OCR
Oxford Cambridge and RSA

GCE

Economics

H460/01: Microeconomics

Advanced GCE

Mark Scheme for Autumn 2021

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

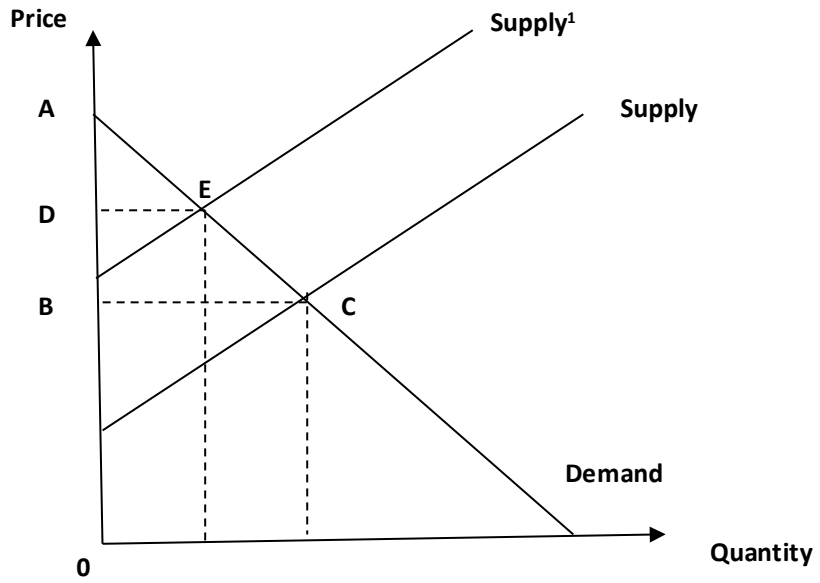
Annotations

Annotation	Meaning
BP	Blank Page – this annotation must be used on all blank pages within an answer booklet and on each page of an additional object where there is no candidate response.
✓	Correct – mark awarded
✗	Incorrect
BOD	Benefit of doubt
KU	AO1 – Knowledge and understanding
APP	AO2 – Apply knowledge and understanding
AN	AO3 - Analyse
EVAL	AO4 - Evaluation
NAQ	Not answering question
SEEN	Noted but no credit given
TV	Too vague
OFR	Own figure rule
CON	Confused
?	Unclear

Question			Answer	Marks	Guidance
1	a		**Refer to line11. Calculate, using information from the stimulus material, the average cost of a seat on an easyJet plane in 2018.** Profit = TR – TC Profit per seat = AR – AC AC = AR – Profit per seat AC = £62 - £6.53 AC = **£55.47**	**2** (AO2*2)	Annotate with ✓ Award 2 marks for an answer of £55.47 (with or without working) Award 1 mark for evidence of identifying the correct data (£62 and £6.53)

Question			Answer	Marks	Guidance
1	b		**Refer to lines 14-18. Explain, using evidence from the stimulus material, what is meant by joint demand.** Demand for goods is interdependent (1) as someone buying a flight ticket may also purchase hotel accommodation (1).	**2** (AO1*1) (AO2*1)	Annotate with ✓ 1 mark for a correct definition of joint demand: • Demand is interdependent • Goods are demanded together • Reference to complementary goods 1 mark for a correct use of a contextual example by combining any two of the following: • flights • holiday/hotel accommodation • car hire • (airport) transfers • seat reservation • (check-in) luggage • food on the plane

Question			Answer	Marks	Guidance
1	c		**Using Table 2, explain the concept of utility.** Utility is the benefit derived from consumption (1) which is lower for a flight ticket to be purchased further in advance (1)	**2** (AO1*1) (AO2*1)	Annotate with ✓ 1 mark for correct statement about what utility measures 1 mark for correct use of data from Table 2 • there are more people wanting to fly in April than in June / October therefore total utility is higher • there are fewer people wanting to fly in October than in April / June / therefore total utility is lower

Question			Answer	Marks	Guidance
1	d		**Explain, using a diagram, the impact on the level of consumer surplus if jet fuel is taxed by the UK government.**  	4 (AO1*2) (AO2*2)	Annotate with ✓ Candidates can draw a demand and supply diagram with a leftward shift in supply OR a demand diagram with a higher price. Up to 2 marks for a diagram which shows: • correctly labelled diagram (axes and curves) (1) • shift in supply schedule to the left (1) OR higher price (1) Up to 2 marks for explaining the impact on consumer surplus: • Consumer surplus falls (1) • Consumer surplus falls from ABC to ADE (1) • Consumer surplus falls by DECB (2) Consumer surplus may be represented by labelled or shaded areas

