

Mark Scheme (Results) January 2009

GCE

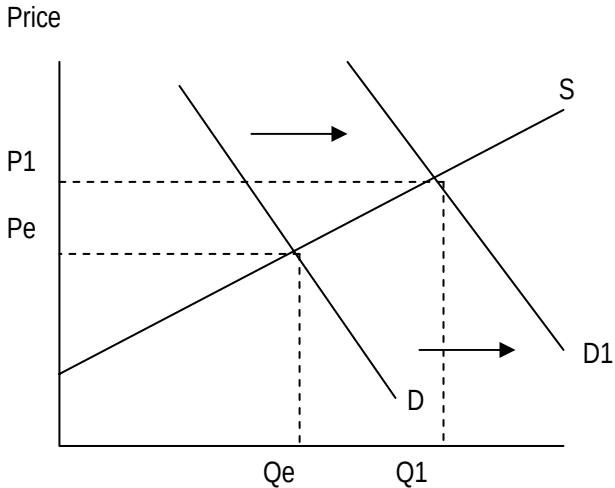
GCE Economics (6EC01) Paper 01



Candidates can be awarded up to 3 marks for explanation even if the incorrect key is used

Candidates can be awarded on maximum of 3 marks for identifying and explaining incorrect options

Question Number	Answer	Mark
1	A • A positive statement is an assertion of a fact / can be proved or disproved / value free (1 mark). • Statement 1 is positive as it contains something (air quality) which can be tested. (1 mark). • A normative statement is a value judgement / cannot be tested as true or false (1 mark). • Statement 2 is normative as it contains the value judgement of 'unfair' (1 mark).	(1) (3)

Question Number	Answer	Mark
2	C • A general understanding of the price mechanism e.g. invisible hand / interaction of supply and demand / allocation of resources (1 mark) • An increase in demand for a good will lead to a rise in its price (1 mark) which provides an incentive for producers to expand / raise supply / more profits can be made (1 mark) • Also, a decrease in demand for a good will lead to a fall in its price (1 mark) and so producers contract / reduce supply / less profits can be made (1 mark). Also award: ➤ Relevant diagram which shifts the demand curve and shows impact on price and producer supply (up to 2 marks) 	(1)

Question Number	Answer	Mark
3	B • Definition of producer surplus (the difference between the price producers are willing to supply a good for and the actual market price) (1 mark). • Annotation of diagram which shows the new area of producer surplus (1 mark) • Original producer surplus (in winter) is P1YZ (1 mark). New level of producer surplus is P2XZ (1 mark).	(1) (3)

Question Number	Answer	Mark
4	A - Definition of price elasticity of demand or its formula (the responsiveness in demand for a good due to a change in its price or the percentage change in demand divided by the percentage change in price) or definition of total revenue(1 mark). Note: only award 1 mark for definitions. - Original total revenue is 2 million $\times$ £25 = £50 million (1 mark). - New total revenue is 2.8 million $\times$ £20 = £56 million (1 mark). Also award: ➤ Demand rises by 40% or price falls by 20% (1 mark) ➤ Demand is price elastic so total revenue will increase if price falls (1 mark). Note: Expect to award full marks if calculations and correct option selected	(1) (3)

Question Number	Answer	Mark
5	C - Definition of income elasticity of demand or its formula (the responsiveness in demand for a good due to a change in income or, the percentage change in demand divided by the percentage change in income) (1 mark). - Fizzy drinks are an inferior good (1 mark) - Inferior goods have a negative income elasticity of demand (1 mark). - Normal goods have a positive income elasticity of demand / application of data to normal goods (1 mark) Also award: ➤ Numerical application such as a 10% rise in income will cause a 2.4% decrease in demand for fizzy drinks (1 mark). ➤ Diagram depicting an inferior good (1 mark)	(1) (3)

