AQA A-LEVEL ECONOMICS · 7136

ECONOMICS



MARK SCHEME

3.1.3 PRICE DETERMINATION IN A COMPETITIVE MARKET

SCORE	PERCENTAGE
/376	%

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1.

Relevant issues include:

- reasons why prices may differ, eg cost differences, price discrimination
- examples of price discrimination
- the ability of the producer to exert control over supply
- the ability to separate different markets, eg through time, barriers to entry
- preventing the transfer of goods or services between markets
- the significance of different price elasticities of demand
- why cost differences, eg transport costs, may lead to price differences
- why imperfect information may allow firms to charge different prices for the same product
- why product differentiation and branding may allow a supplier to charge different prices for what is essentially the same product.

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.

The use of examples to illustrate price discrimination should also be taken into account when assessing the quality of response.

[15]

2.

Relevant issues/logical chains of analysis include:

- defining/distinguishing between price elasticity (responsiveness of the quantity demanded to a change in price) and income elasticity of demand (responsiveness of quantity demanded to a change in income)
- (PED) The link between the consumer and price is broken by insurance and the purchasing decision is now taken by the insurance company or by the state or its agent (eg the GP). The patient will want life-saving treatment whatever the price. However some people are not members of insurance schemes or might not qualify for state provision
- assymetric information; unpredictability of medical need
- universal state provision replaces price rationing with the queue (or waiting list) insurance enables people to jump the queue
- (YED) Higher incomes make insurance more affordable
- arguable that people on higher incomes will be more aware of treatments available
- possibility of unnecessary treatments and procedures, e.g. cosmetic surgery for vanity reasons
- meaning of high/low/price/income elasticity
- appropriate use of diagrams, e.g. demand curves related to PED and YED

[10]

3.

A

[1]

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4. **Issues and areas for discussion include:**

Introduction	• Definition/explanation of 'more responsive to market forces' • Basic reasons why governments of developed countries support agriculture.
Developing the response to the question (application)	**NOTE**: Students are **not** confined to discussion of direct intervention on farm prices; they can discuss government intervention anywhere along the supply chain (e.g. government attempts to modify the behaviour of supermarkets/powerful buyers), and they could then discuss effects working backwards along the chain to the farm source. • Comments from own economic knowledge or based on the data, eg • S & D theory (elasticities, shifts, potentially unstable prices; price support through quotas shifting S to left) • Possible policies for stabilising prices and incomes ◦ national government: competition policy, regulation ◦ EU level: quotas, intervention buying, buffer stocks ◦ milk as a staple foodstuff, an 'essential' ◦ effects of free trade and globalisation (imports are mentioned in **Extract E**) ◦ production and productivity (**Extract F**; further discussion of **Extract D**) ◦ intensity of production (mentioned in **Extract F**) ◦ economies of scale (**Extract F**)
Developing the response to the question (analysis)	• Arguments for markets, eg ◦ rationing/signalling ◦ consumer sovereignty and choice ◦ decentralisation ◦ opportunity costs ◦ efficiency ◦ problems with government failure. • Arguments against, eg ◦ market failure, externalities ◦ need for price and Income stabilisation ◦ imperfect information ◦ influence of supermarkets • changes in demand and supply conditions • globalisation, free trade • need for government to act as a broker between producers and retail sector.

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Evaluation	• Market failure versus government failure • Consequences of government involvement (eg costs to the taxpayer) versus consequences of non-involvement (eg costs to the consumer; danger of a break in supply) • Free trade versus protection • Power of the supermarkets/small number of processors • Policy appropriate at national level or EU level? • Difficulties of identifying and acting for public interest/interests of consumers/producers • Unintended consequences, eg effects of quotas; milk as a raw material, impacting on many other industries; environmental side-effects of intensive farming • There is information in the data regarding Spain and UK which appears to indicate that quotas discourage economies of scale, and lifting quotas therefore increases efficiency. *Examiners should note that, for some of the weaker or average candidates, parts of the above represent quite sophisticated evaluation and so it is important to ensure that more basic evaluation is adequately rewarded where a genuine effort has been made to display that skill.*
Also give credit for	• Diagrams/An overall judgement on the issues raised.