Question			Answer	Marks	Guidance
1	e		**Evaluate two factors which may determine the value of the price elasticity of demand for air travel.** **Level 2 (5–8 marks)** **Good knowledge and understanding** of the concept of PED and two factors which affect it in a context provided by the candidate. **Good** – **Strong analysis** of the factors which affect PED. • **Good analysis** will be in the form of developed links. These links are developed through a chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct and linked to the analysis. • **Strong analysis** will have **consistently** well-developed links through a **coherent** chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis. **Reasonable – Strong evaluation** of the factors which determine the value of PED for air travel, considering both sides and underpinned by appropriate theoretical analysis. • **Good evaluation** will weigh up both sides but without reaching a supported judgement. • **Strong evaluation** should include a supported judgement. **Level 1 (1–4 marks)** **Limited – Reasonable knowledge and understanding** of the concept of PED and/or a factor which affects it in a context provided by the candidate. **Limited – Reasonable analysis** of a factor which affects PED. • **Limited analysis** will have little evidence of reasoning that addresses the question asked. There is a lack of a clear structure. • **Reasonable analysis** will have correct analysis largely in the form of single links. These address the question **but** are not	**8** (AO1 x 1 AO2 x 1 AO3 x 3 AO4 x 3)	PED may be affected by a number of factors. **Availability of substitutes**: The more substitutes available the higher the PED, as customers will be able to switch more easily if price changes. Although easyJet are the largest airline in the UK, Table 1 shows that there are 4 or 5 other large competitors. There is also evidence of growing substitutability of rail travel which may affect PED. **Necessity or luxury**: A necessity will be less responsive to a price change. This may be the case for business travellers who have to travel for a meeting and may have less choice over what time to travel. On the other hand, holiday travellers may regard air travel as a luxury and may have more substitutes available. **Time period**: PED is likely to be greater the longer the time period under consideration. This will be affected by the changes in the travel market generally, for example, the increased delays of air travel which is making train travel more attractive. **Width of market definition**: The PED for easyJet (or any other airline) will be greater than the market as a whole. **Brand loyalty**: The greater the degree of brand loyalty the more likely customers will not change demand if prices increase. As market leader, and with its distinctive branding as well as customer loyalty programme, easyJet may have a lower PED than its competitors. **Percentage of a consumer's income spent on a good**: Although the price of flights can be quite high, for most people it is an occasional purchase. This will make PED more price inelastic.

			developed into a clear chain of reasoning. Any relevant diagram(s) may be imperfectly labelled or not linked to the analysis. **Limited evaluation** of a factor which determines the value of PED in the form of an unsupported statement or **no** evaluation. **0 marks** no response or no response worthy of credit. **Note:** although any diagram(s) is **not** required, it may enhance the quality of the answer and should be rewarded at the appropriate level.		Evaluation may include: • the PED for air travel may be different for different routes; • the PED may change over time; Ultimately, no one factor will be all important and better answers will recognise this. They may also recognise that other factors may be relevant.

			Descriptor	**Award mark**
			Consistently meets the criteria for this level	At top of level
			Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
			Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
			On the borderline of this level and the one below	At bottom of level

Question			Answer	Marks	Guidance
1	f	*	**Evaluate, using evidence from the stimulus material, government intervention in the market for air travel.** **Level 3 (9–12 marks)** **Good knowledge and understanding** of government intervention, supported by the evidence in the stimulus material and / or the candidate's own knowledge and understanding. **Good** – **Strong analysis** of methods of government intervention. • **Good analysis** will be in the form of developed links. These links are developed through a chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct and linked to the analysis. • **Strong analysis** will have **consistently** well-developed links through a **coherent** chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis. **Good – Strong evaluation** of government intervention, weighing up points of view/comparing alternatives. • **Strong evaluation** should include a supported judgment. *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.* **Level 2 (5–8 marks)** **Good knowledge and understanding** of government intervention, supported by the evidence in the stimulus material and / or the candidate's own knowledge and understanding. **Reasonable analysis** of methods of government intervention. There is correct analysis largely in the form of single links. These address the question **but** are not developed into a clear chain of reasoning. Any relevant diagram(s) may be imperfectly labelled or not linked to the analysis **Reasonable evaluation** of government intervention.	**12** (AO1 x 1 AO2 x 1 AO3 x 5 AO4 x 5)	**For a mark at the top of each level evidence must be provided from the stimulus material and / or the candidate's own knowledge.** Government intervention occurs in a mixed economy to correct any perceived market failure. This may be the result of information failure, externalities in consumption or production, lack of competition, factor immobility or the presence of demerit goods. Government intervention will lead to an increase in total welfare if any intervention costs are less than the benefits gained from intervention. Analysis of government intervention using evidence from the stimulus material could include: • The UK government introduced the APD in 1993 for environmental reasons. This suggests that the government recognised that the socially optimal level of air travel was being exceeded due to the marginal social costs of air travel not being fully recognised in the free market. • The 2018 report recognises the need to cut carbon emissions and the lack of taxation around the world. This implies that there is over-consumption due to information failure. • The report also refers to "artificially cheap tickets through tax exemptions and government subsidies" which also implies a lack of recognition of the 'true cost' of air travel. • Subsidies to encourage air travel (new subsidy for the Heathrow to Cornwall route in March 2019) are justified by the significant benefits to the local Cornish economy which result in MSB > MPB of air travel.