Question Number	Answer	Mark
6	D • Definition of public good (a good which has non-rivalry and non-excludability characteristics) Also accept non-rejectable (1 mark). • Explanation of the free rider problem (once a public good is provided, it is impossible to prevent people who have not paid it consuming it) (1 mark) and further development which might include an example such as street lighting, pavement, national river flood scheme, sea defences (1 mark) • It is very hard to quantify and attach monetary values to the quantity of a public good each individual consumes (1 mark). Also award: ➤ Public goods would be under-provided for if left to the market (1 mark).	(1) (3)

Question Number	Answer	Mark
7	A • Definition or understanding of NMW e.g. legal minimum that employers must pay to workers (1 mark). • Original unemployment / excess supply N_1N_3 (1 mark) • New unemployment / excess supply N_3N_4 (1 mark) The above two points may be shown on the diagram • Employment falls / demand for labour falls from N_1 to N_3 (1 mark) • Supply of labour increases from N_3 to N_4 (1 mark) Also award: ➤ Explanation that an increase in NMW may increase production costs and also increase incentives to work (up to 2 marks) Note: Award marks if candidate clearly understands that excess supply / unemployment has increased but appears confused by the mislabelling of the quantity axis of the diagram.	(1) (3)

Question Number	Answer	Mark
8	B • Explanation of asymmetric information (consumers have less market knowledge than producers) (1 mark). • Application e.g. consumed may not know appropriate dental treatment (1 mark). Any further development which might include another example (1 mark) • The producer may act in self-interest by conducting more treatment in order to gain more revenue / profits (1 mark). Also award: ➤ Asymmetric information is an example of market failure (1 mark)	(1) (3)

Question Number	Answer	Mark
9(a)	Knowledge, application and analysis (up to 7 marks) • Definition of opportunity cost or implied understanding (the value of the next best alternative foregone) (1 mark). • Development of opportunity cost e.g. limited resources / scarcity (1 mark) • Government contribution per student to tuition fees is £4,300 per year; the next best alternative for government could be: lower taxes / more funds available for other areas of spending such as primary education or healthcare / possible decrease in government borrowing. (Up to 3 marks). • Student contribution to tuition fee alone is up to £3,000 per year; the next best alternative for students could be: not going into debt / spending the tuition fee money on something else / getting a job and earning income instead of studying / increased leisure time. (Up to 3 marks). Also award: ➤ Diagrammatic analysis or opportunity cost on a production possibility frontier (2 marks)	(7)

Question Number	Answer	Mark
9(b)	Knowledge, application and analysis (up to 5 marks) • Definition of 'production possibilities' (the maximum output an economy can achieve when all its resources are fully / efficiently employed) (1 mark). • Understanding of an increase in output / education is a capital or investment good / leads to higher skills / or productivity of workforce / the economy could become more competitive. (Up to 3 marks). • Diagram showing outward shift in production possibilities (1 mark) plus relevant labelling (1 mark). For example: capital / consumer goods, or, reference to education / economy • Note: if no diagram, award a maximum of 3 marks in this section. Evaluation (up to 3 marks for one evaluation point well developed, or 2+1) ➤ Magnitude of the expansion of higher education. ➤ Types of expansion in higher education. Is it vocational or science based? ➤ Little impact in short-run and it could take many years before any outward shift in production possibilities. ➤ Impact may not be that significant if other economies invest even more in higher education than the UK. ➤ Where did government obtain funds for higher education expansion – was it from cutting investment elsewhere or did taxes have to increase? Award for an understanding of a current sacrifice.	(8)

