



Economics Questions By Topic:

Externalities (1.3.2)

A-Level Edexcel Theme 1

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Section A

Write your answers in the space provided

1 (a) Define the term 'external benefits'.

(1)

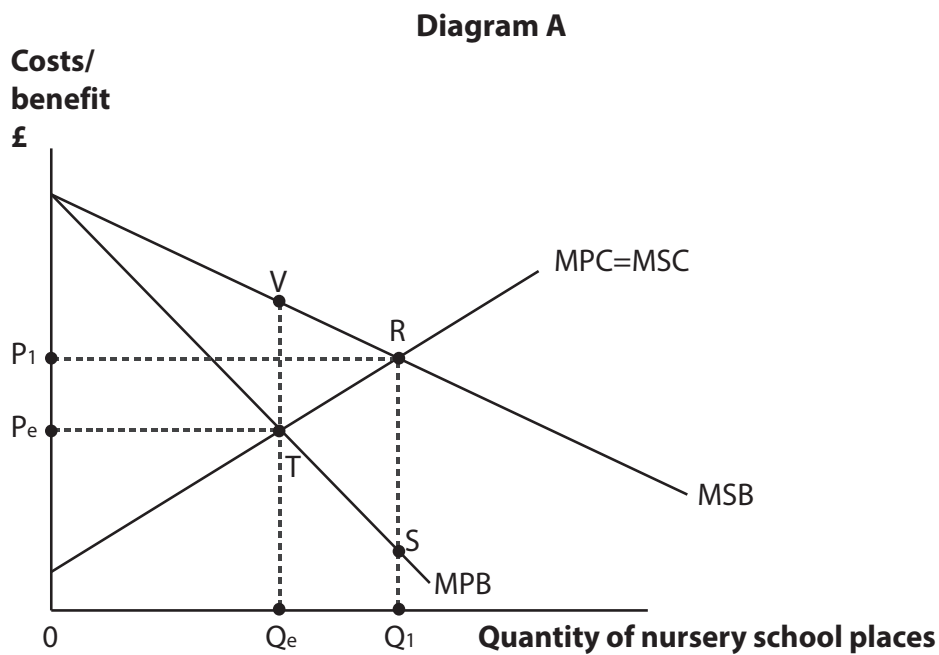
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Diagram A shows the market for nursery school places.



(b) Which **one** of the following measures could a government introduce to achieve the social optimum consumption of nursery school places?

It could introduce a:

(1)

- A** maximum price of OP_1 per unit
- B** subsidy of RS per unit
- C** tax of VT per unit
- D** minimum price of OP_1 per unit

(c) Annotate on Diagram A the welfare gain area and the new social optimum output resulting from successful government intervention in the market for nursery places.

(2)

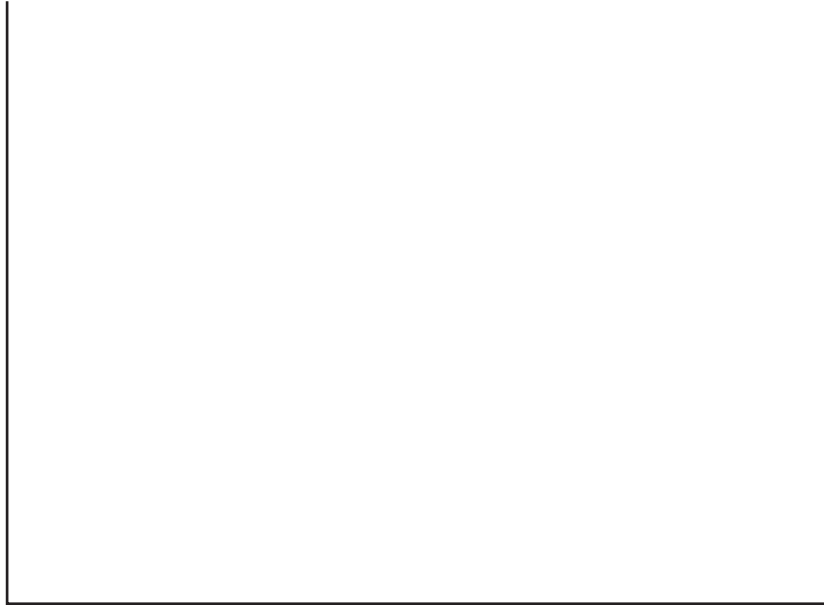
(Total for Question 1 = 4 marks)

- 2 The external benefits of higher education include increased tax revenue, faster economic growth, greater innovation and labour market flexibility.

(Source adapted from: <https://www.timeshighereducation.com/news/higher-education-its-good-for-you-and-society/2008681.article#survey-answer>)

- (a) Draw an externalities diagram to show the likely impact of the consumption of higher education.

(4)



- (b) On average, in the UK, a working-age graduate earns approximately £10 000 more per year than a non-graduate.

(Source adapted from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/701720/GLMS_2017.pdf)

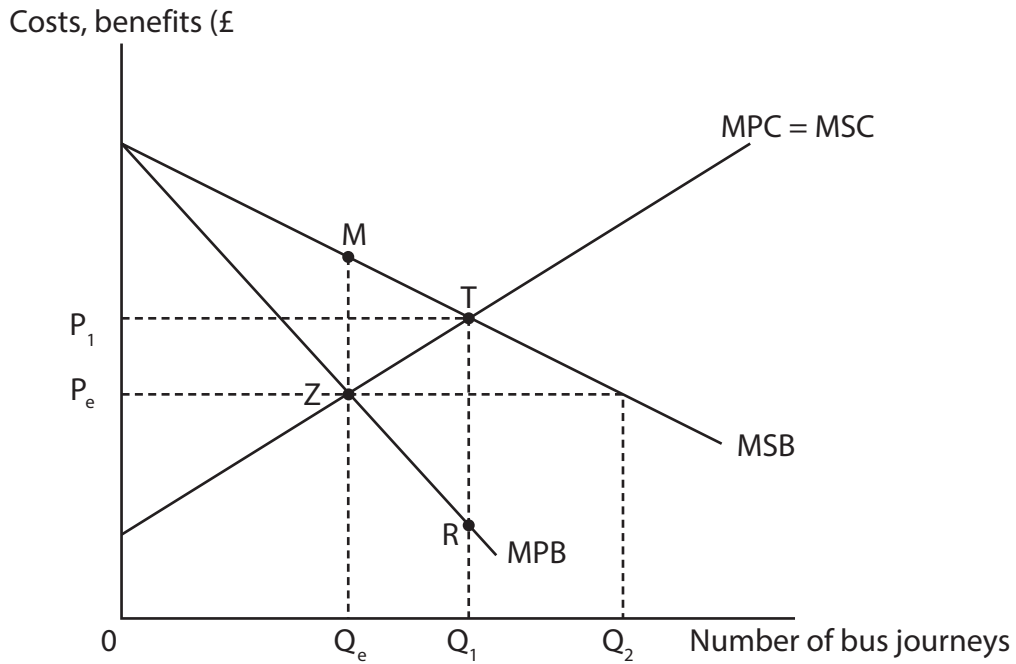
This suggests a university degree provides a substantial

(1)

- A external benefit
- B external cost
- C private benefit
- D social cost

(Total for Question 2 = 5 marks)

3



The diagram shows the market for bus travel in which the current equilibrium quantity is Q_e and price P_e . At this number of bus journeys there is

(1)

- A government failure
- B an excess supply of $Q_e Q_2$
- C market failure
- D a welfare loss of TZR

Answer

Explanation

(3)

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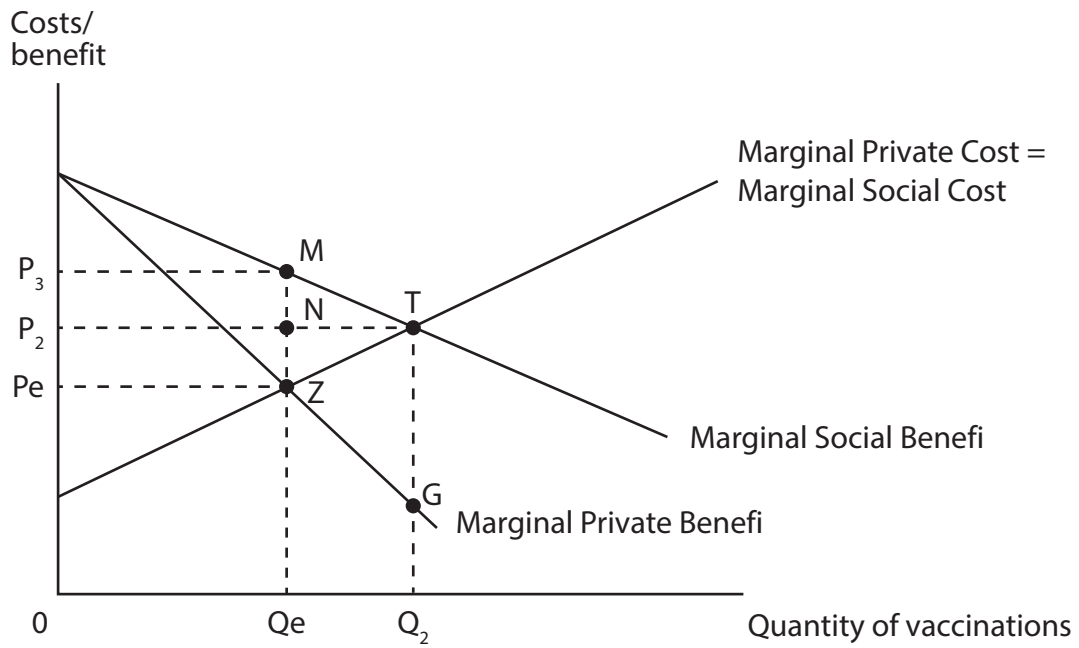
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(Total for Question 3 = 4 marks)

4



The diagram shows the market for vaccinations. Assume there are no external costs. Which one of the following is true?