			There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence. **Level 1 (1–4 marks)** **Limited – Reasonable knowledge and understanding** of government intervention, supported by the evidence in the stimulus material and / or the candidate's own knowledge and understanding. **Limited analysis** of government intervention. Little evidence of reasoning that addresses the question asked. There is a lack of a clear structure. **Limited evaluation** of government intervention in the form of an unsupported statement or **no** evaluation. *The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.* **0 marks** no response or no response worthy of credit. **Note:** although a diagram is **not** required, it may enhance the quality of the answer and should be rewarded at the appropriate level.		Evaluation of government intervention with reference to the stimulus material might include: • The reference to "government subsidies have propped up and propelled the industry" suggests that the government does not see the negative externalities involved in the industry. • There is also the current tax-free status of jet fuel which does not match the usual treatment of a negative externality • There is clear evidence of new subsidies being introduced to actually encourage air travel. The example of the new subsidy for the Heathrow to Cornwall route in March 2019 will have the opposite effect of typical policies to 'correct' the presence of a demerit good. A supported judgement might include: • Government intervention may increase or decrease overall economic welfare depending on the extent to which it corrects market failure or introduces government failure; • Government intervention should be judged on the extent to which it reduces negative externalities and / or compensate for the market not taking account of positive externalities

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			Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
			On the borderline of this level and the one below	At bottom of level

Question			Answer	Marks	Guidance
2	*		**The gender pay gap for full-time workers in the UK has fallen from 17% to 9% in the past 20 years. However, the gap is still over 30% in many engineering and manufacturing jobs but is much smaller, or even negative, in many service sector jobs, including in the health sector.** **Evaluate, using an appropriate diagram(s), whether wage differentials are mainly caused by the presence of a monopsonistic employer.** **Level 5 (21–25 marks)** **Good – Strong knowledge and understanding** of monopsonistic employers in the context of wage differentials. **Strong analysis** of how a monopsonistic employer may affect wage determination/differentials. It will have **consistently** well-developed links through a **coherent** chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis. **Strong evaluation** of whether wage differentials are caused by monopsonistic employers and reaching a supported judgment. *There is a well-developed and sustained line of reasoning which is coherent and logically structured. The information presented is entirely relevant and substantiated.* **Level 4 (16–20 marks)** **Good knowledge and understanding** of monopsonistic employers in the context of wage differentials. **Strong analysis** of how a monopsonistic employer may affect wage determination/differentials. It will have **consistently** well-developed links through a **coherent** chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any	**25** (AO1 x 6 AO2 x 6 AO3 x 6 AO4 x 7)	**For a mark at the top of each level the response should be in context.** In a perfect labour market with perfect labour mobility, there would be no wage differentials. This would then mean that if pilots were paid more than bricklayers, bricklayers would train to be pilots, so increasing supply of pilots until wages were equalised. In reality this is unlikely to happen. One reason may be the monopsony power of the employer. This is a situation where, in the industry or occupation, an employer is able to exploit its market power to force down wage levels. For example, 90% of teachers in the UK are directly or indirectly employed by the state; most car workers are employed by a small number of large monopolistic or oligopolistic firms. The marginal cost of employing an extra unit of labour is higher than the average cost for the monopsonist. This is because the firm has to raise wage rates to attract extra labour into the industry or occupation. The higher wage now needs to be paid to all the other workers in the firm.

diagrams must be integral to the analysis.

Good evaluation will weigh up both sides/comparing alternatives but without reaching a supported judgment.

There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and in the most part substantiated.

Level 3 (11–15 marks)

Good knowledge and understanding of monopsonistic employers in the context of wage differentials.

Good analysis of how a monopsonistic employer may affect wage determination/differentials. There is correct analysis in the form of developed links. These links are developed through a chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct and linked to the analysis.

Reasonable evaluation of the link between monopsonistic employers and wage differentials without considering extent and alternatives.

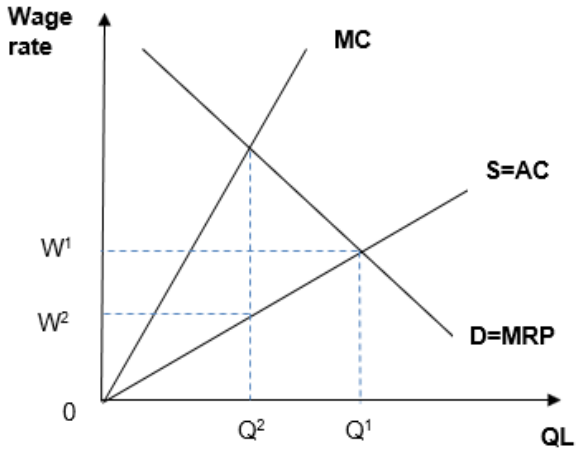
There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.

Level 2 (6–10 marks)

Good knowledge and understanding of monopsonistic employers in the context of wage differentials.

Reasonable analysis of how a monopsonistic employer may affect wage determination/differentials. There is correct analysis largely in the form of single links. These address the question **but** are not developed into a clear chain of reasoning. Any relevant diagram(s) may be imperfectly labelled or not linked to the analysis.