Question Number	Answer	Mark
9(c)	Knowledge, application and analysis (up to 8 marks) • Definition of external benefits (benefits external to an exchange / benefits ignored by the price mechanism / positive third party effects / difference between private and social benefits / positive spillover effects) (1+1 marks). • Identification and explanation of two external benefits from higher education (2+2 marks). These include: ➤ Increased competitiveness for UK economy suggested by Figure 1 on academic research. Innovation and invention is more likely, developing new products. UK has two universities in Top 10 and twenty-nine in Top 200. ➤ Increased profits for firms since: higher productivity of graduates mean higher revenue. Also there could be lower training costs for firms if graduates already possess vocational skills. ➤ Improved government finances since: increase in tax revenue from higher earnings of graduate / increase in business tax revenue as firms make more profits / less likelihood of graduates claiming unemployment benefits. ➤ Indirect employment / income effects for firms which cater for students e.g. bookshops, bars and property rental. These are not part of the initial exchange. Note: Do not award for increased national output. Diagram (External benefits identified in between private and social benefits - up to 4 marks)	

	➤ MPC = MPB (1 mark) ➤ Add on MSB curve (1 mark) ➤ Identify market equilibrium and social optimum (1 mark) ➤ Identify welfare gain (1 mark) Note: If no diagram, award up to 6 marks in this section. Evaluation (up to 4 marks for one well-developed point or 2+2 marks) ➤ Explanation of triangle of welfare gain as an evaluative point, where social benefits exceed social costs for an incremental output. ➤ The increase in profits for firms may not be so significant since graduates are paid more than non-graduates. It depends on the difference between the extra revenue and extra costs from employing graduates. ➤ The improvement in government finances may occur only in the long run since it is still funding a significant proportion of tuition fees for graduates; also, repayment of student loans only occur after graduates are in employment above a certain income level. ➤ The indirect employment and income effects from higher education may be specific to certain areas and industries, for example, university towns and bookshops. Also, there would be indirect effects if people did not study in higher education – so the net difference should be considered. ➤ Prioritize between the two external benefits. ➤ Magnitude of external benefits.	(12)
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Level	Mark	Descriptor
Level 1	1-2	Definition or identification of two external benefits. No diagram or explanation.
Level 2	3-4	Definition or identification of two external benefits. No diagram or explanation.
Level 3	5-8	Definition and explanation of two external benefits with diagram. (Mark cap 8 if no evaluation)
Level 4	9-12	Convincing explanation of two external benefits with diagram; one evaluation point (well developed) or two or more points.

Question Number	Answer	Mark
9(d)(i)	- Percentage change in tuition fees from 2005 to 2006 is: $\frac{\text{£3,000} - \text{£1,175}}{\text{£1,175}} \times 100 = 155.3\%$ Note: correct answer (accept 155%) (2 marks) Note: correct workings but incorrect answer (1 mark)	(2)

Question Number	Answer	Mark
9(d)(ii)	Knowledge, analysis and application (up to 4 marks) • It has become more expensive to afford higher education / at end of three year course students will be in a lot of debt (1+1 marks) • Demand for higher education may fall (1 mark) • Data application: demand fell by 3% from 522,155 to 506,304 (up to 2 marks) • Another significant increase in tuition fees is predicted in 2010 according to the extract (from £3,000 a year to £6,000 a year - a doubling in fees) (1 mark). • Application of price elasticity of demand (1 mark) Evaluation (up to 3 marks for one evaluation point well developed, or 2+1) ➤ Figure 1 indicates that only a temporary drop in student applications for 2006 / the trend depicts more growth from 476,467 in 2003 to 540,108 in 2008 (13.3%) (1+1 marks). ➤ It suggests that higher education still represents good value for money / the government is still subsidising tuition fees / by £4,300 per year / graduates still earn well over £100,000 more over a life time than non-graduates (2 marks). ➤ Tuition fees are only part of the total cost of higher education for students ➤ Discussion of the expected doubling of tuition fees in 2010. This could have a similar effect to that of 2006 – but not reduce the underlying trend of growing application numbers. Alternately, perhaps this large increase will have a significant impact on reducing applications since it implies a doubling of student debt (2 marks). ➤ Different impact on different income groups e.g. low income groups may suffer more than high income groups. It depends on additional grants available.	(7)