It will only be possible for candidates to consider a few of the above. They may also discuss issues not discussed above.

[25]

6.

Relevant issues/logical chains of analysis include:

- relevant definitions, e.g. PED, total revenue, costs, price discrimination
- Price elasticity of demand can change with the time of day eg people on their way to work or on a timed lunch break have fewer alternatives and therefore lower PED. Afternoon customers are under less pressure and so have more alternatives and therefore higher elasticity. The café has large fixed costs, eg staff and therefore there are times of day when it works to full capacity and others where it is under capacity. It therefore needs to spread costs more evenly and then if it can maximise TR it will also maximise profit. Revenue is increased by increasing price when PED is inelastic and reducing price when demand is elastic. In some ways this is a similar pricing strategy to that of the low cost airlines
- This pricing strategy as an example of price discrimination
- Explanation of geometrical relationships on a diagram.
- diagrams to support the explanation, eg AR, MR, MC, price-elastic and inelastic demand.

NOTES: (1) PED, revenues and costs are mentioned in the stem of the question to assist students in focusing their answer. Do not penalise if any of these three items is not specifically discussed. Full marks can be achieved for a clear explanation which does not necessarily discuss all three of these items in any depth, although it can be expected that at least two will be necessary to convey a convincing explanation. **(2)** Scenarios other than the Cafe/Coffee Shop can be credited here if they help the explanation (e.g. on-peak/off peak rail travel can be used in a relevant way)

[15]

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7.

Areas for discussion include:

- distinction between traditional economic theory, which assumes people are rational decision makers, and behavioural economic theory
- market failure and people's choice of diet, eg asymmetric information, 'unhealthy food products' as demerit goods, inequitable distribution of income
- advertising and product promotion strategies employed by the food industry and how they influence people's choices
- policies that might help to correct information problems, eg compulsory food labelling, publicity campaigns
- policies to restrict advertising that misinforms or misleads consumers
- the impact of imposing legally enforced restrictions on, for example, the fat or salt content of processed foods
- policies that can be adopted to encourage people to adopt a healthy diet, eg indirect taxes, subsidies, better information
- relevance of elasticities
- behavioural factors that might affect people's choices, eg habit, other people's choices, social norms, motivation to 'do the right thing', people give inadequate weight to the long-term consequences of their actions
- policies related to behavioural economic theory that can be used to encourage people to adopt a healthy diet, eg nudges, framing, influencing attitudes
- whether providing better information and leaving it to individuals to make their own choices would lead to an improvement in people's well-being
- whether people are 'predictably irrational' and whether government policies that do not take this into account are likely to be ineffective
- whether the individual is the best judge of their own welfare; and whether behavioural solutions are paternalistic
- the unintended consequences of various policies.

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.

[25]

9.

D

[1]

10.

A

[1]

11.

B

[1]

12.

D

[1]

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13.

Relevant issues include:

- different types of taxes, eg direct v indirect, progressive, proportional and regressive
- taxation as a withdrawal from the circular flow of income
- how an increase in taxation affects aggregate demand
- the relationship between aggregate demand and each of the main objectives of UK macroeconomic policy, ie unemployment, growth, inflation and the balance of payments
- the different demand-side impacts of different tax changes, eg an increase in the rate of VAT versus a rise in the top rate of income tax
- multiplier effects
- the impact of tax changes on the pattern of demand and hence resource allocation, eg raising taxes on demerit goods
- the significance of elasticities of demand.

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.

[15]

14. C

[1]

15. A

[1]

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16.

Areas for discussion include:

- roads as a scarce resource
- the negative externalities associated with congestion, eg the longer journey times for other road users
- what is meant by road-pricing and how it might be implemented (allow both tolls and congestion charges as forms of road-pricing or as alternative policies)
- other policies that might be employed such as: higher taxes on fuels, increasing the road fund licence, building more roads, subsidising public transport, investing in and improving public transport
- the extent to which roads display the characteristics of a public good and how has this been affected by developments in technology.
- congestion is most prevalent on certain roads and at certain times of the day
- how road-pricing might be implemented, eg charging drivers a price for each mile travelled with different prices for different roads and for different times of the day, perhaps mentioning automatic number plate recognition systems
- setting up tolls on major roads with the toll charge varying between peak and off-peak times
- how higher taxes on fuels would help to reduce congestion and the relevance of price elasticity of demand
- how subsidising, for example, bus and rail transport, will help to reduce congestion and the relevance of cross elasticity of demand
- the budgetary and cost implications of the different options
- possible unintended consequences of the different methods, eg the impact of road pricing on city centres, such as empty shops, higher prices for products as transport costs rise
- equity arguments, eg are indirect taxes regressive, should the road user pay or the taxpayer, the impact of the different policies on the poorest members of society, town versus country dwellers, commuters and businesses
- the likelihood of government failure, eg inadequate information means that the government may set an inappropriate price for using roads, eg a price that doesn't reflect the true cost of congestion, government policy is likely to be affected by public opinion and the reactions of voters.

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.

[25]

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17.

Level of response	An answer that:	Max 9 marks
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 • includes a relevant diagram that will, at the top of this level, be accurate and used appropriately.	**7-9 marks**
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.	**4-6 marks**
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 relevant diagram but the diagram is not used and/or is inaccurate in some respects.	**1-3 marks**

A standard tariff diagram is expected, illustrating the volume of imports with and without a tariff.

Relevant issues include:

- a tariff as a tax on imports
- removing the tariff makes imports more competitive
- the impact on the demand for imports and the supply of home produced goods
- the relevance of elasticities.

[9]

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19.

Areas for discussion include:

- the nature and examples of price discrimination
- allows the producer to convert consumer surplus into producer surplus
- how price discrimination allows the producer to increase revenue and profit compared to a single price
- relevance of price elasticity of demand
- how price discrimination enables the producer to reduce fixed costs by spreading demand more evenly, eg peak and off-peak rail fares
- better capacity utilisation by firms will lower costs and may lead to lower prices for consumers
- why price discrimination may increase total sales and generate economies of scale
- the use of price discrimination as a barrier to entry, reducing competition
- why price discrimination almost certainly means that some consumers will face a higher price than if there was a single price
- the use of price discrimination to cross-subsidise loss-making services
- some consumers will benefit from lower prices and products that might not otherwise be supplied
- equity considerations related to the redistribution of income that results from price discrimination.

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.

The use of examples to illustrate price discrimination should also be taken into account when assessing the quality of response.

[25]

20.

Relevant issues include:

- sources of market failure in transport, eg externalities, roads as a quasi-public good
- examples of externalities associated with journeys by road and rail, eg congestion and longer journey times for other road users, pollution and associated health problems, environmental damage
- explaining why roads may exhibit some of the characteristics of a public good, ie they are, up to a point, non-rival and may be non-excludable.
- why, in the absence of government intervention, the existence of negative externalities means that the user will not bear the full cost of the activity
- free market equilibrium level of output (MPB=MPC) and the social optimum level of output (MSB=MSC)
- negative externalities associated with rail journeys are likely to be less than for journeys by road, hence road journeys will be under-priced by more than rail journeys, ie there will be a greater divergence between the marginal social cost and the marginal private cost for road journeys than rail journeys
- rail companies charge for the use of the rail network but, in most cases, road users are not directly charged for the use of roads
- taxes imposed on the motorist mean that some, or all, of the costs of building and maintaining the road network are borne by the motorist.

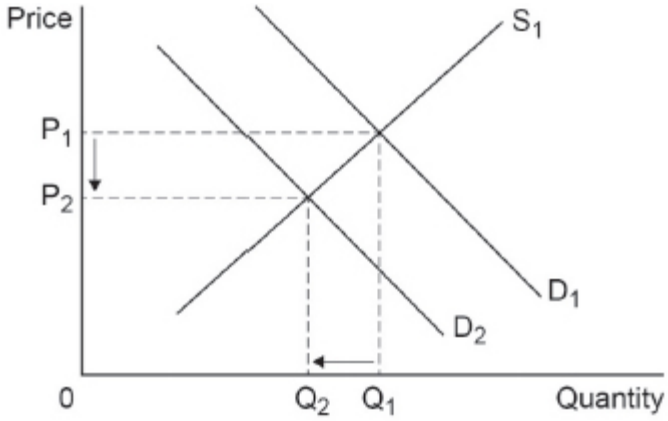
The use of relevant diagrams to support the analysis should be taken into account when assessing the quality of the candidate's response to the question.