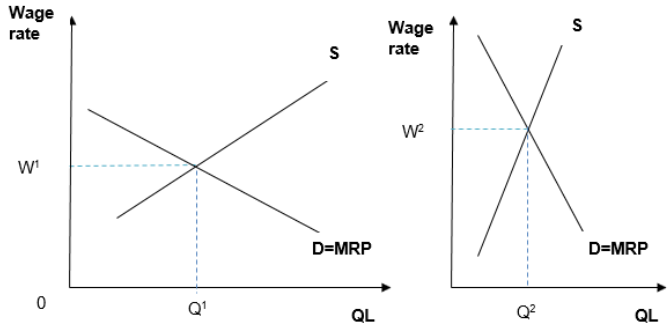
Reasonable evaluation of the link between monopsonistic employers and wage differentials without considering extent and

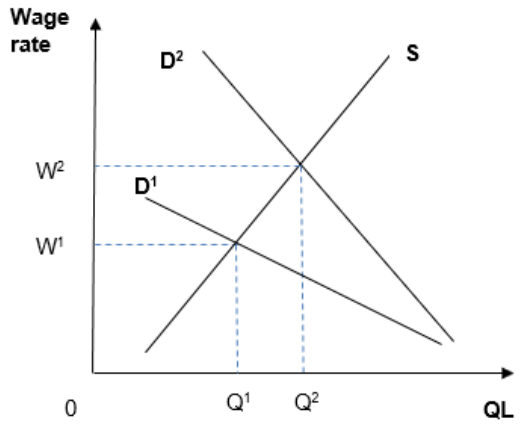


A perfectly competitive firm, assuming profit maximisation, would pay a wage at W^1. However, the monopsonist will pay W^2 (where MC=MRP). This may explain why employees in industries where the labour market is less competitive receive lower wages.

However, there are other causes of wage differentials.

Skills/qualifications – highly skilled workers will be scarcer (wage inelastic supply) and demand will also be more wage inelastic.



			alternatives. *The information has some relevance, but is communicated in an unstructured way. The information is supported by limited evidence, the relationship to the evidence may not be clear.* **Level 1 (1–5 marks)** **Reasonable knowledge and understanding** of monopsonistic employers **or** wage differentials. **Limited or no analysis** of how a monopsonistic employer may affect wage determination/differentials. It There is little evidence of reasoning that addresses the question asked. There is a lack of a clear structure. The relevant diagram(s) may not be present or are incorrectly labelled. **Limited evaluation** of the impact of monopsonistic employers in the form of an unsupported statement or **no** evaluation. *Information presented is basic and may be ambiguous or unstructured. The information is supported by limited evidence.* **0 marks** no response or no response worthy of credit.		**The value of MRP** – some workers may be more efficient (higher MPP) or have the ability to generate more revenue for the firm (e.g. top sports stars or actors). In the diagram below, these workers will be paid W^2 instead of W^1.  **Differences in acquired human capital** - wages should help to compensate people for making an investment in education. There is an opportunity cost in acquiring qualifications - measured by the current earnings given up by staying in education. **Labour is not geographically mobile** - employees may not want to, or be able to, move to another area where wages are higher. **Labour is not occupationally mobile** – some occupations require specific skills. The UK education system is still catching up (and is still behind the rest of the world in some cases) in terms of encouraging/enabling girls to study the necessary subjects to enter the higher skilled (and paid) jobs. In addition, many women due to culture, religion or personal choice do not seek the higher responsibility/paid jobs. Many women also choose to leave, temporarily or permanently, the labour

					market, either to raise children or to look after elderly family members. **Trade Union protection and collective bargaining** - many employees in low paid jobs do not have trade unions acting on their behalf to protect them from the power of employers. Trade unions may also deliberately restrict supply of labour in order to raise wages. **Employer discrimination** - this may apply to ethnic, gender, age or disability groups **Workers may not wage maximise** – wages are only part of the net benefit gained from employment. Some jobs may be unpleasant, dangerous or have no fringe benefits, so that employees seek higher wages. Employees with jobs which possess the opposite characteristics may accept lower wages. A supported judgement might include: • Wage differentials are caused by a number of competing factors at any one time. For example, the presence of the gender pay gap may still be due to discrimination and the types of jobs which women typically do. The decline in this gender gap overall may be a sign that this is changing. However, the fact that the gender gap is so high in engineering and manufacturing may be caused by the lack of occupational and geographical mobility. • The better performance in service jobs may be caused by the higher levels of human capital acquired by women in these occupations or, perversely, it may be caused by the significantly lower wages of men in these occupations due to the monopsonistic

