AQA

AS
ECONOMICS
7135/1

Paper 1   The Operation of Markets and Market Failure

Mark scheme

June 2022

Version: 1.0 Final Mark Scheme

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this mark scheme are available from aqa.org.uk

SECTION A

The following list indicates the correct answers used
in marking the students' responses.

KEY LIST

1	**B** (most resources are scarce.)	**11**	**C** (Labour productivity rose but production fell between January and February.)
2	**A** (1800)	**12**	**B** (A fall in workers' wages and a shift in preferences towards vegetarian food.)
3	**D** (Z to Y)	**13**	**B** (fixed costs become variable.)
4	**A** (demand that is elastic with respect to price.)	**14**	**D** (setting relative prices to determine the quantity of factors of production used in producing each good.)
5	**A** (consumption by one person does not reduce availability to others.)	**15**	**C** (£140)
6	**D** (No price-setting power and unlimited consumer information.)	**16**	**C** (New technology that increases the scope for economies of scale.)
7	**A** (£800)	**17**	**D** (substitute goods.)
8	**B** (economic methodology.)	**18**	**D** (the firm's output is too low.)
9	**C** (positive production externalities of £4 million.)	**19**	**A** (consumers cannot buy as much as they would like.)
10	**B** (movement along the supply curve for cocoa.)	**20**	**D** (A tax at the rate $P_2 P_3$)

Totals

A 5
B 5
C 4
D 6

Level of response marking instructions

Level of response mark schemes are broken down into levels, each of which has a descriptor. The descriptor for the level shows the average performance for the level. There are marks in each level.

Before you apply the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptor for that level. The descriptor for the level indicates the different qualities that might be seen in the student's answer for that level. If it meets the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptor and the answer. With practice and familiarity you will find that for better answers you will be able to quickly skip through the lower levels of the mark scheme.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best fit approach for defining the level and then use the variability of the response to help decide the mark within the level, ie if the response is predominantly level 3 with a small amount of level 4 material it would be placed in level 3 but be awarded a mark near the top of the level because of the level 4 content.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. There will be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Indicative content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the Indicative content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

The levels of response grid below should be used when marking the 25 mark questions.

Level of response	Response	Max 25 marks
5	**Sound, focused analysis and well-supported evaluation that:** • is well organised, showing sound knowledge and understanding of economic terminology, concepts and principles with few, if any, errors • includes good application of relevant economic principles to the given context and, where appropriate, good use of data to support the response • includes well-focused analysis with clear, logical chains of reasoning • includes supported evaluation throughout the response and in a final conclusion.	**21–25 marks**
4	**Sound, focused analysis and some supported evaluation that:** • is well organised, showing sound knowledge and understanding of economic terminology, concepts and principles with few, if any, errors • includes some good application of relevant economic principles to the given context and, where appropriate, some good use of data to support the response • includes some well-focused analysis with clear, logical chains of reasoning • includes some reasonable, supported evaluation.	**16–20 marks**
3	**Some reasonable analysis but generally unsupported evaluation that:** • focuses on issues that are relevant to the question, showing satisfactory knowledge and understanding of economic terminology, concepts and principles but some weaknesses may be present • includes reasonable application of relevant economic principles to the given context and, where appropriate, some use of data to support the response • includes some reasonable analysis but which might not be adequately developed or becomes confused in places • includes fairly superficial evaluation; there is likely to be some attempt to make relevant judgments but these are not well-supported by arguments and/or data.	**11–15 marks**
2	**A fairly weak response with some understanding that:** • includes some limited knowledge and understanding of economic terminology, concepts and principles but some errors are likely • includes some limited application of relevant economic principles to the given context and/or data to the question • includes some limited analysis but it may lack focus and/or become confused • includes attempted evaluation which is weak and unsupported.	**6–10 marks**
1	**A very weak response that:** • includes little relevant knowledge and understanding of economic terminology, concepts and principles • includes application to the given context which, at best, is very weak • includes attempted analysis which is weak and unsupported.	**1–5 marks**

Section B

Context 1 WATER   **Total for this context: 50 marks**

| 2 | 1 | *Define 'profit' **Extract B** (line 9).*

[3 marks]

Level of response	Response	Max 3 marks
3	• A full and precise definition is given.	3 marks
2	• The substantive content of the definition is correct, but there may be some imprecision or inaccuracy.	2 marks
1	• Some fragmented points are made.	1 mark

Example of acceptable definition worth 3 marks:

• total revenue minus total cost.