(1)

- A The free market equilibrium quantity exceeds the social optimum quantity
- B At the free market equilibrium quantity, marginal social cost exceeds marginal social benefit
- C An increase in quantity from the free market equilibrium will lead to a net welfare gain
- D At the free market equilibrium price there is an excess supply of vaccinations

Answer

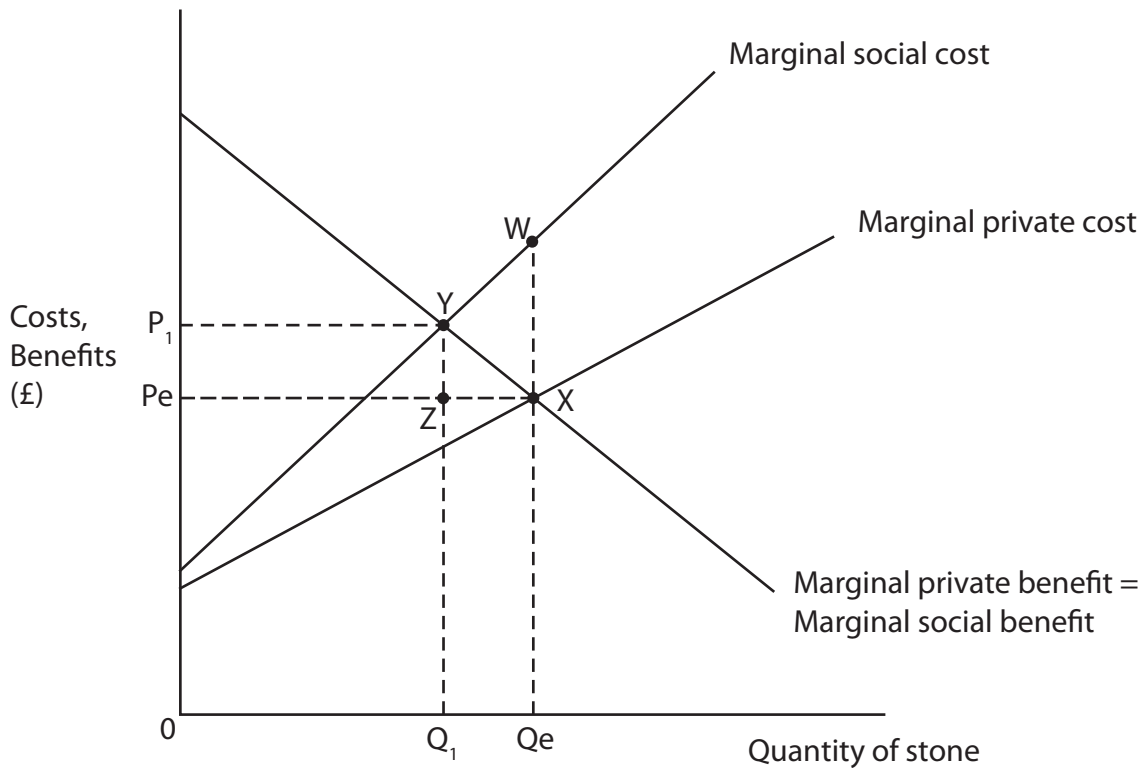
Explanation

(3)

Area with horizontal dotted lines for writing the explanation.

(Total for Question 4 = 4 marks)

5



The diagram shows the market for the extraction of stone from a quarry. Assume there are no external benefits.

Which of the following is true?

(1)

- A** The social optimum quantity exceeds the free market equilibrium quantity
- B** The area of welfare loss at the free market equilibrium is XZY
- C** A decrease in the quantity from Q_e towards Q_1 will reduce the net welfare loss
- D** At the free market equilibrium quantity, marginal social benefit exceeds marginal social cost

Answer

Explanation

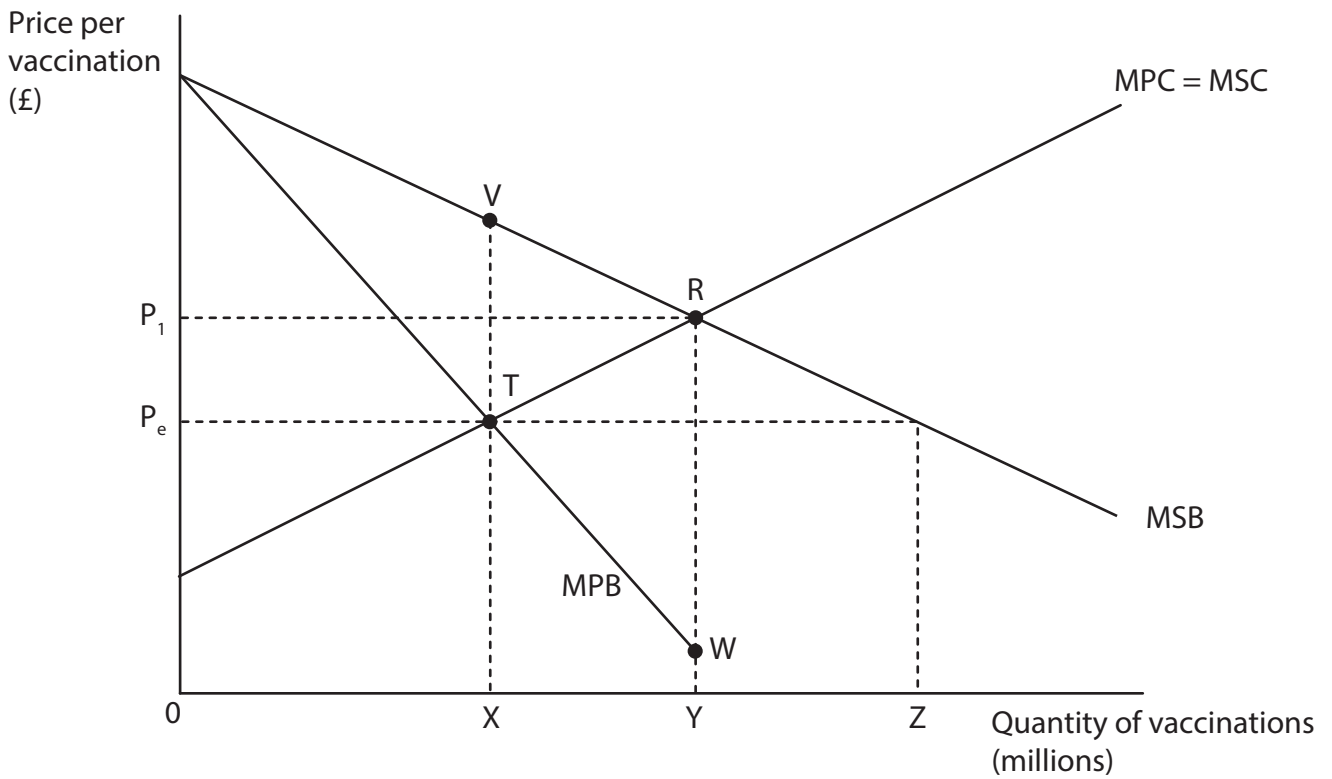
(3)

A series of horizontal dotted lines for writing an explanation.

(Total for Question 5 = 4 marks)

6

Market for vaccinations



The diagram shows a free market for vaccinations in which the current equilibrium level of output is X and price P_e . At this level of output there is

(1)

- A an external cost
- B market failure
- C an excess supply
- D government failure

Answer

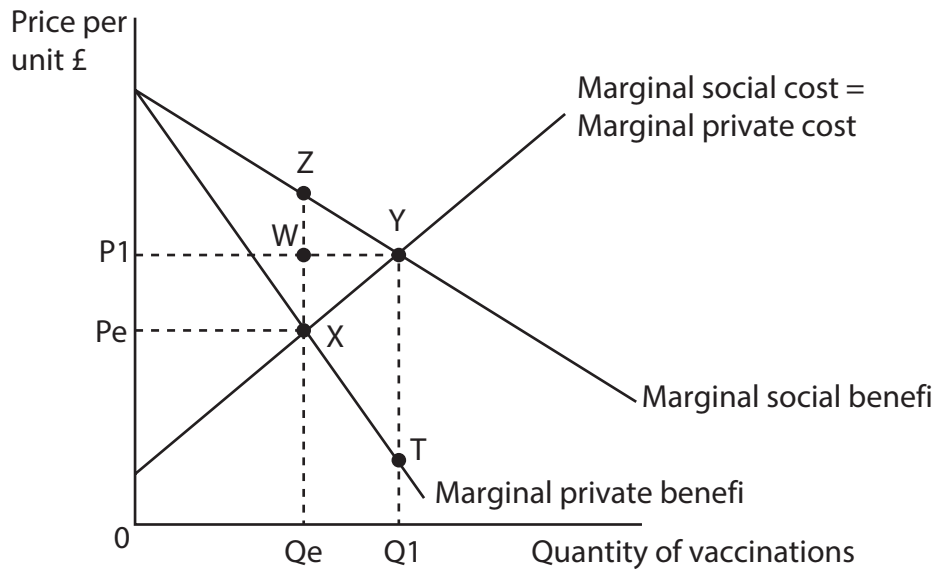
Explanation

(3)

A series of horizontal dotted lines for writing an explanation.