					nature of many service industries, especially health and retail. • The size of the elasticity of demand for and supply of labour is vital. For example, if demand for labour is wage inelastic then wages cannot be held down as easily than in a wage elastic occupation.
			Descriptor	**Award mark**	
			Consistently meets the criteria for this level	At top of level	
			Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)	
			Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)	
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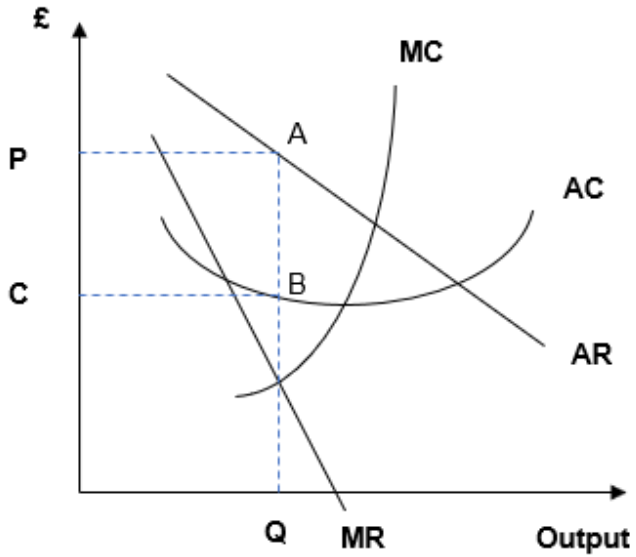
Question			Answer	Marks	Guidance
3	*		**"The nature of the market experienced by Internet-based firms, such as Amazon Marketplace, eBay and Alibaba, means that they may not have an objective of profit maximisation."** **Evaluate, using an appropriate diagram(s), how a firm's objectives, other than profit maximisation, may affect its price and output decisions.** **Level 5 (21–25 marks)** **Good – Strong knowledge and understanding** of non-profit maximising objectives and how they may affect decisions. **Strong analysis** of how non-profit maximising objectives may affect price and output decisions. It will have **consistently** well-developed links through a **coherent** chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis. **Strong evaluation** of how non-profit maximising objectives have a significant effect, weighing up both sides/comparing alternatives and reaching a supported judgment. *There is a well-developed and sustained line of reasoning which is coherent and logically structured. The information presented is entirely relevant and substantiated.* **Level 4 (16–20 marks)** **Good knowledge and understanding** of non-profit maximising objectives and how they may affect decisions. **Strong analysis** of how non-profit maximising objectives may affect price and output decisions. It will have **consistently** well-developed links through a **coherent** chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis.	**25** (AO1 x 6 AO2 x 6 AO3 x 6 AO4 x 7)	**For a mark at the top of each level the response should be in context.** Many analysts may argue that digital marketing firms are one of the closest examples to perfect competition in the modern world. There are many firms offering a homogeneous product. There is freedom of entry and exit and perfect information, firms will only make normal profits in the long-run and prices will be kept low by competitive pressures. However, the markets mentioned are not perfectly competitive; there is some degree of branding and limited barriers to entry/exit. Although supernormal profit may be possible in the short-run, only normal profits will be made in the long-run. 

Good evaluation of how non-profit maximising objectives have a significant effect, weighing up both sides/comparing alternatives but without reaching a supported judgment.

There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and in the most part substantiated.

Level 3 (11–15 marks)

Good knowledge and understanding of non-profit maximising objectives and how they may affect decisions.

Good analysis of how non-profit maximising objectives may affect price and output decisions. There is correct analysis in the form of developed links. These links are developed through a chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct and linked to the analysis.

Reasonable evaluation of how non-profit maximising objectives have a significant effect, considering both sides/comparing alternatives.

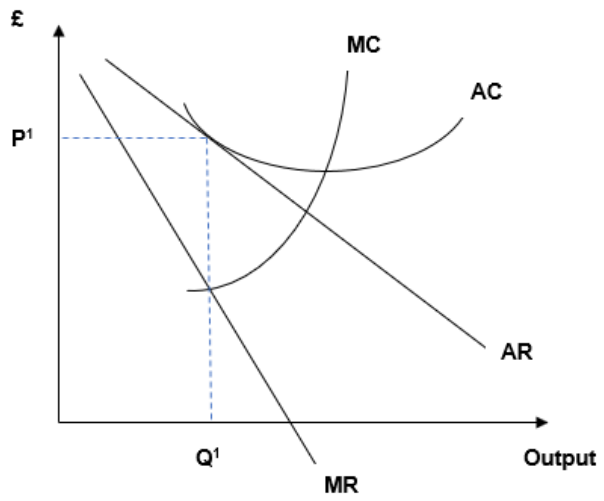
There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.

Level 2 (6–10 marks)

Good knowledge and understanding of non-profit maximising objectives and how they may affect decisions.

Reasonable analysis of how non-profit maximising objectives may affect price and output decisions. There is correct analysis largely in the form of single links. These address the question **but** are not developed into a clear chain of reasoning. Any relevant diagram(s) may be imperfectly labelled or not linked to the analysis.

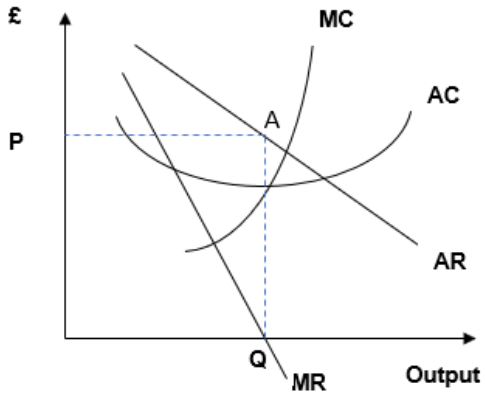
Reasonable evaluation of how non-profit maximising objectives have a significant effect on decisions, considering both sides/comparing alternatives.



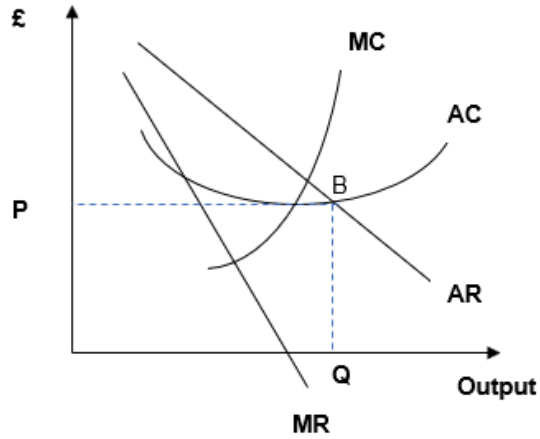
All of this assumes an objective of profit maximisation. However, in modern markets this may be unlikely. Non-profit maximising objectives may be pursued instead.