[15]

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Mark schemes

1. 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).

[4]

2. D

[1]

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3.

Level of response	An answer that:	Max 9 marks
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 • includes a relevant diagram that will, at the top of this level, be accurate and used appropriately.	**7-9 marks**
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.	**4-6 marks**
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 relevant diagram but the diagram is not used and/or is inaccurate in some respects.	**1-3 marks**

A demand and supply diagram is expected, showing a rightward shift of the demand curve leading to an increase in both the price and quantity sold.

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Relevant issues include:

- relationship between income and mortgage finance
- as inequality increases, the better-off members of society can obtain larger mortgages
- more borrowing increases the demand for houses
- the inelastic supply of houses, particularly in the short run
- excess demand for houses, particularly at the top end of the market
- how excess demand at the top end of the market also affects prices at the bottom end
- houses as an asset and house purchase as a speculative activity
- rising house prices leading to higher demand, at least until 'the bubble' bursts.

[9]

4. A

[1]

6. B

[1]

7. **Areas for discussion include:**

- the existence of market failure
- explanation of how taxes reduce consumption
- distinction between specific and ad valorem tax
- the argument that if demand is inelastic, this will result in larger tax revenues which can be put towards public health spending to the same effect
- the extent to which the burden of the sugar tax will be passed on to consumers rather than hitting profits of producers
- the likely extent to which producers change their recipes to avoid the tax
- the fact that the tax only applies to some sugary drinks, and not others (eg milk-based or fruit-based drinks), and does not apply to sugary foods such as chocolate bars
- unintended consequences (positive and negative) which have emerged (or could emerge) from the policy
- alternative policies such as a minimum price per litre, a rationing of quantity, a ban in school vending machines, quantitative limits on the sugar added to drinks in the production process, subsidy for healthier alternatives
- policies to increase uptake of healthier alternatives such as water or milk including information campaigns, subsidies, free school milk, etc.
- whether more prominent labelling (perhaps using a "teaspoon of sugar" measure) is more or less effective
- whether consumer drinks choice is an appropriate area of interference by the Government, or alternatively evidence of the "nanny state"
- whether insights from behavioural economics offer possible solutions, e.g. nudge economics, social norms
- government failure arguments

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.

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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 judgements 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 some 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**

[25]

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8.

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 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 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 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 judgements but these aren't 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 **and/or** data to the question • includes some limited analysis but it may lack focus **and/or** become confused • includes some 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 which, at best, is very weak • includes attempted analysis which is weak and unsupported • includes attempted evaluation which is weak and unsupported.	**1 – 5 marks**

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Relevant issues and areas for discussion include:

- OPEC, as the dominant supplier, has some degree of monopoly power
- the ability of OPEC to have a significant impact on the overall supply of oil and hence its price
- the implications of the current cuts being achieved with the support of 11 non-OPEC oil producers
- the impact on revenues of raising the price when the demand for oil is relatively price inelastic
- the problem of deciding the quotas for each individual member of OPEC
- the tensions that operate in a cartel, ie collusion leading to joint profit maximisation but the short-run benefits to the individual producer of cheating on the agreement
- the significance of other producers who are not party to the agreement, eg the shale-oil and shale-gas industry in the US
- the long-run effects of a high price on exploration and the development of non-OPEC sources of supply, affecting the power of OPEC
- the effects of a high oil price on the development of other sources of energy, particularly renewables
- the effects of a high oil price on other related markets and hence the long-run demand for oil, eg electric vehicles, insulation and energy-saving measures
- if it can be achieved, the benefits of a high oil price for OPEC members, perhaps referring to some of the issues raised in the previous question
- the problems generated through instability in the price of oil
- should OPEC be aiming to achieve a stable, rather than a high, price for oil
- should OPEC allow the oil price to fall to drive competitors out of the market, eg the relatively high-cost producers of shale oil
- why the price of oil will affect each member of OPEC differently, eg each has a different break-even price and some rely on oil revenues more than others
- the consequences of a high oil price for the world economy and the impact of a slowdown in the world economy on oil producers
- political and social considerations.