(Total for Question 6 = 4 marks)

7



The diagram shows the market for vaccinations. Assume there are no external costs. Which of the following is true?

(1)

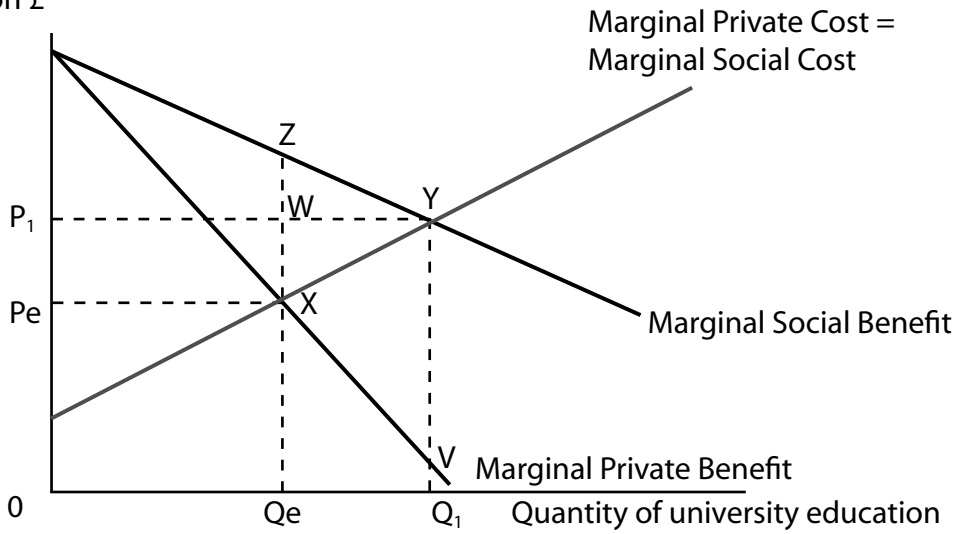
- A The free market equilibrium quantity exceeds the social optimum quantity.
- B The area of welfare loss is XTYZ.
- C An increase in quantity from the free market equilibrium will lead to a net welfare gain.
- D At the free market equilibrium quantity, marginal social cost exceeds marginal social benefit.

Answer

8

Market for university education

Price of university education £



The diagram shows the market for university education. Assume there are no external costs. Which of the following is true?

(1)

- A The free market equilibrium quantity exceeds the social optimum quantity
- B There is market failure at quantity Q_e
- C The triangle of welfare gain is XYV
- D The marginal external benefit remains constant at all quantities.

Answer

Explanation

(3)

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(Total for Question 8 = 4 marks)

END OF SECTION A

SECTION B

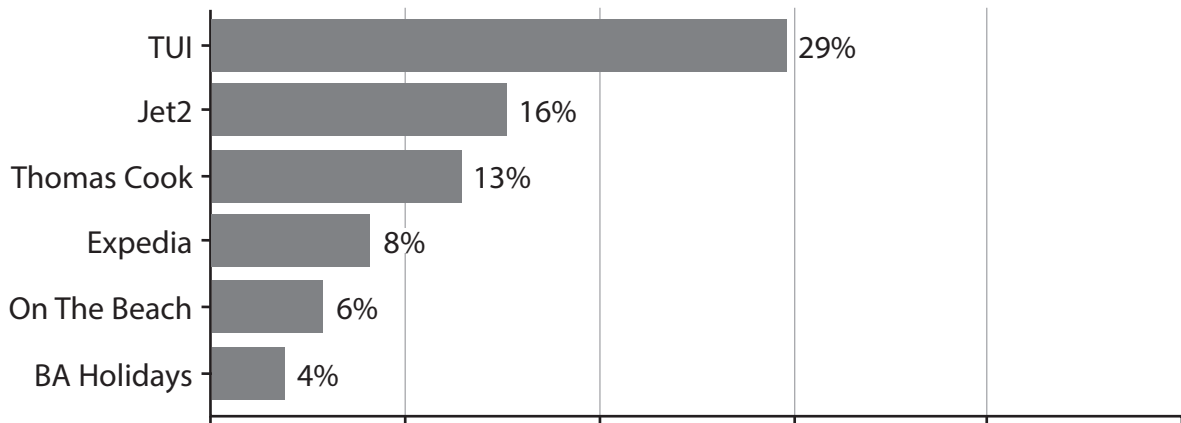
Read all the figures and extracts before answering the questions.

Write your answers in the spaces provided.

Question 9

The travel and tourism industry

Figure 1: Package holiday market share of the six largest providers, booked by UK residents, 2019










(Source adapted from: <https://knowledge.sharescope.co.uk/2019/10/16/finding-companies-that-control-their-own-destinies/The Times/ATOL>)

Figure 2: Jet2 package holiday prices to Sorrento

Price before Thomas Cook shutdown

Price 12 hours after Thomas Cook shutdown








2 Adults for 7 Nights from Monday 25 May 2020

-  Half Board
-  1 x Premium Double or Twin room
-  Return flights from Edinburgh
[View flight times](#)
-  22 kg Bag Allowance
-  10 kg Hand Baggage
-  ATOL Protected
-  Coach Transfers

Holiday price from **£1,576** Per person price

£788

2 Adults for 7 Nights from Monday 25 May 2020

-  Half Board
-  1 x Premium Double or Twin room
-  Return flights from Edinburgh
[View flight times](#)
-  22 kg Bag Allowance
-  10 kg Hand Baggage
-  ATOL Protected
-  Coach Transfers

Holiday price from **£1,648** Per person price

£824

Data accessed: 22nd and 23rd September 2019

Extract A

Marginal productivity of cabin crew

Cabin crew are responsible for loading passengers and providing in-flight meals. United Airlines is planning to reduce the number of its cabin crew members onboard international flights. The airline currently operates its planes with one more cabin crew member than its competitors. The marginal productivity of this additional crew member may be low. By reducing the number of its cabin crew members United Airlines will be able to operate more efficiently and compete more effectively.

5

(Source adapted from: <https://simpleflying.com/united-airlines-to-reduce-number-of-crew-on-international-flights/>)

Extract B

Thomas Cook's environmental impact

Thomas Cook Group plc's operations included its airline and 560 high street travel agents providing flights, hotels and package holidays.

The environmental impact of the travel industry is significant. It accounts for 8% of all global carbon emissions. Thomas Cook recognised the risks presented by climate change and actively engaged in reducing their airline emissions. Its plans included using more efficient aircraft and using lower-carbon fuel. In 2018, Thomas Cook was included in the top 10 of the world's most fuel-efficient airlines.

5

(Source adapted from: https://www.thomascookgroup.com/investors/insight_external_assesst/Thomas+Cook+Sustainability+Report+2018.pdf)

Extract C

Why did Thomas Cook shut down?

Thomas Cook Group plc ceased trading on 23 September 2019. The collapse of Thomas Cook left 600 000 travellers stranded overseas and approximately 21 000 worldwide employees were left without a job.

Thomas Cook's management said that the failure of rescue talks between banks, shareholders and the UK Government meant it had no choice but to shut down the business. 5

But in truth the tour operator's problems go back much further. A disastrous merger in 2007, increased debts, the internet revolution in holiday booking and Brexit uncertainty all contributed to the failure of the business. 10

In 2007 it merged with MyTravel. Thomas Cook directors had an objective of rapid company growth over short-term profitability. The merger was supposed to create a European giant, promising £75 million-a-year cost savings and a springboard to challenge emerging internet rivals. In reality, Thomas Cook was merging with a company that had only made a profit once in the previous six years, and the deal left the Group with huge debts. In May 2019, the firm reported a £1.5 billion loss. 15

The role of the management in Thomas Cook's collapse is being investigated by the UK Government. Thomas Cook executives' salaries and bonuses have been questioned. Directors received salaries totalling £20 million in the five years before its collapse. The Chief Executive Officer (CEO) earned a £500 000 cash bonus in 2017 and about £8.5 million in his five years with the company. It seems that around £4 million of this was in the form of shares. The share price reached £1.46 in 2018, but each share is now worthless. 20

The CEO said that the directors had worked "exhaustively" to rescue Thomas Cook and create a long-term turnaround strategy. "It is a matter of profound regret to me and the rest of the board that we were not successful." 25

The UK prime minister admitted that the government refused to grant £150 million as a subsidy to help rescue Thomas Cook in the short run. The UK prime minister stated: "Clearly, that is a lot of taxpayers' money and sets up, as people will appreciate, a moral hazard in the case of future such commercial difficulties that companies face. I have questions about whether it's right that the directors, or whoever, the board, should pay themselves large sums when businesses can go down the tubes like that. One is driven to reflect on whether the directors of these companies are properly incentivised to sort such matters out". 30

(Source adapted from: <https://www.theguardian.com/business/2019/sep/23/thomas-cook-as-the-world-turned-the-sun-ceased-to-shine-on-venerable-tour-operator> and <https://www.ft.com/content/a7dd2554-de23-11e9-b112-9624ec9edc59>)

9 Examine the likely impact of Thomas Cook's plan 'to reduce their airline emissions' (Extract B, line 6) on the social optimum position. Use an appropriate externalities diagram in your answer.