<u>Revenue maximisation</u>

Occurs where MR=0



Output will be higher but prices lower than profit maximisation. This is only really possible in the

			The information has some relevance, but is communicated in an unstructured way. The information is supported by limited evidence, the relationship to the evidence may not be clear. **Level 1 (1–5 marks)** **Reasonable knowledge and understanding** of non-profit maximising objectives **or** perfect competition. **Limited or no analysis** of how non-profit maximising objectives may affect price and output decisions. There is little evidence of reasoning that addresses the question asked. There is a lack of a clear structure. The relevant diagram(s) may not be present or are incorrectly labelled. **Limited evaluation** of non-profit maximising objectives in the form of an unsupported statement or **no** evaluation. *Information presented is basic and may be ambiguous or unstructured. The information is supported by limited evidence.* **0 marks** no response or no response worthy of credit.		short-run, as in the long-run price will be lower than AC. <u>Sales maximisation</u> Occurs where AC=AR  Output will be even higher and prices even lower, but only normal profits can be made. <u>Growth maximisation</u> This is a relatively loose concept and both sales and revenue maximisation can be considered in this category. Growth maximisation may come at the expense of lower profits. For example, starting a price war can lead to lower profits but enable higher sales. However, increasing market share can be a way to increase profits in the long-term. A firm operating on Amazon Marketplace may charge a much lower price in the short-run to gain a higher ranking and ratings on the site which it can benefit from in the future. It gives a better potential to dominate the market in the future. <u>Utility maximisation</u>

					This assumes that all stakeholders in a firm (who want to maximise their own welfare) will have some power to influence its behaviour. The firm's behaviour is then determined by the relative power of the different stakeholders. Evaluation might include: • most of the firms selling on sites such as Amazon Marketplace and eBay are very small (often operating from a house or small industrial unit) but have to compete against well-known brands, who also sell on these platforms – therefore the objective of these firms may not have an impact on their price and output • price is very much the key factor for firms selling on these platforms (where it is so easy for customers to make price comparisons) so the objective of sales maximisation may have the most significant impact on price and output • customer ratings and comments are vital on these trading platforms and so non-maximising objectives (such as customer service) may have the most significant impact on price and output

			Descriptor	**Award mark**
			Consistently meets the criteria for this level	At top of level
			Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
			Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
			On the borderline of this level and the one below	At bottom of level

Question			Answer	Marks	Guidance
4	*		**China is the world's second largest economy, has the fastest growing consumer market and is the second largest importer of goods – all from an economy a centrally planned economy. However, more than 50% of China's surface water is not fit for human consumption.** **Evaluate whether economic incentives are required to achieve an efficient allocation of resources.** **Level 5 (21–25 marks)** **Good – Strong knowledge and understanding** of the role of economic incentives in achieving efficient allocation of resources. **Strong analysis** of the role of economic incentives in achieving efficient allocation of resources. It will have **consistently** well-developed links through a **coherent** chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis. **Strong evaluation** of whether economic incentives are necessary to achieve efficient allocation of resources, weighing up both sides/comparing alternatives and reaching a supported judgment. *There is a well-developed and sustained line of reasoning which is coherent and logically structured. The information presented is entirely relevant and substantiated.* **Level 4 (16–20 marks)** **Good knowledge and understanding** of the role of economic incentives in achieving efficient allocation of resources. **Strong analysis** of the role of economic incentives in achieving efficient allocation of resources. It will have **consistently** well-developed links through a **coherent** chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the	**25** (AO1 x 6 AO2 x 6 AO3 x 6 AO4 x 7)	**For a mark at the top of each level the response should be in context.** An efficient allocation of resources occurs when P=MC and there are no costs or benefits occurring outside the market (an absence of external costs and benefits), missing markets, information gaps or information asymmetries. Economic incentives are what motivates economic agents to behave in a certain way. Consumers are motivated by their net benefit, producers are motivated by profit and workers are motivated by financial reward. A fundamental principle of economic analysis is that 'people respond to incentives'. In market-based economies, prices send signals which act as incentives to buyers and sellers, changing their behaviour – that is, the amount of a good or service they are willing to purchase or to offer for sale. So, when coffee prices rise rapidly, many consumers choose to drink less coffee by substituting some other drink or by simply not drinking as much. Low prices encourage buyers to purchase more. This is because the amount of utility gained per pound spent increases relative to other goods. Higher prices discourage spending. On the supply side, higher prices encourage suppliers to sell more to the market. Low prices discourage production. A prolonged fall in price will drive some firms (the less efficient ones) out of the market, as it is no longer profitable for them to supply. The price, therefore, acts as a signal, as well as rationing output. Market-based economies utilise the power of profit as an incentive. Profit motivates entrepreneurs to accept the risk of acquiring and organising resources to seek market opportunities. The entrepreneur takes whatever profit or loss results