Question Number	Answer	Mark
9(e)	Knowledge, Application & Analysis: (up to 6 marks). It may do more good since: (2+2+2) Students ➤ Students might take their education more seriously and work harder / since they make significant financial contribution. (1+1 marks). ➤ Students learn to manage their finances (1 mark) ➤ Improved quality of education for students / for example, lower teacher-student ratio, more support services, more IT funding per student (1+1 marks). ➤ Lower student drop-out rate from university / so less likely that a year is wasted (1+1 marks). ➤ Students might select courses which will generate earnings potential in future / for example, science based courses or vocational courses (1+1 marks). ➤ According to the research in Extract One, students still gain more income over their lifetime with a degree compared to A' Levels (£160,000) / so can afford to pay more in tuition fees / especially as back loaded – so only pay once in employment (1+1 marks). Universities ➤ Increase total funds for universities to improve quality of education / resources / staff pay / teacher-student ratio (1+1 marks). ➤ Universities might become more innovative / for example, more research projects or use of new technology (1+1 marks). ➤ Universities might increase efficiency since student customers pay more / universities directly responsible to their customers / provide more learning support services (1+1 marks). ➤ Fall in student numbers / staffing implications Note: If only students considered and not universities, award a maximum of 4 marks in this section (vice-versa). Evaluation: (2+2+2 marks)	

	NB Arguments for and against an increase in tuition fees can be regarded as evaluation, and so no cap applied here. Problems (harm) could arise since: ➤ Increase inequality as fewer low income students enrol for university. ➤ University revenue is influenced by price elasticity of demand for tuition ➤ Increase student debt levels: significant increases in student contributions are likely – extract mentions it will have to increase to at least £6000 per year by 2010. ➤ Problem of non-payment of student loans for tuition fees – extract indicates almost at £1 billion. ➤ Time lag between student loan for tuition fees and repayment in work. Meanwhile government finances could worsen. Less funds made available for universities? ➤ Insufficient high skilled jobs available for graduates compared to less skilled jobs for non-graduates. Unemployment may rise for graduates. ➤ Government may not achieve target of 50% of young people in higher education by 2010. Discussion of this target as being arbitrary. ➤ Government might be tempted to reduce its own contributions and so no extra funds for universities. ➤ University income from tuition fees still too low (£7,400) to compete with US higher education system (£11,500). Figure 1 reveals that UK is well behind the US in terms of academic research (however, it is in front of other countries).	(12)
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Level	Mark	Descriptor
Level 1	1-2	Identification of one or more relevant points but no explanation
Level 2	3-4	Explanation of two or more relevant points but no evaluation offered. (Mark cap to 6 if no evaluation).
Level 3	5-8	Explanation of two or more relevant points with limited evaluation.
Level 4	9-12	Convincing explanation with two or more evaluation points.

Question Number	Answer	Mark
10(a)(i)	$\frac{67.5 \text{ billion} - 81.5 \text{ billion}}{81.5 \text{ billion}} \times 100 = \mathbf{-17.18\%}$ • Note: correct answer (accept -17% or 17.2%, without minus sign) (2 marks) • Note: correct workings but incorrect answer (1 mark)	(2)

Question Number	Answer	Mark
10(a)(ii)	Knowledge, Application & Analysis: (up to 6 marks). NOTE: Focus should be on tobacco retailers • Identification of two effects (1+1 marks) This could include impact on revenue, profits, employment, investment, diversification and efficiency. • Development of the two effects (up to 4 marks) ➤ Falling revenue / profits: this could lead to the retailers exiting (especially tobaccoists) the market and sacking staff. ➤ Accept diagrammatic analysis which shows an inward shift of demand curve (1 mark) and falling price (1 mark) ➤ Diversification into offering other products, especially if more shelf space is now available for things like sweets and drink. ➤ Cut costs in order to maintain profits. For example, this might involve sacking staff, reducing pay or changing opening hours. ➤ Less funds available for investment, for example, improving shop front or layout of store. ➤ Idea of little impact since the decline is over a long period of time / retailers sell many other products than just tobacco. ➤ Demand is price-inelastic so retailers may raise price to maintain revenue / profits ➤ Application of the data, referring to 17% fall in tobacco consumption / 14 billion cigarettes (1 mark)	(6)