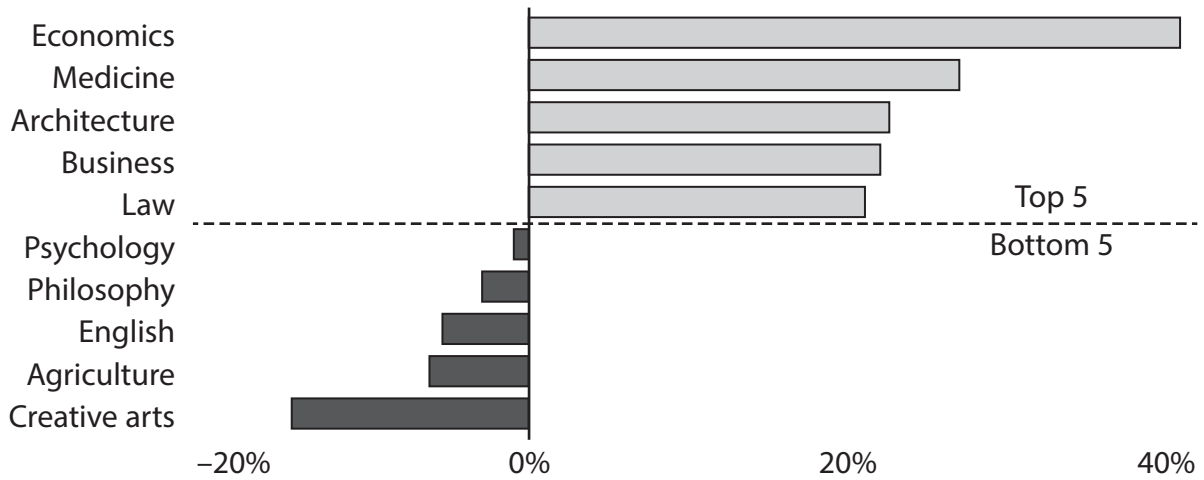
(8)

(Total for Question 9 = 8 marks)

Question 10

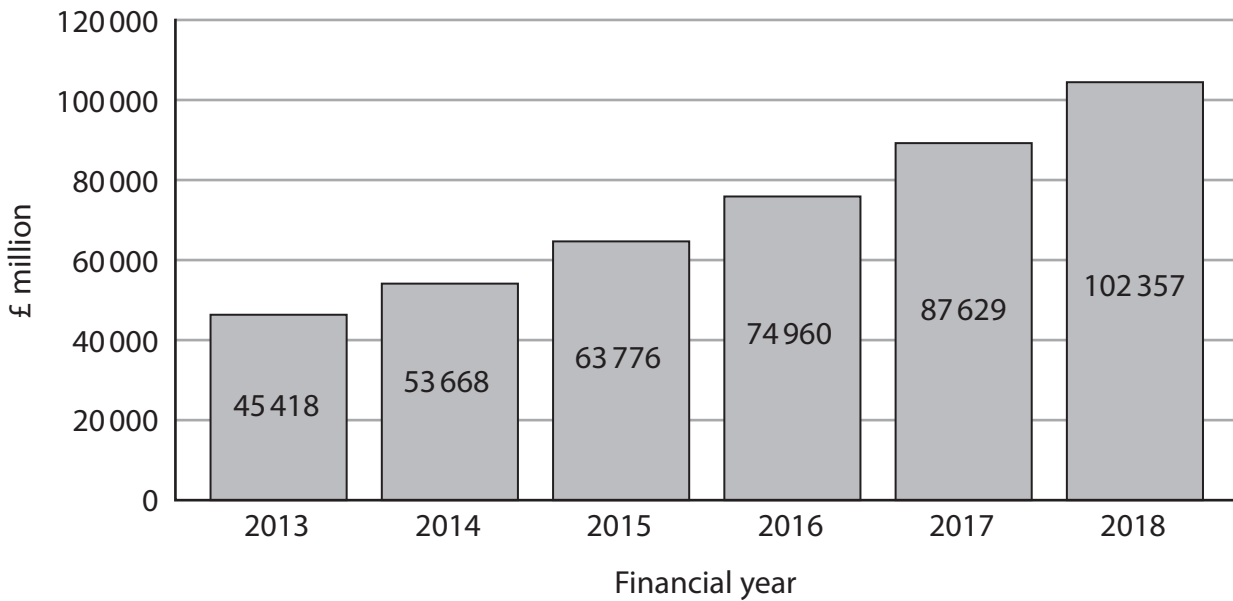
The market for higher education in the UK

Figure 1: Average graduate earnings, according to subject studied, compared to average non-graduate earnings (per cent) 2018 selected subjects.



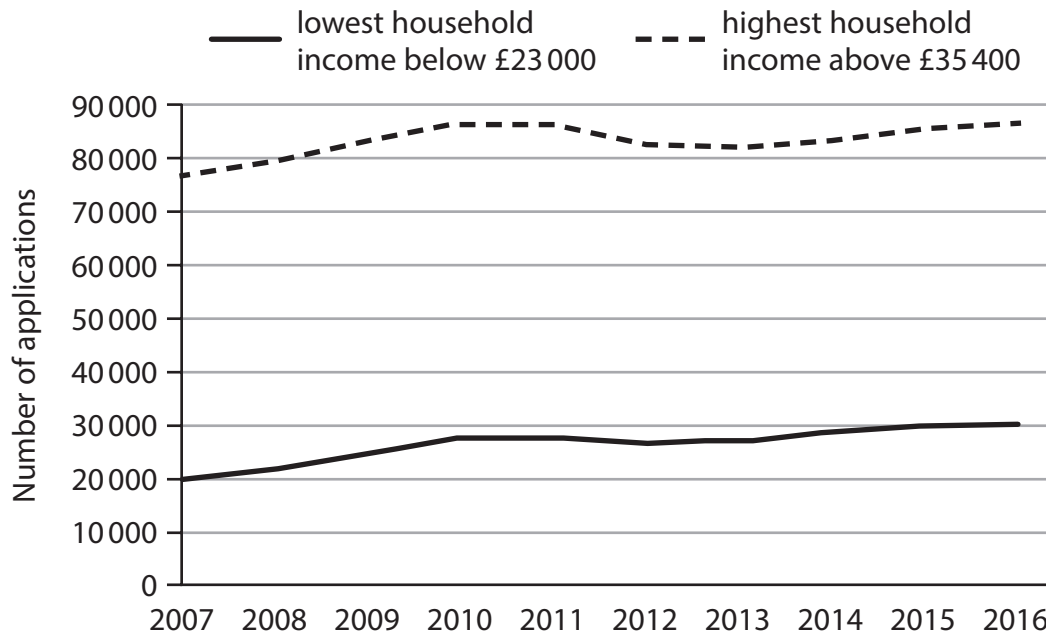
(Source: adapted from <https://www.ifs.org.uk/publications/13731>
The impact of undergraduate degrees on early-career earnings, Research report, November 2018)

Figure 2: Student loans outstanding at the end of financial years 2013 to 2018 in England



(Source: adapted from <https://www.slc.co.uk/official-statistics/student-loans-debt-and-repayment/england.aspx>)

Figure 3: Number of applications to UCAS according to median income of area



(Source: adapted from <https://www.ucas.com/corporate/data-and-analysis/ucas-undergraduate-releases/2018-cycle-applicant-figures-january-deadline>)

Extract A

Rethinking tuition fees

The value of a degree is significant. The latest data shows that the median university graduate income was £10 000 more than the average non-graduate income in 2018. This 'graduate premium' means graduates will contribute significantly to the economy. In addition, the government will benefit greatly from additional tax revenues. 5

However, funding higher education continues to be a major issue. English universities charge some of the world's highest fees. Interest rates on student loans are now 6.3%. There are a large number of courses where graduates are likely to earn less than non-graduates, despite an average of £50 000 of debt.

The Department for Education estimates that 45% of the value of loans will not be repaid. Outstanding student loans in England totalled more than £100 billion in 2018. By 2023 total outstanding student loans are forecast to rise to £120 billion. 10

One option for revising student fees could be to charge higher fees for courses that are more expensive to teach or that have a better chance of higher earnings. That would make Science or Mathematics degrees more expensive to study than English or Philosophy. 15

At most universities the level of fees is likely to be the same flat rate of £9 250 per year. However, science-based courses need more expensive equipment and courses such as medicine require more teaching time and personal instruction.

Tuition fees were introduced in 1998 at £1 000 per year. They are currently £9 250. Economists estimate that the price elasticity of demand for higher education is about -0.5 . 20

Charging £9 250 a year for an undergraduate degree makes England very expensive by international standards. Scotland has no fees for Scottish students, and fees in Wales and Northern Ireland are significantly lower. Much of Europe has low or no fees and Germany, which used to charge fees, has abolished them, replacing them with a graduate tax. 25

The only country with comparable fees is the United States. Top private colleges can charge more than the equivalent of £30 000 per year while state colleges can charge local students less than fees in England.