Examples of a definition worth 2 marks:

• revenue minus cost (no total)
• the difference between total revenue and total cost (no direction)
• the reward to an entrepreneur

Examples of a definition worth 1 mark:

• the difference between revenue and cost (no total or direction)
• money made by firms.

MAXIMUM FOR QUESTION 21: 3 MARKS

| 2 2 | ***Extract C*** *(line 11) states: 'a bath may use 80 litres of water but a shower half as much'.* |

If a litre of water costs 0.4p, calculate how much money would be saved in a week if a family of four each had a shower every day instead of a bath.

[4 marks]

Calculation involves 40 × 4 × 7 × 0.4p = 448p or £4.48

Response	Max 4 marks
For the correct answer (units required): £4.48 **or** 448p	**4 marks**
For the correct answer but with incorrect or missing units: 4.48 **or** 448 **or** £448 **or** £44.8 (for example)	**3 marks**
For the correct answer per person: £1.12 (or 112p) **or** per day £0.64 (or 64p) **OR** For the correct calculation but the wrong answer: 40 × 4 × 7 × 0.4	**2 marks**
For the correct answer per day or per person but with incorrect or missing units: 1.12, 112, 0.64, 64 **or** £64 (for example) **OR** For multiplication of any three of the four required figures, with or without correct units or answer: 40 × 4 × 7 **or** 40 × 4 × 0.4 **or** 40 × 7 × 0.4 **or** 4 × 7 × 0.4	**1 mark**

MAXIMUM FOR QUESTION 22: 4 MARKS

| 2 | 3 | *Use **Extract A** to identify **two** significant points of comparison between the average annual water usage of households with and without a water meter.* |

[4 marks]

Award up to 2 marks for each point of comparison made.

Response	Max 4 Marks
Identifies a significant point of comparison. Makes accurate use of the data to support the comparison identified. Unit of measurement given accurately.	**2 marks**
Identifies a significant point of comparison but only one piece of data is given when two are needed **and/or** no unit of measurement is given **and/or** the unit of measurement is inaccurate **and/or** the wrong date is given. **OR** Identifies a significant feature of one data series with accurate use of the data (including the unit of measurement) but no comparison is made.	**1 mark**

If a candidate identifies more than two significant points of comparison, reward the best two.

Significant points include:

- the lowest annual water usage with a meter is 66 cubic metres for a 1-person household and the lowest annual water usage without a meter for a 1-person household is 54 cubic metres
- the highest annual water usage with a meter is 216 cubic metres for a 6-person household and the highest annual water usage without a meter for a 6-person household is 200 cubic metres
- the average annual water usage is lower with a meter than without for households of 1–4 people, for example a 1–person household uses 54 cubic metres with a meter and 66 cubic metres without a meter
- the average annual water usage is higher with a meter than without for households of 5 and 6 people, for example a 5–person household uses 191 cubic metres with a meter and 182 cubic metres without a meter
- the greatest saving in average annual water usage with a meter is for a 1–person household, using 54 cubic metres with a meter and 66 cubic metres without a meter (a saving of 12 cubic metres)
- the smallest saving in average annual water usage with a meter is for a 4–person household, using 164 cubic metres with a meter and 165 cubic metres without a meter (a saving of 1 cubic metre)
- the greatest increase in average annual water usage with a meter is for a 6–person household, using 216 cubic metres with a meter and 200 cubic metres without a meter (an increase of 16 cubic metres)
- the smallest increase in average annual water usage with a meter is for a 5–person household, using 191 cubic metres with a meter and 182 cubic metres without a meter (an increase of 9 cubic metres)
- the most similar average annual water usage with and without a water meter is for 4–person households, who use 164 cubic metres with a meter and 165 cubic metres without a meter (a difference of 1 cubic metre)
- the range of differences in average annual water usage with and without a water mater is a saving of 12 cubic metres for a 1–person household to an increase of 16 cubic metres for a 6–person household (a range of 28 cubic metres)
- the greater the number of people in the household, the greater the average annual water usage with and without a meter, for example, for a 1–person household usage is 54 cubic metres with and 66 without a meter, but for a 6–person household it is 216 and 200 cubic metres respectively.
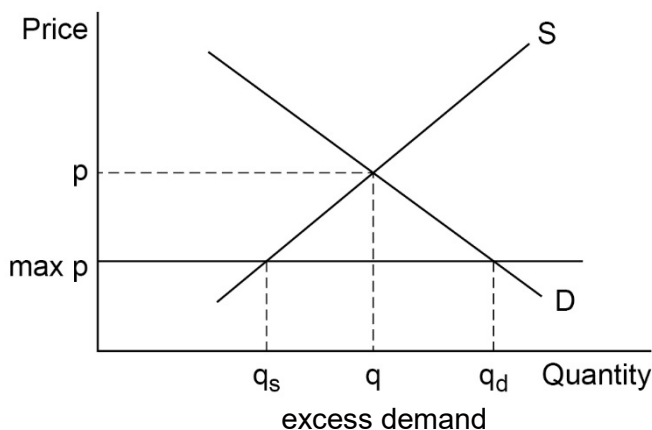
MAXIMUM FOR QUESTION 23: 4 MARKS

2 4 ***Extract C** (line 20) states: 'Perhaps a maximum price should be set for water'.*

Draw a diagram to show the impact on the market for water of setting a maximum price below the equilibrium.

[4 marks]

The correct diagram involves a supply and demand diagram, illustrating an initial equilibrium point, a maximum price below equilibrium and some indication of excess demand, either by writing 'excess demand' in the appropriate place or by labelling the two coordinates for supply and demand at this new price (q_1 and q_2 would be acceptable, for example, instead or q_s and q_d).

Response	Max 4 marks
Accurately drawn D/S diagram showing initial equilibrium, a maximum price drawn below equilibrium, and the resulting disequilibrium with excess demand clearly illustrated, with both axes and all curves and coordinates correctly labelled. Excess demand could be illustrated by just showing q_d and q_s as above (for example) or by indicating the excess demand in some other meaningful way.	**4 marks**
Accurately drawn D/S diagram showing a maximum price below equilibrium with one label missing or incorrect (on axis or curve). **OR** Accurately drawn D/S diagram showing a maximum price below equilibrium with one coordinate missing or incorrect (P or Q).	**3 marks**
Accurately drawn D/S diagram showing a maximum price below equilibrium with two labels/coordinates missing/incorrect (treat excess demand as one label).	**2 marks**
Accurately drawn D/S diagram showing an initial equilibrium point with both axes, both original curves and both coordinates correctly labelled, eg p, q (max p may be missing or not below equilibrium).	**1 mark**

**Notes: Horizontal axis allow: Quantity of water, Quantity or Q (but not QD or QS or output).
Vertical axis allow: Price, P, £ or some monetary symbol (but not Price level).**

MAXIMUM FOR QUESTION 24: 4 MARKS

| 2 | 5 |

Extract B (lines 13–14) states: 'Most water (and sewerage) services are not provided by competitive markets… Only businesses can choose their water supplier'.

Explain how firms in the water industry could compete to attract businesses or other customers.