Question Number	Answer	Mark
10(a)(iii)	Knowledge, Application & Analysis: (up to 6 marks) • Definition or formula of cross elasticity of demand (1 mark) • Use of extract, e.g. lines 10/11 refer to nicotine patches and gum may reduce dependency on tobacco (1 mark) • Cigarettes and nicotine replacement products are substitutes / with a positive cross elasticity of demand (1+1 marks). • Complementary goods have a negative cross elasticity of demand (1 mark). • Application: a rise in price of nicotine gum will cause a rise in demand for cigarettes or a fall in price of nicotine gum will cause a fall in demand for cigarettes (2 marks). Alternatively, award 1 mark if candidate refers to a change in price of tobacco on the demand for nicotine replacement products. • Diagram depicting the relationship (1 mark). Candidates do not need diagram for complete marks. Evaluation (2+2 marks or 3+1 marks). ➤ Weak / low positive relationship since nicotine replacement products are poor substitutes / some replacement products are more effective than others. ➤ Weak / low positive relationship since tobacco is highly addictive. ➤ Nicotine replacement products may even be offered free on NHS – yet many people still smoke cigarettes. ➤ Some smokers do not want to give up – so little impact here / XED = 0. ➤ Nicotine replacement products are unlikely to impact on people just starting to smoke or who smoke for social reasons.	(10)

Question Number	Answer	Mark
10(b)	Knowledge, Application & Analysis: (up to 7 marks) - Definition of indirect tax (a government levy or charge on tobacco) (1 mark). - Identification or reference to different types of tax (1 mark). - Tax has effect of increasing costs to producers who try and pass on to consumers in the form of higher prices (1+1 mark). - Also reference to falling profits which lead to less output and hence less consumption (1 mark). - Explanation of diagram / effect in terms of increasing price and reducing quantity demanded (1 mark). - Data application e.g. UK has £4.03 tax per packet of cigarettes (1 mark). Diagram (4 marks) ❖ Inward shift in supply curve (accept parallel or pivotal shift) (1) ❖ Tax incidence for consumers and producers (1) ❖ Overall tax area (1) ❖ Original and new equilibrium price / quantity shown (1) ❖ Demand curve drawn relatively price inelastic (1) Price per unit £ P2 P1 P0 0 Q1 Q2 S2 S1 D Quantity per time period	

	Note: Accept MPB / MPC / MSC approach for a diagram, but they need to show the imposition of a tax on MPC curve Note: If no diagram award a maximum of five marks for this section Evaluation (3+2 marks for two well developed points or 2+2+1 marks) ➤ Cigarettes are addictive and so demand is likely to be price inelastic. This implies taxation may be ineffective in reducing smoking and a very high tax is required to have an impact. ➤ Magnitude of the taxes on cigarettes: this is very large and so must have a significant effect on reducing smoking. ➤ Taxation may be ineffective for 'socially disadvantaged' groups as many still smoke. Poorer smokers may lack access to treatments for quitting. ➤ Difficult to determine impact of high taxes on cigarettes from other factors causing a decrease in demand (demand estimation problem). ➤ The high taxes have encouraged tobacco smuggling. This may represent a government failure since considerable loss of tax revenue according to HMRC. ➤ The Tobacco Manufacturers Association estimate that 27% of all cigarettes consumed in 2006 were non-UK duty paid. This implies that many were breaking the law.	(12)
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Level	Mark	Descriptor
Level 1	1-2	Definition of indirect tax and/or recognition of increasing price of tobacco.
Level 2	3-4	Diagrammatic analysis which accurately depicts a decrease in supply and tax incidence or area. (Mark cap to 7 if no evaluation offered).
Level 3	5-8	Diagrammatic analysis which accurately depicts a decrease in supply and tax incidence or area. Limited evaluation offered.
Level 4	9-12	Convincing diagrammatic analysis with two or more evaluation points.