			analysis. Any diagrams must be integral to the analysis. **Good evaluation** will weigh up both sides/comparing alternatives but without reaching a supported judgment. *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and in the most part substantiated.* **Level 3 (11–15 marks)** **Good knowledge and understanding** of the role of economic incentives in achieving efficient allocation of resources. **Good analysis** of the role of economic incentives in achieving efficient allocation of resources. There is correct analysis in the form of developed links. These links are developed through a chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct and linked to the analysis. **Reasonable evaluation** of the role of economic incentives in achieving efficiency. *There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.* **Level 2 (6–10 marks)** **Good knowledge and understanding** of the role of economic incentives in achieving efficient allocation of resources. **Reasonable analysis** of the role of economic incentives in achieving efficient allocation of resources. There is correct analysis largely in the form of single links. These address the question **but** are not developed into a clear chain of reasoning. Any relevant diagram(s) may be imperfectly labelled or not linked to the analysis. **Reasonable evaluation** of the role of economic incentives in achieving efficiency.		from an enterprise. The entrepreneur's desire to avoid loss and make profit provides an incentive to innovate, in order to reduce the cost of providing goods and services, and to improve product quality. An economy which did not make use of incentive – a centrally planned economy – is unlikely to achieve an efficient allocation of resources because of: • **a lack of choice** – planning tends to the production of uniform products. In the Soviet Union, everything from cars to food was mass-produced in large quantities, but with little variety. However, compare this with the images of designer labels and top international brands now found in China. • **poor quality & innovation** – the lack of the profit motive led to very poor levels of quality in the Soviet Union and China (which still persist in some industries to this day). Products and technology were many years behind the rest of the developed world. This is no longer the case in modern-day China where many of the highest spec products, ranging from iPhones to laptops, are produced. • **inefficiency** – the traditional planned economies were highly inefficient. Workers and managers had no incentive to work efficiently as jobs were guaranteed. But again, modern-day China is becoming highly efficient and is now able to undercut many market-based economies in terms of cost.

			The information has some relevance, but is communicated in an unstructured way. The information is supported by limited evidence, the relationship to the evidence may not be clear. **Level 1 (1–5 marks)** **Reasonable knowledge and understanding** of the role of economic incentives. **Limited or no analysis** of the role of economic incentives. There is little evidence of reasoning that addresses the question asked. There is a lack of a clear structure. The relevant diagram(s) may not be present or are incorrectly labelled. **Limited evaluation** of the role of economic incentives in achieving efficiency in the form of an unsupported statement or **no** evaluation. *Information presented is basic and may be ambiguous or unstructured. The information is supported by limited evidence.* **0 marks** no response or no response worthy of credit. **Note:** although a diagram is **not** required, it may enhance the quality of the answer and should be rewarded at the appropriate level.		However, there are reasons to suggest that an efficient allocation of resources can be achieved without market incentives for consumers, producers and workers. So long as the governments is motivated by economic welfare it can direct the allocation of resources through a system of central planning. This would involved the creation of state owned enterprises, the development of annual, five or ten year plans and the determination of price and output in each industry by central planners. Workers would be allocated jobs by the state in order to ensure that the 'correct' output of various goods and services is achieved. In addition, it could be argued that even with incentives an efficient allocation of resources is not a guaranteed outcome. This is because incentives might lead to a range of different market failures resulting in an inefficient allocation of resources: • behaviour by consumers and producers based on private costs and benefits leading to over-consumption and production and deadweight loss – occurs when MSC > MPC (negative externalities) • behaviour by consumers and producers based on private costs and benefits leading to under-consumption and production and deadweight loss – occurs when MSB > MPB (positive externalities) • lack of incentive to supply goods and services because of non-excludability and non-rivalry – public goods – leading to missing markets • lack of incentive to pay for goods and services because of non-excludability and non-rivalry – free-riding public goods – leading to missing markets • acting on incentives in cases when there are information gaps or information asymmetries

					Possible judgements might include: • incentives are likely to be important in achieving an efficient allocation of resources – without them an economy would have to reply on central planning, the information for each are complex • without incentives, planners would need to know private, social costs and benefits – which would be difficult to estimate / know • incentivising behaviour is a way to let the free market determine the best way to achieve a societal goal. • it may be necessary to incorporate incentives AND disincentives into law / economic policy as individual incentives may not be enough • China is not a true planned economy and that it has only been the relatively recent market-based reforms and incentives which have allowed it to grow • incentives on their own may be inadequate / ineffective (irrationality) and consumers and firms may require 'nudges'
			Descriptor	**Award mark**	
			Consistently meets the criteria for this level	At top of level	
			Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)	
			Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)	
			On the borderline of this level and the one below	At bottom of level	