[10 marks]

Level of response	An answer that:	Max 10 marks
Level 3	- is well organised and develops one or more of the key issues that are relevant to the question - shows sound knowledge and understanding of relevant economic terminology, concepts and principles - includes good application of relevant economic principles and/or good use of data to support the response - includes well-focused analysis with a clear, logical chain of reasoning - may include a relevant diagram to support their explanation.	**8–10 marks**
Level 2	- includes one or more issues that are relevant to the question - shows reasonable knowledge and understanding of economic terminology, concepts and principles but some weaknesses may be present - includes reasonable application of relevant economic principles and/or data to the question - includes some reasonable analysis but it might not be adequately developed and may be confused in places - may include a relevant diagram to support their explanation.	**4–7 marks**
Level 1	- is very brief and/or lacks coherence - shows some limited knowledge and understanding of economic terminology, concepts and principles but some errors are likely - demonstrates very limited ability to apply relevant economic principles and/or data to the question - may include some very limited analysis but the analysis lacks focus and/or becomes confused - may include a diagram but the diagram is likely to be inaccurate in some respects or is inappropriate.	**1–3 marks**

Relevant issues include:

- meaning of 'competitive markets' and/or 'competition'
- distinction between price and non-price competition
- competition by price
- improvement of 'product'
- quality of service provided
- reduction of costs
- promotion/advertising.

MAXIMUM FOR QUESTION 25: 10 MARKS

| 2 | 6 |

Extract C (line 9) states: 'When people pay according to quantity used, they are less likely to be wasteful'.

Use the extracts and your knowledge of economics to assess whether all households should pay according to the amount of water they use.

[25 marks]

Areas for discussion include:

- uses of water – drinking, washing, cooking
- water as a scarce resource requiring allocation and rationing
- analysis of pros and cons of current systems of paying according to property value or amount used
- water as a basic human need with characteristics of a merit good
- potential external benefits
- potential underconsumption and consequences of paying according to use
- financial incentive to be more economical with water if metered
- likely savings, both of water and on energy bills, including impact on the environment
- usage for different numbers in households, with and without meters
- cost of introduction of meters versus benefits of savings
- equity versus efficiency
- who gains, who loses?
- either way, there is a lack of choice of supplier and potential for exploitation, depending on effectiveness of regulation
- could something be done to help vulnerable households?
- could anything else be done as well or instead, for example a maximum price or introducing more competition, as with businesses, and gas and electricity?
- if metering is compulsory in some areas, why not all?
- market failure versus government failure
- an overall assessment of whether *all* households should pay according to the amount of water they use.

The use of relevant diagrams to support the analysis should be taken into account when assessing the quality of the candidate's response to the question.

Use the levels mark scheme on page 5 to award candidates marks for this question.

MAXIMUM FOR QUESTION 26: 25 MARKS

Context 2 ALCOHOL   **Total for this context: 50 marks**

2 7   *Define 'income' **Extract F** (line 10).*

[3 marks]

Level of response	Response	Max 3 marks
3	• A full and precise definition is given.	3 marks
2	• The substantive content of the definition is correct, but there may be some imprecision or inaccuracy.	2 marks
1	• Some fragmented points are made.	1 mark

Examples of acceptable definitions worth 3 marks:

- a flow of (or over a period of time) money, received by an economic agent/individual/household/firm/country (any of these is acceptable)
- a flow of (or over a period of time) money in exchange for factor services.

Examples of a definition worth 2 marks:

- money received by an economic agent/individual/household/firm/country (no flow or time period)
- return to factors of production
- money from work.

Examples of a definition worth 1 mark:

- an example of a source of income, eg wages, rent, interest, profit, revenue or benefits.

MAXIMUM FOR QUESTION 27: 3 MARKS

| 2 | 8 | *According to **Extract E** (lines 6–7), the price of a standard bottle of whisky had to rise from £10 to £14 in a discount supermarket, as a result of minimum unit pricing (MUP).*

*If the demand for whisky fell by 6.3% in the first year as a result of the price change, calculate the price elasticity of demand for whisky, to **two** decimal places.*

[4 marks]

Calculation involves –6.3 ÷ 40 = –0.1575 which rounds to –0.16 (to 2 dp)

Response	Max 4 marks
For the correct answer: –0.16	**4 marks**
For the correct value, without the minus sign **or** not rounded to 2dp **or** rounded the wrong way **or** with added/incorrect units: 0.16 **or** –0.1575 **or** –0.15 **or** –0.16% (for example)	**3 marks**
For the correct value, without the minus sign **and** not rounded to 2dp **or** rounded the wrong way **or** with added/incorrect units: 0.1575 **or** 0.15 **or** 0.16% (for example) **OR** For the correct calculation but the wrong answer: –6.3 ÷ 40	**2 marks**
For the correct equation for PED: % change in QD ÷ % change in price **OR** For the correct calculation of the percentage change in price: 40%	**1 mark**

MAXIMUM FOR QUESTION 28: 4 MARKS

| 2 | 9 | *Use **Extract D** to identify **two** significant features of the affordability of alcohol index for the UK, over the period shown.*

[4 marks]

Award up to 2 marks for each significant feature identified.