Despite this, student numbers at English universities have continued to increase from 450 000 in 1998 to over 700 000 in 2018. Students from all backgrounds are more likely to go to university than ever before. 30

However, applicants from low-income areas are much less likely to go to university than applicants from high-income areas. The Universities and Colleges Admissions Service (UCAS) found that in the most deprived 10% of postal areas about 20% of young people went to university in 2018, compared with 50% in the highest income areas. Research by University College London revealed that even when candidates from low-income areas had the same exam results, they were much less likely to apply to university than candidates from high-income areas. 35

(Source: adapted from <https://www.theguardian.com/education/2018/dec/16/change-in-student-loan-accounting-could-add-10bn-to-national-debt>)

Extract B

Low-income university students twice as likely to drop out than high-income ones

The number of students from low-income areas who drop out of university before finishing their degree is at its highest in five years, indicating a considerable waste of scarce educational resources. This news comes at the same time as a drive to recruit students from poorer backgrounds, with universities spending a total of £725 million on access initiatives in the past academic year alone. 5

A number of top universities have started to lower their A level grade offers to students from low-income areas, in an attempt to encourage them to apply. However, there is a danger with 'enticing' disadvantaged students through lower grade offers, if universities are not going to provide ongoing support for them once they begin their courses. 10

The latest figures show that 9% of disadvantaged undergraduates do not continue in higher education beyond their first year. In comparison, the average drop-out rate among students from the high-income backgrounds was less than 5%. The gap continues to widen.

A report, published by the Office for Fair Access, concluded that: 'The significance of this for students is huge. Higher education can be a transformational experience that opens doors to rewarding careers and social mobility, but this is only the case if students achieve successful outcomes.' 15

(Source: adapted from <https://www.telegraph.co.uk/news/2017/06/28/number-poor-students-dropping-university-highest-level-five/>)

10 With reference to Extract A, explain **one** likely private benefit to students and **one** likely external benefit of higher education.

(6)

A series of horizontal dotted lines for writing an answer to question 10.

Handwriting practice area with 20 horizontal dotted lines.

(Total for Question 10 = 6 marks)

11 Bottled water

Figure 1 UK bottled water market

Year	Consumption (million litres)	Sales revenue (£ million)
2008	1 970	1 380
2009	2 010	1 400
2010	2 020	1 420
2011	2 070	1 500
2012	2 140	1 570
2013	2 360	1 770
2014	2 580	1 960

(Source: http://www.britishsoftdrinks.com/write/MediaUploads/Publications/BSDA_Annual_Report_2015.pdf)

Extract 1 Growth in UK bottled water sales

The consumption of bottled water has continued to grow at a time of falling demand for other types of soft drink such as fruit juices, smoothies and fizzy colas. The growth in demand for bottled water reflects successful promotions and more people trying to follow healthier lifestyles.

The potential for further growth is very positive: annual bottled water consumption per head in the UK is 41 litres, which is far below the West European average of 119 litres. 5

The recycling of bottles and cans has increased rapidly over the past decade; many containers are now produced with 25–50% recycled materials. Of the bottled water consumed in the UK around 73% is bottled in the UK, including most supermarket own brand water. 15% comes from France, including premium brands such as Badoit and Perrier. 10

(Source: adapted from www.britishsoftdrinks.com/PDF/2013UKsoftdrinksreport)

Extract 2 Environmental damage from bottled water

Water is a precious resource. Governments should ensure the sustainability of safe water supplies for the benefit of all people and the natural environment.

The use of bottled water is harmful to the environment. Three litres of water are used directly or indirectly in the production of one litre of bottled water. The majority of bottles are made of plastic and end up in landfill sites rather than being recycled. 5

Furthermore, vast amounts of plastic waste never reach the recycling plants but end up in the oceans, killing fish and birds who mistake it for food. It takes up to a thousand years for plastic to decompose and so the problem is set to get worse.

Bottled water is often transported hundreds of miles from its origin to shops and consumers, at considerable carbon cost. By contrast, tap water only takes a little energy to pump along pipelines into homes. 10

Bottled water is also expensive and consumers can pay anything up to 10 000 times more than if they just drank tap water. Studies have shown that tap water is generally just as clean and healthy as bottled water, if not more so. Furthermore, over half of the bottled water in the UK comes from purified tap water. It is time for the UK Government to intervene by increasing the indirect tax on bottled water. 15

(Source: adapted from <http://www.guardian.co.uk/commentisfree/2007/jul/10/timetocapbottledwater?INTCMP=SRCH> and http://www.sierraclub.org/committees/cac/water/bottled_water/bottled_water.pdf)

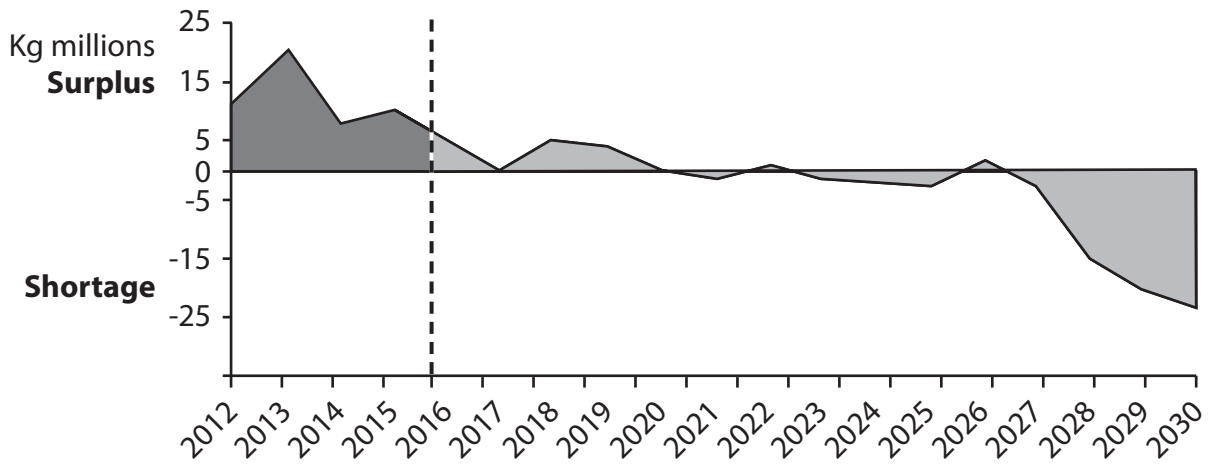
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(Total for Question 11 = 14 marks)

Question 12

Energy markets

Figure 1: Annual surplus or shortage of uranium, measured in millions of kilograms



Figures from 2016 are forecast

(Source: adapted from <http://www.telegraph.co.uk/business/2016/11/20/uranium-the-unloved-metal-whose-price-is-poised-to-go-radioactiv/>)

Extract A

Uranium: the unloved metal

Uranium is a fuel source for nuclear energy production. The price of uranium has fallen to a 13-year low. Uranium is a relatively common metal but locating it in the right concentrations can be difficult. Australia has the biggest known resource of uranium, followed by Kazakhstan. Kazakhstan's production has increased significantly since 2007, accounting for a large proportion of the surplus of this metal. Given the large stockpiles of uranium some firms have ceased production. 5

The biggest impact on the uranium market has been the devastating accident at the nuclear power station in Fukushima, Japan, in 2011. The accident caused a leak of radiation. The accident reduced confidence in the entire nuclear industry, as high doses of radiation leaks increase the risk of cancer. In addition the high cost of safely storing radioactive waste has delayed the building of new nuclear power stations. Japan initially closed all of its 50 nuclear power stations which reduced the demand for uranium. But it has since concluded that nuclear power must be part of its mix of energy suppliers. 10

Despite this setback in 2016 work started on a new uranium mine in Spain to meet the expected rise in demand for the metal. Uranium is a controlled material, so mining companies have to comply with many regulations before opening a new mine. When it opens in 2018, this will be the only uranium mine in Europe, producing 2.2 million kilos a year. It has been in development for more than a decade. 15

Most developed countries, with the notable exception of Germany, have concluded that nuclear power is an essential part of their energy supply. The US and UK are committed to building new nuclear power stations, the latter providing a £30 billion subsidy to build a new nuclear plant at Hinkley Point. China is also building a further 60 nuclear power stations. 20

Supporters of nuclear power say it provides a reliable source of energy at a time when the world's population is increasing, unlike solar power and wind power which both vary with the weather. In addition they argue that no country can significantly reduce carbon emissions, which are causing climate change, without nuclear. France and the UK have committed themselves to shut down all coal-fired power stations by 2025. So demand for uranium over the next two decades seems guaranteed. 25
30

(Source: adapted from Uranium: the unloved metal whose price is poised to go radioactive, Jon Yeomans, The Telegraph, 20 November 2016
<http://www.telegraph.co.uk/business/2016/11/20/uranium-the-unloved-metal-whose-price-is-poised-to-go-radioactiv/>)

Extract B

Irrational consumers pay the price

The UK Government has announced that it might introduce maximum price controls on energy used by households.

The UK's largest energy suppliers are braced for what could be the industry's most significant government intervention following a decade of rising energy bills and low numbers of consumers switching between energy providers. 5

The Prime Minister promised to intervene because the energy market is "manifestly not working" for consumers. Energy prices have risen by 158% in the last 15 years, and four million households, especially those on low incomes, are still on the most expensive energy rates. 10

Some energy analysts have warned the Government against taking a highly interventionist approach that could undermine the energy market and leave customers paying higher prices in the future.