Question Number	Answer	Mark
10(c)	Knowledge, analysis and application (up to 7 marks) At least two benefits required for awarding the seven marks available in this section. (4+3 or 3+2+2 marks). ➤ Increase in health of workforce / less absenteeism from work: this could lead to greater productivity – means more revenue, profits and lower costs of production for firms. ➤ Reduction in demand for smoking related healthcare services: this could mean a reallocation of resources to other areas of healthcare. Perhaps a reallocation of resources to other areas of government spending, for example, education and training. ➤ Improved government finances: greater income tax revenue collected from healthier workforce / less government spending on NHS. It may enable the government to cut taxation or reduce its debt. ➤ Increase in life expectancy for people: this raises quality of life. Also, it means higher earnings potential over a life span for households. ➤ Also accept reduction in external costs: less air pollution / less passive smoking / drop in cancer rates / less litter / less risk of fire in buildings. Note that candidates may refer to private and external benefits here – this is totally acceptable. Some candidates may illustrate by diagram where MSB is to the left of MPB (2 marks) Evaluation (3+2 marks for two well developed points or 2+2+1 marks). ➤ Increase in health of the workforce is more of a long term trend. Also, some people may not be able to work properly without cigarettes! ➤ Reduction in demand for smoking related healthcare services is likely to be offset by an increase in other illnesses as people live longer, for example, arthritis and Alzheimer's disease. ➤ Government finances may worsen since less tobacco tax revenue and more spending on state	

	pensions as people live longer. ➤ Loss of trade in pubs, clubs and restaurants as smokers stay at home. Tobacco companies suffer from falling sales and profits. Unemployment may rise in the leisure industry. ➤ Magnitude and prioritisation of the benefits / short run versus long run.	(12)
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Level	Mark	Descriptor
Level 1	1-2	Identification of one or two benefits with no explanation.
Level 2	3-4	Explanation of two or more benefits but no evaluation. (Mark cap to 7 if no evaluation offered).
Level 3	5-8	Explanation of two or more benefits with limited evaluation.
Level 4	9-12	Convincing explanation of two or more benefits with two or more evaluation points.

Question Number	Answer	Mark
10(d)	Knowledge, analysis and application (up to 4 marks) • Definition of asymmetric information (when one party has less market knowledge than the other party – usually consumers have less knowledge than producers) (1 mark). • Explanation why one party (consumers) have less market knowledge than producers (up to 3 marks for one point well developed or 2+1 for two or more points). ➤ Some consumers may not be fully aware of the dangers from tobacco smoking to their health and so continue to smoke. ➤ Consumers may be less aware of low tar / high tar tobacco brands. ➤ Some consumers simply do not believe government health warnings / see some heavy smokers reach old age. ➤ Many consumers lack medical knowledge – whereas producers can employ medical specialists and scientists. ➤ Some consumers may not be aware of dangers of passive smoking. ➤ Some consumers may withhold information about their smoking e.g. for insurance purposes. ➤ Asymmetric information may vary between countries, for example less developed countries are likely to suffer from lack of market knowledge on smoking. Evaluation (up to 2 marks for any one point) ➤ Asymmetric information does not exist here since most consumers are aware of dangers from smoking but are addicted. ➤ Most consumers likely to be aware of dangers from smoking due to public health campaigns e.g., education in schools and adverts and warnings & pictures on cigarette packets. ➤ Time span – smokers believe they may not get cancer until later in life / do not consider the issue until the long term.	(6)