Response	Max 4 Marks
Identifies a significant feature. Makes accurate use of the data to support the feature identified. Unit of measurement given accurately.	**2 marks**
Identifies a significant feature but only one piece of data is given when two are needed **and/or** no unit of measurement is given **and/or** the unit of measurement is inaccurate **and/or** the wrong date is given.	**1 mark**

If a candidate identifies more than 2 features, reward the best two.

Significant features include:

- affordability of alcohol was highest in 2017 at 163.8 on the index
- affordability of alcohol was lowest in 2011 at 149.0 on the index
- the range of affordability of alcohol was 14.8 on the index (from 149.0 to 163.8)
- alcohol was more affordable at the end of the period than the beginning, rising from 160.0 to 163.8 on the index (or 2.4%)
- affordability fell **each** year from 2008 to 2011, from 160.0 to 149.0 overall on the index (or 6.9%)
- affordability rose **each** year from 2011 to 2017, from 149.0 to 163.8 overall on the index (or 9.9%)
- the greatest decrease in affordability was between 2010 and 2011, when the index fell from 154.4 to 149.0 (a fall of 5.4 on the index, or 3.5%)
- the greatest increase in affordability was between 2014 and 2015, when the index rose from 153.7 to 161.3 (a rise of 7.6 on the index, or 4.9%)
- the smallest decrease in affordability was between 2009 and 2010, when the index fell from 154.9 to 154.4 (a fall of 0.5 on the index, or 0.3%)
- the smallest increase in affordability was between 2013 and 2014, when the index rose from 152.9 to 153.7 (a rise of 0.8 on the index, or 0.5%)
- throughout the period, alcohol was more affordable than in the base year of 1980, with the lowest level of affordability being 149.0 in 2011 (or any other figure could be quoted as an example), compared to 100 in the base year.

Note: Reference to index numbers is needed for each feature, or the equivalent percentage change, where applicable.
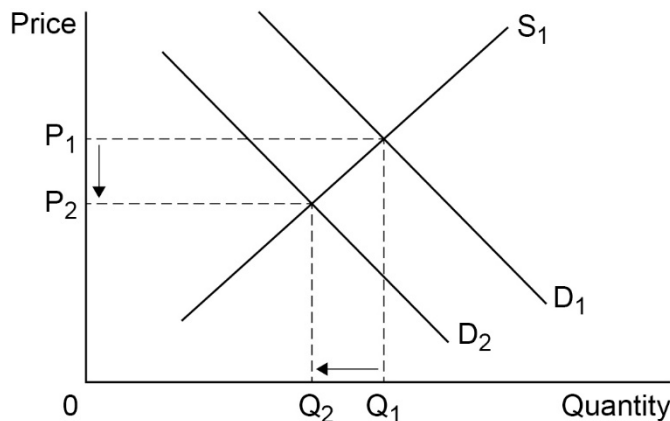
MAXIMUM FOR QUESTION 29: 4 MARKS

| 3 | 0 | ***Extract E*** *(lines 2–3) states: 'The minimum age for buying alcohol is 18, although in some countries, such as the US, the minimum age is 21'.* |

Draw a diagram to show the impact on the market for alcohol of raising the age for buying alcohol in the UK from 18 to 21.

[4 marks]

The correct diagram involves a decrease in demand/shift to the left of the demand curve resulting in a decrease in quantity sold and a decrease in price.