(Source: adapted from <http://www.telegraph.co.uk/business/2017/03/22/governments-pledge-cut-energy-prices-risks-leaving-consumers/>)

Extract C

The economics of climate change

Rising carbon dioxide emissions result from the increase in the use of coal, gas and oil in transport and for energy production. In addition, deforestation, food production and processing methods make the problem worse. These carbon emissions are causing a rise in global average temperatures, known as climate change. Climate change could cause hundreds of millions of people to suffer hunger, water shortages and coastal flooding. 5

Three elements of policy are required for an effective global response to reduce carbon emissions. The first is the pricing of carbon, implemented through tax, trading pollution permits or regulation. The second policy is to support innovation and the deployment of low-carbon technologies. And the third is action to remove barriers to energy efficiency, and to inform, educate and persuade individuals about what they can do to respond to climate change. 10

(Source: adapted from www.sternreview.org.uk/)

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A large rectangular area with rounded corners, containing 25 horizontal dotted lines for writing.

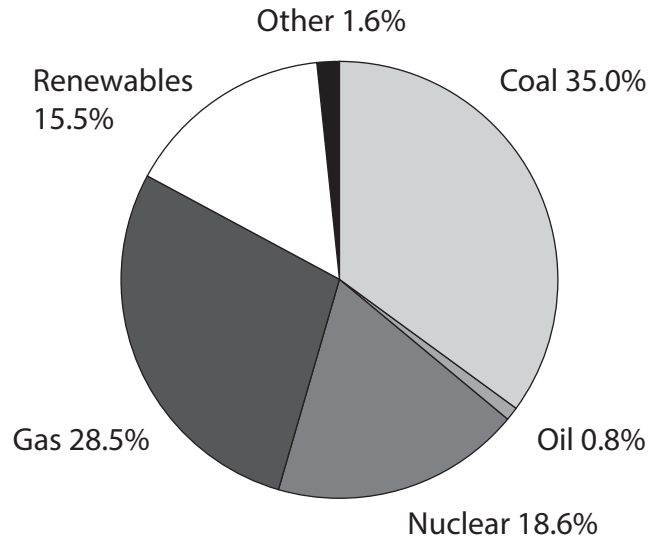
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(Total for Question 12 = 20 marks)

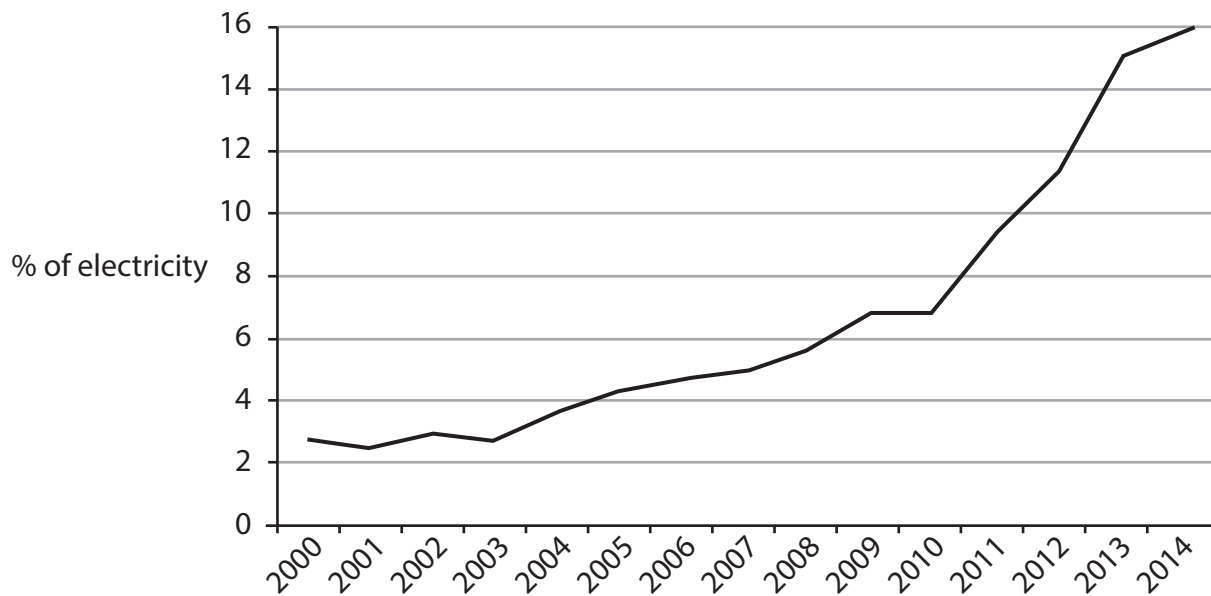
13 Renewable energy in the UK

Figure 1 UK Electricity generation from different sources: (April–June 2013)



(Source: UK Renewable energy roadmap update 2013; Department of Energy and Climate Change, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/255182/UK_Renewable_Energy_Roadmap_-_5_November_-_FINAL_DOCUMENT_FOR_PUBLICATION_.pdf)

Figure 2 Electricity generation from renewable sources as a proportion of total UK electricity production (2000-2014)



(Source: <https://www.gov.uk/government/statistics/renewable-sources-of-energy-chapter-6-digest-of-united-kingdom-energy-statistics-dukes>)

Extract 1 Growth of renewable energy in the UK

Renewable energy currently makes up around 16% of UK electricity supply. More than half of this comes from wind power – the UK has more wind potential than any other country in Europe. Production of renewable energy is set to increase significantly over the next fifteen years to exceed 30% of total electricity generation. Most coal power stations are set to be phased out by 2030 helping to reduce carbon emissions whilst gas supplies appear unreliable in the current political climate. 5

Wind, wave and tidal power currently provides employment for 34 500 people in the UK and is expected to create a further 70 000 jobs over the next decade. The economic benefits from such growth will be spread across the UK. The German company Siemens, for example, has announced plans to invest £160 million in building a wind turbine factory in Hull, in the north of England. Its partner in the project, Associated British Ports, will invest a further £150 million in local infrastructure. Together, they will directly create 1 000 jobs in a city hit hard by unemployment and poverty. Hull will become one of the world’s leading locations for the production of wind turbines. The work involves many types of specialist jobs such as designers, engineers, welders, electricians and truck drivers. 10 15

(Source: adapted from ‘Siemens to add 1000 UK jobs in wind turbine production’, *The Guardian*, 25th March, 2014, <http://www.theguardian.com/business/2014/mar/25/siemens-wind-turbine-production>)

Extract 2 Lack of competition in awarding subsidies for renewable energy

Renewable energy requires subsidies to make it profitable. The Government has been criticised for awarding subsidies to renewable energy projects without any competition, undermining the interest of consumers. This refers to contracts worth £16.6 billion being awarded to companies involved in five offshore wind power and three biomass projects.

However, Energy and Climate Change Secretary, Ed Davey, said: “This government has been dealing with a legacy of chronic under-investment and neglect in our energy system. To keep the lights on in British homes and businesses we needed to move quickly to secure new capacity and give investors confidence – fast.” Without the investment there is a danger of power cuts in the near future as demand exceeds supply. 5

(Source: adapted from ‘Consumers not getting the best value for renewable energy subsidies, say MPs’, *The Guardian*, 3rd October 2014, <http://www.theguardian.com/environment/2014/oct/03/consumers-not-getting-best-value-for-renewable-energy-subsidies-say-mps>)

Extract 3 The costs of renewable energy

The private costs of electricity generated from renewable energy sources are far greater than those from fossil fuels. The uncertainty of the weather also means renewable energy from wind and solar power is unreliable.

There are also external costs associated with the generation of renewable energy, especially wind power. These include the negative effects on the environment, homes and tourism. Industrial scale wind turbines exceed 450 feet tall to the tip of their blades. There are currently 680 onshore wind farms and 23 offshore wind farms in the UK. These figures are set to increase rapidly over the next twenty years. 5

(Sources: <http://www.renewableuk.com/en/renewable-energy/wind-energy/onshore-wind/index.cfm> and <http://www.nowind.org.uk/>, <http://www.nowind.org.uk/> and replace with <http://repealtheact.org.uk/blog/campaign-support-the-now-charter-www-nowind-org-uk>)

13 Using the concept of external costs and referring to Extract 3, discuss the problems which might arise from a significant increase in the generation of renewable energy. Use a suitable diagram in your answer.

(14)

A series of horizontal dotted lines for writing the answer.

A large rectangular area with rounded corners, containing 25 horizontal dotted lines for writing.

Handwriting practice area with 25 horizontal dotted lines.

(Total for Question 13 = 14 marks)

14 The UK Housing Market

Figure 1 Annual percentage increase in share prices of the seven largest house builders (to November 2013)

Company	% change
Berkeley Group	29.6
Bovis Homes	33.8
Bellway	43.5
Redrow	58.4
Taylor-Wimpey	59.5
Barratt Developments	60.1
Persimmon	63.3

(Source: Financial Times, 1 November 2013)

Figure 2 Average house prices, annual earnings and unemployment rates by selected regions in UK, 2013

Region	Average house price	Average annual earnings	Unemployment rate (%)
North East	£149 000	£25 584	10.4
Yorks and Humber	£167 000	£25 572	8.9
North West	£166 000	£26 416	8.3
West Midlands	£188 000	£26 936	9.8
East of England	£257 000	£31 096	6.7
South East	£304 000	£35 552	5.8
London	£437 000	£39 312	8.3
UK	£247 000	£29 536	7.7

(Sources: http://www.ons.gov.uk/ons/dcp171778_286243.pdf <http://www.ons.gov.uk/ons/search/index.html?newquery=weekly+region+earnings>)

Extract 1 Rising house prices

Average house prices in the UK reached their highest level ever at £247 000 in August 2013, exceeding the previous peak in January 2008. In the 12 months to August 2013 UK house prices rose by 3.8%. However, many regional variations were recorded with the highest increase in London. The rise of 8.7% in London prices was largely a result of increased purchases from foreign buyers.