Good answers are likely to identify both costs and benefits to the members of OPEC that would result from actions designed to restrict supply and raise the price of oil. They are also likely to consider the short-run and long-run consequences for the oil producers generated through the operation of the price mechanism and the feasibility of OPEC restricting supply in both the short run and the long run. The response should include a supported recommendation which could be in favour of action designed to raise, lower or allow market forces to determine the price of oil.

If a candidate's response includes discussion of the general welfare implications of OPEC restricting output to raise the price of oil, this can be given some credit. Similarly, discussion of the effects on oil consumers and the world economy can be rewarded. However, the context of the question means that discussion ought to focus on the costs and benefits to members of OPEC. If this is not addressed, the analysis is not well focused and the evaluation is likely to be limited.

A response that does not give any consideration to the impact of restricting the supply of oil upon the members of OPEC is unlikely to demonstrate the skills needed to achieve level 4.

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

An answer that does not include any evaluation or a supported recommendation must not be awarded more than 13 marks.

[25]

9. B

[1]

10. C

[1]

11.

Level of response	Response	Max 15 marks
3	**A good response provides an answer that:** • is well organised and develops a selection of the key issues that are relevant to the question • shows sound knowledge and understanding of economic terminology, concepts and principles with few, if any, errors • includes good application of relevant economic principles and, where appropriate, good use of data to support the response • includes well-focused analysis with clear, logical chains of reasoning.	**11 – 15 marks**
2	**A reasonable response provides an answer that:** • focuses on issues that are relevant to the question • shows satisfactory knowledge and understanding of economic terminology, concepts and principles but some weaknesses may be present • includes reasonable application of relevant economic principles 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.	**6 – 10 marks**
1	**A weak response provides an answer that:** • has one or more relevant issues identified • has some limited knowledge and understanding of economic terminology, concepts and principles but some errors are likely • has very limited application of relevant economic principles and/or data to the question • might have some limited analysis but it may lack focus and/or become confused.	**1 – 5 marks**

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Remember: AO4, i.e. evaluation, is not being assessed through this question.

Relevant issues include:

- the distinction between nominal and real house prices; given the data, most students are likely to focus on causes of changes in nominal house prices
- use of the data in Figure 4 showing the changes in house prices over the period
- the role of the demand for and supply of houses as causes of changes in house prices
- determinants of the demand for houses, eg availability of mortgages, cost of mortgages, required loan-to-value ratios, deposit required, income, other factors affecting affordability, confidence and expectations, speculation and property price bubbles, government support, tax changes affecting the property market (may also affect supply)
- determinants of the supply of houses, including factors that determine:
  - long-term changes in the housing stock, eg building new houses, change of use, supply of building land, technological change
  - short-term changes in the flow of houses available to buy, eg building new houses and existing owners' willingness to put their property on the market
- elasticity of demand and supply of houses and their significance to house price fluctuations
- possible reasons why the average house price fell by around 15% in 2008, e.g. linked to the financial crisis, availability of credit, confidence and the general state of the economy
- possible reasons why the average house price changed little in nominal terms between 2009 and 2012 – demand and supply were both subdued, eg the hangover from the financial crisis, little growth in nominal incomes/falling real incomes, rising unemployment, but low interest rates and low levels of house building
- possible reasons for the substantial rise in the average price of a house between 2012 and 2017 (+34%), e.g. sustained period of very low interest rates, mortgage finance more readily available, economy growing and unemployment falling, returning confidence and expectations of house prices rising further in the future, the role of the Finance For Lending scheme, the Help to Buy Scheme, changes in SDLT, population/households growing more rapidly than the supply of new properties, planning and other government restrictions on the supply of building land, large house builders 'sitting on' land that could have been used for building new homes
- distinction between those factors that caused short-term changes in the average house price between 2007 and 2017 and those that resulted in a general upward trend in the nominal average house price
- consideration of causes of differences in the change in the average house price in different regions of the UK.

