satisfactory.

**Level 3 ([11]–[15])**

- candidate provides a clear and comprehensive analysis of how a change in demand or for electric cars may have effects on other markets
- there is significant economic analysis and application
- quality of written communication is of a high standard. [15]

- (c) Those who support the proposal to subsidise the consumption of electric cars argue that it will increase the incentive to purchase electric cars and as a result it will lead to a reduction in the pollution caused by traditional combustion engines. They argue that without the subsidy, the purchase of electric cars will be beyond the reach of most motorists. However, critics argue that electric cars are only as green as the electricity they run on and that the government should be doing more to promote renewable energy. They also argue that the uptake of electric cars will be minimal unless the government invest in the infrastructure required to provide recharging stations.

Issues for discussion and evaluation include:

- impact of subsidy on demand
- impact of elasticity
- impact on environment
- need for investment in infrastructure
- opportunity cost of subsidy
- administration cost of allocating subsidy
- appropriate examples
- appropriate diagrams.

**Level 1 ([1]–[5])**

- candidate displays little understanding of the case for and against the proposal to subsidise the purchase of electric cars
- there is no significant evaluation of the issues
- quality of written communication is limited.

**Level 2 ([6]–[10])**

- candidate provides some understanding of case for and against the proposal to subsidise the purchase of electric cars
- there is a degree of evaluation
- quality of written communication is satisfactory.

**Level 3 ([11]–[15])**

- candidate provides a clear and comprehensive understanding of the proposal to subsidise the purchase of electric cars
- there is significant evaluation and judgement
- quality of written communication is of a high standard. [15]

**Total**

40

**80**