5

The rise in house prices follows a sustained period of low interest rates for borrowers as well as the success of the government's 'Help to Buy' scheme. This scheme enables buyers of new-build homes to borrow up to 95% of the house value. In October 2013, it was extended to include borrowing on all types of properties up to the value of £600 000. Banks are more willing to lend as the government guarantees up to 15% of the house loan as an insurance policy in case of borrowers being unable to repay.

10

(Source: adapted from 'Home-buying at its highest for five years', Juliet Samuel, The Times, 11 October 2013)

Extract 2 Supply constraints in house building

Capacity constraints have affected house building over recent months according to a Bank of England report, providing evidence of growing demand and rising prices in the sector. Skills shortages have appeared after many building workers left the industry during the recession. Delivery time for bricks and other construction materials have also increased, forcing firms to look to imports. Brick-making firms are reluctant to invest in new kilns without the assurance of a continuous supply of reasonably priced energy.

5

However, the Home Builders Federation pointed out that suppliers have responded to short term pressures through increased training schemes and also gave examples of brick makers re-opening plants.

(Source: adapted from 'House builders provide blot on improved landscape', Patrick Hosking and Kathryn Hopkins, The Times, 24 October, 2013)

Extract 3 Buildings are key to tackling carbon emissions

Any serious attempt to tackle climate change must deal with the problem of poorly insulated buildings. More than 40% of carbon emissions in developed countries come from heating, cooling and providing power to homes and offices. Cutting emissions from UK buildings by just 25% would have the same impact as taking every car off the road.

Carbon emissions can be significantly reduced through better insulation, more efficient heating boilers and triple glazing of windows for new build and existing homes. The initial costs of implementing energy efficiency schemes are high. However, reductions in gas and electricity bills mean that energy efficiency work can pay for itself in as little as five years.

5

(Source: adapted from 'Buildings are key to tackling emissions', David Fickling, Financial Times, 25 November 2009)

14 With reference to Extract 3 and your own knowledge, examine the case for reducing carbon emissions from new-build homes.

(14)

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(Total for Question 1 4 = 1 4 marks)

15 North Atlantic fishing



Extract 1 EU and mackerel fish quotas

North Atlantic fish stocks are collapsing through mismanagement by governments. A breakdown in the agreement over the size of fish catches between the European Union (EU), Norway, Iceland and the Faroe Islands means the last great stock of mackerel is under threat. The quantity of mackerel caught has risen by almost 50% this year and is now well beyond the level required to remain a sustainable resource. If mackerel disappear, so do the many links in the food chain which depend on them. The fish catches need to be small enough to maintain breeding stocks for future generations.

5

Global warming has caused mackerel to migrate further north to the seas around Iceland and the Faroe Islands and these two countries are massively exceeding the agreed fish catches, known as quotas. Both of these non-EU countries are catching over 150 000 tonnes of mackerel this year – over-fishing in excess of their agreed limit of 100 000 tonnes – whilst the EU countries have maintained their fish catches. More than a third of the mackerel caught by Icelandic fishing boats is fed to animals and farmed fish or turned into fertiliser. It is an astonishing waste. Other fish stocks in Iceland’s waters such as whiting and herring have been wiped out.

10

15

To make matters worse, the EU fish quota system means that over 30% of fish catches are thrown back into the sea. Fishing boats are not allowed to land or sell more than their allowances, otherwise they risk severe fines.

(Source: adapted from George Monbiot, © Guardian News and Media Ltd, 8th August 2011)

Extract 2 Protecting fish stocks

A Royal Commission on Environmental Pollution recommended that the UK government prevents all fishing in 30% of the UK's coastal waters. Fish could then reproduce safely, greatly increasing the size of stocks. However, fish swim where they want – they do not remain in any one country's coastal waters.

Another way to protect the fish stocks is for the UK government to subsidise the development of fish farms, which currently account for a third of all fish directly consumed. Many believe this has relieved pressure from wild fish stocks as well as creating thousands of jobs in remote communities.

5

Fish farming does have its critics. For example, disease spreads rapidly in overpopulated fish farms and the local wild fish population can be contaminated. Furthermore, when large numbers escape from the farms, this affects the overall gene pool.

10

(Source: adapted from George Monbiot, © Guardian News and Media Ltd, 8th August 2011)

15 Examine the likely external costs from over-fishing of mackerel. Use an appropriate diagram in your answer.

(14)

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A large rectangular area with rounded corners, containing 25 horizontal dotted lines for writing.

(Total for Question 15 = 14 marks)

16 UK Higher Education tuition fees

Figure 1: Estimated repayment of tuition fees by graduate workers

Gross annual income	Monthly repayment
Under £21 000	0
£25 000	£ 30
£30 000	£ 68
£40 000	£143
£50 000	£218
£60 000	£293

(Source: Browne report: Review of Higher Education Funding and Student Finance, 2010
© Crown Copyright)

Figure 2: UK University applications 2005-2011

Year	Number of student applications to higher education	Percentage change over previous year
2005	522 155	-----
2006	506 304	-3.0*
2007	534 495	5.6
2008	588 689	10.1
2009	639 860	8.7
2010	697 351	9.0
2011	729 376 (forecast)	4.6

*Note: between 2005 and 2006 tuition fees increased from £1 175 to £3 000 per annum

(Source: UCAS Analysis and Research - http://wwwucas.com/about_us/stat_services/stats_online/data_tables/datasummary)

Extract 1 University tuition fees increase up to a maximum of £9,000 a year

Universities minister David Willetts announced an increase in tuition fees from £3,290 to a maximum of £9,000 a year in England by 2012. Three quarters of English universities intend to set the maximum tuition fees of £9,000, and 95% plan to charge more than £7,000. This will help to balance out an 80% cut in government funding to university undergraduate courses.

5

Increasing the contribution made by graduates strengthens the link between what the student gains from education and what they pay back. It encourages universities to compete for students who will now directly fund the courses. Universities may be forced to improve teaching standards and become more efficient. Students should still gain financially: the return on a degree has been estimated at an additional £160,000 over a working lifetime compared to a non-graduate with A Levels. However, graduate unemployment reached a 17 year high at 8.9% in 2010.

10

Many students will take out student loans to pay their fees and living expenses. These loans will only be repaid once graduates' income rises above £21,000 a year, at a rate of 9% of their income above this level. For students from low-income families, there are grants of up to £3,250 per year, and bursaries from universities will also be available.

15

A world class university education system is vital for attracting investment and increasing labour productivity, ensuring long term wealth and prosperity. It also generates earnings from large numbers of overseas students.

20

(Source: Adapted from 'University tuition fee limit rises to £9 000'; by Hazel Barker, Sky News online, 3rd November 2010 © 2011 BskyB and Jeevan Vasagar, Guardian, 22nd November 2010 © Guardian News & Media Ltd 2010)

Extract 2 Higher university fees are unfair to students from low-income families

Research conducted in 2010 by the University of Leicester indicated that students from low-income families are more likely to be put off from applying to higher education than better-off students. The research involving 730 A Level students found that an increase in tuition fees from £3,290 to £7,000 would reduce the number of applications from low-income households by 14% compared to a reduction of 9% for better-off households.

5

The research also revealed a differing impact on the types of institutions and courses. Applications to the most prestigious universities would not be affected but the new universities would suffer a significant fall in applications. Furthermore, applications for Medicine and Law would hardly be affected but there would be a big fall in numbers applying for Arts and Humanities courses. The tuition fees increase could lead to a reduction in the number of universities and range of courses on offer. There are fears that some 36 000 university places could be lost in 2012.

10

However, most A Level students still intend to apply to university, suggesting a genuine appreciation of the benefits from a higher education degree.

15

(Source: © University of Leicester 20 September 2010)

16 Evaluate the likely private benefits and external benefits of university education.
Illustrate your answer with an appropriate diagram.