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

[15]

12. C

[1]

13. C

[1]

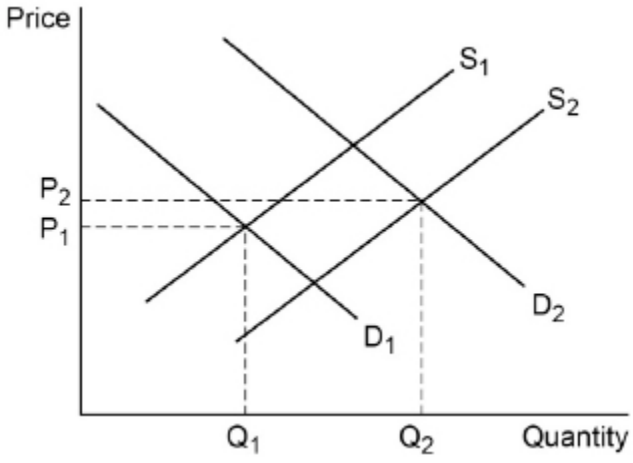
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14.

Level of response	Response	Max 9 marks
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 • includes a relevant diagram that will, at the top of this level, be accurate and used appropriately.	**7 – 9 marks**
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.	**4 – 6 marks**
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 relevant diagram but the diagram is not used and/or is inaccurate in some respects.	**1 – 3 marks**

Suggested diagram

A supply and demand diagram is expected, showing a shift right in the supply curve and a shift right in the demand curve, resulting in higher levels of output.



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Two separate diagrams are acceptable.

Other relevant diagrams, such as cost curve diagrams, may be rewarded as part of a logical explanation.

Relevant issues include:

- explanation of cheaper transportation
- explanation of construction boom
- explanation of derived demand
- how cheaper transportation shifts the supply curve out
- how construction booms trigger greater demand for sand (via land reclamation in Singapore's case, or as an ingredient in cement and other building materials)
- how cheaper shipping (for example) can create new opportunities for trade between countries
- explanation of how cheaper shipping, by itself, would create excess supply at the original equilibrium price, thus resulting in lower prices and some additional demand
- explanation of how a construction boom, by itself, would create excess demand at the original equilibrium price, thus resulting in higher prices and some additional supply
- analysis of how the combination of demand and supply shifts may enable the sector to grow without prices rising
- reference to extracts including **Figure 2**, Chinese construction statistics, the export of Australian sand to Dubai and 'megacities'.

[9]

15. A

[1]

16. **Areas for discussion include:**

- explanation of minimum prices and why they might be introduced by a government regulator
- definition and explanation of PED and PES
- use of formulae and/or calculations to illustrate elasticity
- explanation of the determinants of PED and PES
- analysis of how the impact of a minimum price will vary according to PED. This is likely to lead to a greater proportionate change in quantity if demand is elastic rather than inelastic
- analysis of how the impact of a minimum price will vary according to PES. This is likely to lead to a greater proportionate change in quantity if supply is elastic rather than inelastic
- how excess supply is affected by PED and PES and what this might mean for the market
- analysis of how the impact of a minimum price will vary if a market has both elastic PED and elastic PES compared to an inelastic PED and PES
- analysis of how the impact of a minimum price will depend on whether the price is supported by intervention buying
- use of examples of the above situations.

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

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Level of response	Response	Max 15 marks
3	**A good response provides an answer that:** • is well organised and develops a selection of the key issues that are relevant to the question • shows 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.	**11 – 15 marks**
2	**A reasonable response provides an answer that:** • focuses on issues that are relevant to the question • shows 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.	**6 – 10 marks**
1	**A weak response provides an answer that:** • has identified one or more relevant issues • has some limited knowledge and understanding of economic terminology, concepts and principles but some errors are likely • has very limited application of relevant economic principles to the given context and/or data to the question • might have some limited analysis but it may lack focus and/or become confused.	**1 – 5 marks**

[15]

17.