Response	Max 4 marks
Accurately drawn D/S diagram showing a leftwards shift in D, old and new equilibrium price and quantity, eg P_1Q_1, P_2Q_2, with both axes and all curves and coordinates correctly labelled (arrows not needed).	**4 marks**
Accurately drawn D/S diagram showing a leftwards shift in D with one label missing or incorrect (on axis or curve). **OR** Accurately drawn D/S diagram showing a leftwards shift in D with one coordinate missing (P or Q).	**3 marks**
Accurately drawn D/S diagram showing a leftwards shift in D with two labels or coordinates missing/incorrect. **OR** Accurately drawn D/S diagram showing an initial equilibrium point and a leftwards shift in D but <u>also</u> a leftwards shift in S.	**2 marks**
Accurately drawn D/S diagram showing an initial equilibrium point with both axes, both original curves and both coordinates correctly labelled, eg P_1Q_1. **OR** Accurately drawn D/S diagram showing an initial equilibrium point and a leftwards shift in D but <u>also</u> a leftwards shift in S <u>and</u> one or two labels missing.	**1 mark**

Notes: Horizontal axis allow: Quantity of alcohol, Quantity or Q (but not QD or QS or output).
Vertical axis allow: Price, P, £ or some monetary symbol (but not Price level).

MAXIMUM FOR QUESTION 30: 4 MARKS

3 1 ***Extract E*** *(lines 1–2) states: 'alcohol has traditionally been viewed as a demerit good, subject to high indirect taxes'.*

Explain the likely effects of imposing indirect taxes on alcohol.

[10 marks]

Level of response	An answer that:	Max 10 marks
Level 3	- is well organised and develops one or more of the key issues that are relevant to the question - shows sound knowledge and understanding of relevant economic terminology, concepts and principles - includes good application of relevant economic principles and/or good use of data to support the response - includes well-focused analysis with a clear, logical chain of reasoning - may include a relevant diagram to support their explanation.	**8–10 marks**
Level 2	- includes one or more issues that are relevant to the question - shows reasonable knowledge and understanding of economic terminology, concepts and principles but some weaknesses may be present - includes reasonable application of relevant economic principles and/or data to the question - includes some reasonable analysis but it might not be adequately developed and may be confused in places - may include a relevant diagram to support their explanation.	**4–7 marks**
Level 1	- is very brief and/or lacks coherence - shows some limited knowledge and understanding of economic terminology, concepts and principles but some errors are likely - demonstrates very limited ability to apply relevant economic principles and/or data to the question - may include some very limited analysis but the analysis lacks focus and/or becomes confused - may include a diagram but the diagram is likely to be inaccurate in some respects or is inappropriate.	**1–3 marks**

Relevant issues include:

- meaning of 'indirect taxes' and/or 'demerit goods'
- impact on price and quantity perhaps supported by a diagram
- the significance of price elasticity of demand
- incidence of taxation
- effect on different income groups
- impact on other economic agents – sellers, government, local communities, etc.

MAXIMUM FOR QUESTION 31: 10 MARKS

3 2   *Extract F (lines 20–21) states: 'Cheap alcohol is wrecking lives and livelihoods in England as well as Scotland'.*

Use the extracts and your knowledge of economics to assess whether a minimum price for alcohol should be introduced in England and Northern Ireland.

[25 marks]

Areas for discussion include:

- recent trends in affordability and pricing of alcohol
- alcohol as a demerit good and examples of private and external costs
- analysis of impact of a minimum price set above equilibrium
- current position on MUP in different parts of the British Isles
- problems and expectations in Scotland
- experience so far in Scotland
- significance of price elasticity of demand
- impact on different people – according to income, extent of alcohol use, etc
- equity issues
- analysis of impact of alternative/existing policies
- pros and cons of alternative policies
- effectiveness of MUP versus other policies
- whether there is a need for more action
- market failure versus government failure
- an overall assessment of whether a minimum price should be introduced in England and Northern Ireland.

The use of relevant diagrams to support the analysis should be taken into account when assessing the quality of the candidate's response to the question.

Use the levels mark scheme on page 5 to award candidates marks for this question.

MAXIMUM FOR QUESTION 32: 25 MARKS