Question			Answer	Marks	Guidance
5	*		**According to scientists, there are at least half a million pieces of space rubbish in the earth's atmosphere.** **Delhi, India's capital city, sees 80 deaths a day due to air pollution.** **Evaluate how the problem of scarcity can be used to explain the requirement to make choices between free goods and economic goods.** **Level 5 (21–25 marks)** **Good – Strong knowledge and understanding** of the economic problem of scarcity, choice, free and economic goods in context. **Strong analysis** of how the problem of scarcity can be used to make choices between free goods and economic goods. It will have **consistently** well-developed links through a **coherent** chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis. **Strong evaluation** of how the economic problem of scarcity may help to make choices between free and economic goods, weighing up both sides/comparing alternatives and reaching a supported judgment. *There is a well-developed and sustained line of reasoning which is coherent and logically structured. The information presented is entirely relevant and substantiated.* **Level 4 (16–20 marks)** **Good knowledge and understanding** of the economic problem of scarcity, choice, free and economic goods in context. **Strong analysis** of how the problem of scarcity can be used to make choices between free goods and economic goods. It will have **consistently** well-developed links through a **coherent** chain of	**25** (AO1 x 6 AO2 x 6 AO3 x 6 AO4 x 7)	**For a mark at the top of each level the response should be in context.** Economic goods are those which are scarce and have an attached value to them. We find a way to use that good in an optimum way. Thus, we find complements and substitutes for these goods. They have an opportunity cost. Free (non-economic) goods are those which, when used, do not have a monetary value. For example, we breathe in air, but we do not have to pay for it. It is unlimited in supply and therefore has no opportunity cost. Free goods have no complements or substitutes. Scarcity is one of the fundamental issues in economics. The issue of scarcity means we have to make a choice about how and what to produce from limited resources. It means there is an opportunity cost involved in making economic decisions. The problem of scarcity implies that there is no need to make a choice between free goods and economic goods because there is no opportunity involved in the consumption of free goods. The problem of scarcity results in a price / value being placed on economic goods. The price discourages demand and encourages firms to develop an alternative. This can be shown by a simple supply & demand diagram which shows that as a good becomes scarce its supply falls and so price rises to ration the good.

reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis.

Good evaluation will weigh up both sides/comparing alternatives but without reaching a supported judgment.

There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and in the most part substantiated.

Level 3 (11–15 marks)

Good knowledge and understanding of the economic problem of scarcity using real world examples.

Good analysis of how the problem of scarcity can be used to make choices between free goods and economic goods. There is correct analysis in the form of developed links. These links are developed through a chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct and linked to the analysis.

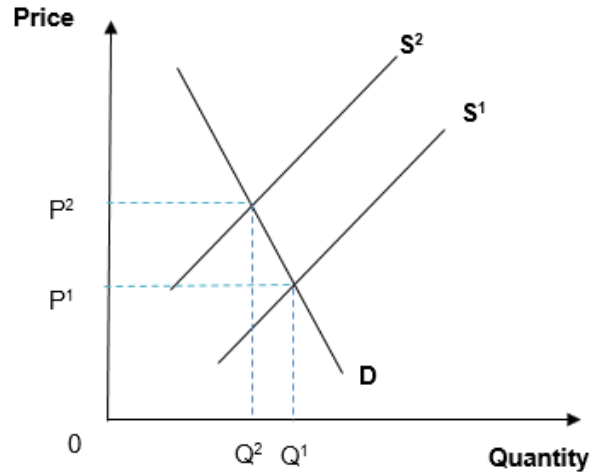
Reasonable evaluation of how the economic problem of scarcity can be used, considering both sides/comparing alternatives.

There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.

Level 2 (6–10 marks)

Good knowledge and understanding of the economic problem of scarcity using real world examples.

Reasonable analysis of the problem of scarcity. There is correct analysis largely in the form of single links. These address the question **but** are not developed into a clear chain of reasoning. Any relevant diagram(s) may be imperfectly labelled or not linked to the analysis.



However, choosing to prioritise the production and consumption of economic goods might (and increasingly does) degrade / exhaust the supply of free goods. Clean air was not a scarce good thousands of years ago when the human population was a fraction of what it is today. In many large cities (Delhi, Beijing, New York, etc.) today, clean air is a scarce good. That is because the atmosphere is used as a sink for dumping pollutants. The atmosphere has a limited capacity to absorb pollutants and that limit has been crossed in many regions of the world. If clean air becomes a scarce good, you have to pay for it. Meaning, you have to spend resources for clean air. This is done through installing mechanisms which reduce the amount of pollution dumped into the atmosphere. That is the cost for having clean air. Sand lying near the river is a free good but when it is collected in a truck and carried to a building site for house construction, it becomes an economic good. It is now scarce in relation to its demand and fetches a price.

			Reasonable evaluation of how the economic problem of scarcity can be used, considering both sides/comparing alternatives. *The information has some relevance, but is communicated in an unstructured way. The information is supported by limited evidence, the relationship to the evidence may not be clear.* **Level 1 (1–5 marks)** **Reasonable knowledge and understanding** of the economic problem or scarcity using real world examples. **Limited or no analysis** of the problem of scarcity. There is little evidence of reasoning that addresses the question asked. There is a lack of a clear structure. The relevant diagram(s) may not be present or are incorrectly labelled. **Limited evaluation** of the economic problem of scarcity in the form of an unsupported statement or **no** evaluation. *Information presented is basic and may be ambiguous or unstructured. The information is supported by limited evidence.* **0 marks** no response or no response worthy of credit. **Note:** although a diagram is **not** required, it may enhance the quality of the answer and should be rewarded at the appropriate level.		Judgements might include: • Economics assumes that when making decisions, people take the course of action which maximises their own utility. However, if many people seek to do this, the net effect may be to deplete a resource making everyone worse off in the long run. Therefore, the problem of scarcity explains why there is a requirement to make choices which consider both economic and free goods. • Both free goods and economic goods in trrality have utility for economic agents. • The discussion also depends on how narrowly you define a good or service. Hence, 'air' may be a free good but 'clean air' is, for many people, an economic good nowadays.

			Descriptor	**Award mark**
			Consistently meets the criteria for this level	At top of level
			Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
			Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
			On the borderline of this level and the one below	At bottom of level

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