Response	Max 4 marks
• includes evidence that changes in the demand for rail travel have contributed to changes in the price of rail travel • clearly explains how this data is evidence that changes in the demand for rail travel have contributed to changes in the price of rail travel	**4 marks**
• includes evidence that changes in the demand for rail travel have contributed to changes in the price of rail travel • unclear explanation of how this data is evidence that changes in the demand for rail travel have contributed to changes in the price of rail travel	**3 marks**
• includes some limited evidence that changes in the demand for rail travel have contributed to changes in the price of rail travel • limited explanation of how this data is evidence that changes in the demand for rail travel have contributed to changes in the price of rail travel	**2 marks**
• includes evidence that does not clearly show that changes in the demand for rail travel have contributed to changes in the price of rail travel • no explanation of how this data is evidence that changes in the demand for rail travel have contributed to changes in the price of rail travel	**1 mark**

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Relevant issues include:

- explanation of demand for rail travel
- explanation of the link between passenger kilometres travelled and the demand for rail travel
- explanation of the link between changes in the demand for rail travel and changes in the price of rail travel
- explanation of how rail companies have an incentive to raise prices when demand is rising
- identifying that the data shows rail fares have risen from an index of 100 in 2004 to 169 in 2017 (69%)
- identification that the number of passenger km has risen from an index of 100 in 2004 to 161 in 2017 (61%) showing an increase in the demand for rail travel.

Some candidates may point out that prices have increased by around 24% in real terms rather than consider the increase in nominal terms, which is acceptable.

[4]

18.

Response	Max 4 marks
• includes evidence that shows how the expansion in the global sand market is leading to prices rising **in real terms** • clearly explains how this data is evidence that the expansion in the global sand market is leading to prices rising **in real terms**.	**4 marks**
• includes evidence that shows how the expansion in the global sand market is leading to prices rising / in real terms • unclear explanation of how this data is evidence that the expansion in the global sand market is leading to prices rising / in real terms.	**3 marks**
• includes some limited evidence that shows how the expansion in the global sand market is leading to prices rising / in real terms • limited explanation of how this data is evidence that the expansion in the global sand market is leading to prices rising / in real terms.	**2 marks**
• includes evidence that does not clearly show how the expansion in the global sand market is leading to prices rising / in real terms • no explanation of how this data is evidence that the expansion in the global sand market is leading to prices rising / in real terms.	**1 mark**

Relevant issues include:

- explanation of the concept of real terms
- explanation of what is meant by ‘expansion’ in the global sand market
- explanation of the link between global demand for sand and rising prices
- between 2010 and 2015, global demand for sand rose from 180 million tons to 244 million tons (an increase of 36% in 5 years), and is forecast to rise to 406 million tons by 2025
- construction sand prices have risen from an index of 100 in 2010 to an index of 127 in 2018, by around 13% in real terms (27% in nominal terms) over the period
- CPI has increased from an index of 100 in 2010 to an index of 114 in 2018 (14%)
- since 2015 construction sand prices have continued to rise in line with forecasts of Figure 2

[4]

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19. **Areas for discussion include:**

- definition of price discrimination
- the conditions necessary for price discrimination
- discussion of different types of price discrimination
- the disadvantages of price discrimination (higher price for many consumers, loss of consumer surplus, pricing seen as unfair eg for captive consumers such as rail season ticket holders)
- the advantages of price discrimination (lower prices for some customers with lower demand, typically those from low income households, customers with highest utility of a good or service likely to obtain the good, output likely to be higher than would be the case from a non-discriminating monopolist)
- price discrimination may be preferable to a single-price which results in secondary markets developing (eg ticket touts)
- price discrimination is good for the monopolist, increasing revenues and profits
- price discrimination is good for consumers who would otherwise have been unable to afford a good or service (eg last-minute holiday bookings) eases the impact of inequalities
- price discrimination may allow for cross-subsidisation of unprofitable goods or services
- the negative image of price discrimination, especially relating to accusations of exploitation levelled at monopolists in response to natural disasters
- discussion of the alternative to a discriminating monopolist (likely to be a non-discriminating monopolist rather than a competitive market)
- use of examples
- market failure arguments.

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

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**

[25]

20. C

[1]

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21. D

[1]

22. **Areas for discussion include:**

- definition of cross elasticity of demand (XED)
- understanding the formula for calculation of XED
- explanation of numerical values of XED and how they relate to substitutes/complements/ non-related goods
- examples of substitute goods
- examples of complementary goods/goods in joint demand
- explanations of diagrams showing interrelated markets and cross elasticity of demand
- examples of how changes in one market affect other markets, and the significance of the XED.

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

Level of response	Response	Max 15 marks
3	**A good response provides an answer that:** • is well organised and develops a selection of the key issues that are relevant to the question • shows 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.	**11 – 15 marks**
2	**A reasonable response provides an answer that:** • focuses on issues that are relevant to the question • shows 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.	**6 – 10 marks**
1	**A weak response provides an answer that:** • has identified one or more relevant issues • has some limited knowledge and understanding of economic terminology, concepts and principles but some errors are likely • has very limited application of relevant economic principles to the given context and/or data to the question • might have some limited analysis but it may lack focus and/or become confused.	**1 – 5 marks**

[15]

23. D

[1]

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24.

Level of response	Response	Max 15 marks
3	**A good response provides an answer that:** • is well organised and develops a selection of the key issues that are relevant to the question • shows sound knowledge and understanding of economic terminology, concepts and principles with few, if any, errors • includes good application of relevant economic principles and, where appropriate, good use of data to support the response • includes well-focused analysis with clear, logical chains of reasoning.	**11–15 marks**
2	**A reasonable response provides an answer that:** • focuses on issues that are relevant to the question • shows satisfactory knowledge and understanding of economic terminology, concepts and principles but some weaknesses may be present • includes reasonable application of relevant economic principles 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.	**6–10 marks**
1	**A weak response provides an answer that:** • has one or more relevant issues identified • has some limited knowledge and understanding of economic terminology, concepts and principles but some errors are likely • has very limited application of relevant economic principles and/or data to the question • might have some limited analysis but it may lack focus and/or become confused.	**1–5 marks**

Remember: AO4, ie evaluation, is not being assessed through this question.

Relevant issues include:

- meaning of forecast and the inevitable uncertainties involved when forecasting future sales
- identifying that the growth in the demand for aircraft is derived from the demand for both passenger and freight air transport
- explain the significance of the growth in the world economy and cyclical fluctuations in economic activity
- explain the significance of the growth in the middle-class population
- linking the above to the growth in tourism, the demand for air travel and hence aircraft
- the income elasticity of demand for air transport
- expected developments in the globalisation of the world economy
- the relative price of the company's aircraft
- explain the relevance of both price and cross elasticities of demand
- the effect of changes in exchange rates
- the rate of growth in different market segments and how they link to the type of aircraft the company sells
- the effect of new entrants into the market, eg COMAC
- the extent to which the airlines need to replace ageing aircraft
- changes in technology and the impact on the cost of operating aircraft
- changes in technology and its effect on the environmental impact of air transport

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- the effect of government policies and global agreements that might affect the need to replace older aircraft by new aircraft that have a less damaging impact on the environment
- the efficiency (eg cost per seat) of operating the company's aircraft compared to its competitors
- the environmental impact of the company's aircraft compared to its competitors
- the safety record of the company's aircraft compared to its competitors
- the impact of unexpected events such as the 2007-08 financial crisis and the global pandemic
- consumer confidence in air travel
- the growth in the demand for air freight, perhaps linked to expected changes in the pattern of world trade
- use of extracts A, B and C to support the above.

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

[15]

25. **Areas for discussion include:**

- definition of price mechanism, resource allocation and market economy
- explanation of the way in which demand and supply functions interact in equilibrium to determine price and quantity
- explanation of the rationing function of prices in allocating resources and coordinating the decisions of buyers and sellers in a market economy
- explanation of the signalling function of prices in allocating resources and coordinating the decisions of buyers and sellers in a market economy
- explanation of the incentives function of prices in allocating resources and coordinating the decisions of buyers and sellers in a market economy
- the role of prices in product and factor markets
- the interaction between markets
- use of examples.

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

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Level of response	Response:	Max 15 marks
3	**A good response provides an answer that:** • is well organised and develops a selection of the key issues that are relevant to the question • shows 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.	**11–15 marks**
2	**A reasonable response provides an answer that:** • focuses on issues that are relevant to the question • shows 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.	**6–10 marks**
1	**A weak response provides an answer that:** • has identified one or more relevant issues • has some limited knowledge and understanding of economic terminology, concepts and principles but some errors are likely • has very limited application of relevant economic principles to the given context and/or data to the question • might have some limited analysis but it may lack focus and/or become confused.	**1–5 marks**

[15]

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