(14)

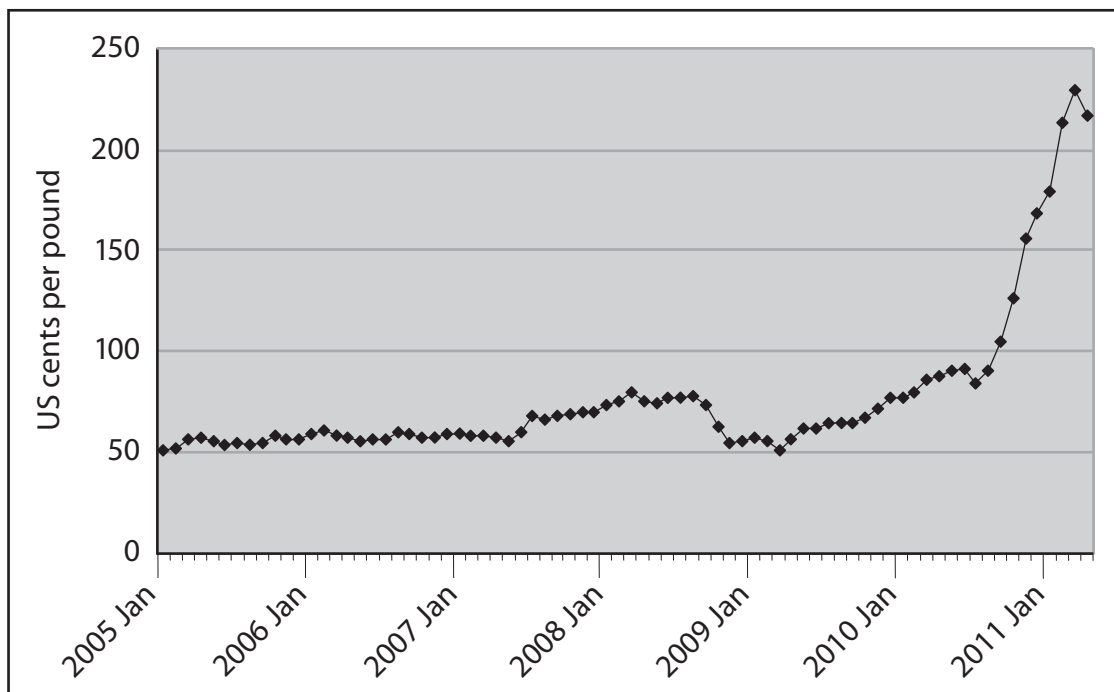
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(Total for Question 16 = 14 marks)

17 The price of cotton

Figure 1: Cotton prices 2005-2011 (US cents per pound in weight)



(Source: World Economic Outlook Database © 2011 International Monetary Fund)

Extract 1 Rising cotton prices

The price of cotton more than doubled in 2010 after crops in China and Pakistan were hit by floods. This was made worse by the Indian Government's ban on cotton exports. World supply of cotton fell from 107 million bales in 2009 to 101 million bales in 2010. A bale of cotton weighs 500 pounds and can make 1200 t-shirts. Stocks of cotton are at their lowest level for five years. At the same time, speculators have bought up large quantities of cotton in the hope of making profits.

5

Farmers have responded to rising prices by devoting more land to cotton. In the right conditions, cotton crops take 100 days to reach maturity. World supply is forecast to increase to 117 million bales in 2011.

Cotton is the most important textile for making clothing. However, demand for synthetic materials is increasing as manufacturers look for alternatives.

10

(Source: adapted from 'Cotton price rise will hit clothing warns Next', James Hall, The Telegraph, 4th November 2010 © Copyright Telegraph Media Group Limited 2010)

Extract 2 The impact of rising cotton prices on clothing retail stores

Lord Wolfson, chief executive of retail clothing store Next, warned that the soaring price of cotton could lead to clothing prices rising by almost 10% in 2011. The retailer, which has more than 500 stores and 2.6 million online and catalogue shoppers, blamed 'what appears to be a speculative bubble' for the expected price rises.

Lord Wolfson stated that 'we have not seen clothing prices rise for nearly twenty years, so it's going to be very difficult to know how consumers will respond to a price increase'. Other stores such as Debenhams and Marks & Spencer also predicted higher clothing prices in 2011. Previously, prices had been kept down by firms relocating production facilities to Asia. 5

Next's share price in November 2010 was more than 20% higher than in November 2009. This reflected a successful diversification into home furnishings such as cushions, curtains and furniture. However, analyst Katharine Wynne, at Investec, cut her full-year profit forecasts for Next from £560m to £542m and cancelled her 'buy' recommendation on the retailer's shares. 10

(Source: adapted from 'Next forecasts 10% rise in clothes prices', Julia Finch, The Guardian, 4th November 2010 © Guardian News & Media Ltd 2010)

Extract 3 Genetically modified (GM) cotton farming in India

The use of genetically modified cotton seed is widespread in India. It is used to prevent disease, increase crop yields and used to kill the pink bollworm, a mite which eats cotton seed. However, in 2009, scientists found that the bollworm had developed resistance to the modified version of the seed.

Consequently, the anticipated increase in crop yields has not materialised. However, the costs to farmers of buying and using GM seeds have increased – they require more fertiliser and twice as much water compared to traditional seeds. Farmers are not allowed to harvest seeds for the next crop but are forced to buy fresh supplies from Monsanto, the producer of this GM seed. There is now a genuine fear of a lack of bio-diversity resulting from the use of GM crops. 5
10

(Source: adapted from 'Monsanto and Indian Farmer suicides', by Ralph Stone, © The Berkley Daily Planet, 6th December 2010.)

17 With reference to the concepts of private costs and external costs, assess the possible economic effects of 'the use of genetically modified cotton seed' (Extract 3, line 1) Use an appropriate diagram in your answer.

(14)

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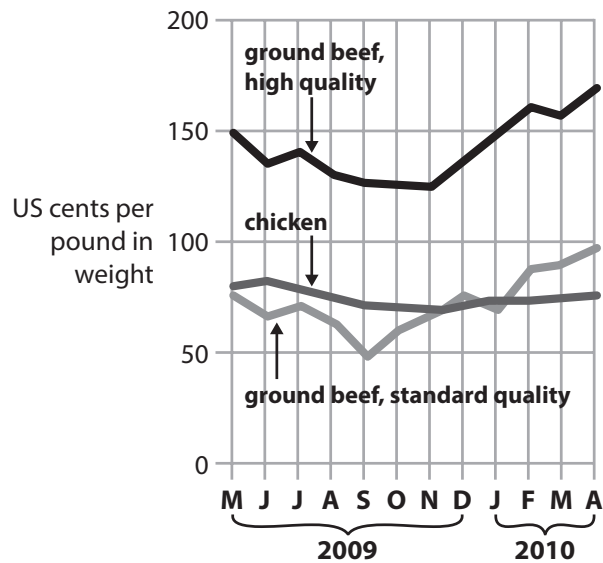
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(Total for Question 17 = 14 marks)

18 The price of beef

Figure 1 The price of beef and chicken for fast food restaurants 2009 – 2010



Extract 1 Rising price of beef

It is **not** a happy time in American fast food restaurants. Rising beef prices have reduced profit margins at the McDonalds, Burger King and Wendy chains. They have found it difficult to pass on higher beef prices to their customers through the sale of burgers such as the 'Big Mac' and 'Whopper'. Instead, the fast food restaurants have responded by promoting sales of chicken burgers and fish fillets.

5

Beef prices have risen due to higher costs for cattle feed and severe drought conditions in Australia and New Zealand (the main suppliers of beef for American fast food restaurants).

However, there is some good news. The fast food restaurants have benefited from the recession as consumers made savings by switching from eating at expensive restaurants to cheaper burger bars.

10

(Source: © *The Times* 'Increase in meat prices has burger lovers asking: where's the beef?', Alexandra Frean, 24th May 2010)

Extract 2 Cattle farms damaging the rainforest

Deforestation in Brazil releases an estimated 400 million tonnes of carbon dioxide into the atmosphere every year, making the country one of the biggest emitters of the gas in the world. An average of 7,330 square miles of rainforest has been lost each year since 1995. The destruction of rainforest has accelerated over the past few years due to soaring beef and soya prices. Farmers are burning more rainforest to turn land into cattle ranches and into fields for growing crops.

5

However, the President of Brazil announced plans to reduce deforestation by subsidising sustainable development projects. These include replanting trees and creating eco-friendly tourism as alternative means of providing employment and income for local communities. The amount of funds made available has not been revealed.

10

The proposals also include an increase in the policing of forested areas and severe penalties for those breaking the law through illegal logging and farming.

(Source: © Guardian News & Media Ltd 2008, adapted from 'Brazil sets target to slow Amazon deforestation', by David Ljunggren)

18 Using the concepts of external costs and market failure, examine the possible economic effects of farmers 'burning more rainforest to turn land into cattle ranches and into fields for growing crops'. (Extract 2, lines 5–6). Use an appropriate diagram in your answer.

(14)

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(Total for Question 18 = 14 marks)

19 The National Health Service

Extract 1 NHS funding

The National Health Service (NHS) is the largest employer in Europe with more than 1.3 million staff. It treats over 1 million patients every 36 hours. Between 1997 and 2008 government spending on the NHS increased in real terms from £58.5 billion to £115 billion and accounted for 8.3 per cent of GDP. Spending is planned to increase further to £127 billion by 2011. This reflects growing demand and cost pressures on the health care budget, following an ageing population, advances in medical care and rising staff costs. Staff wages now account for 40 per cent of the NHS budget. 5

However, the huge increases in NHS funding are set to come to an end after 2011 as government spending must be reduced following the impact of the recession. The government has identified ways to increase NHS efficiency by driving down the prices for goods and services it buys, reducing staff sickness, cutting its investment in computer software, improving the use of its buildings and lowering its energy consumption. 10

Some progress has already been made as the average length of inpatient stay in hospital has fallen from 8.8 days to 6.3 days between 1997 and 2008. 15

Source: adapted from: www.kingsFund.org.uk

Extract 2 The growth in NHS management

The number of NHS managers in England rose by nearly 12 per cent in 2009 – more than five times the rate at which qualified nurses were recruited, leading to concerns that cash is being diverted from direct patient care.

Dr Keith Brent, Chairman of the British Medical Association's Consultants Committee, said that "many of the additional managerial staff have been employed to help the NHS deal with the increasing bureaucracy and fragmentation that have accompanied greater competition, with little or no evidence of benefit to patients." 5

Source: adapted from 'NHS management increasing five times faster than number of nurses', Randeep Ramesh, *The Guardian*, 25th March 2010.

Figure 1 NHS hospital beds 1997–2008

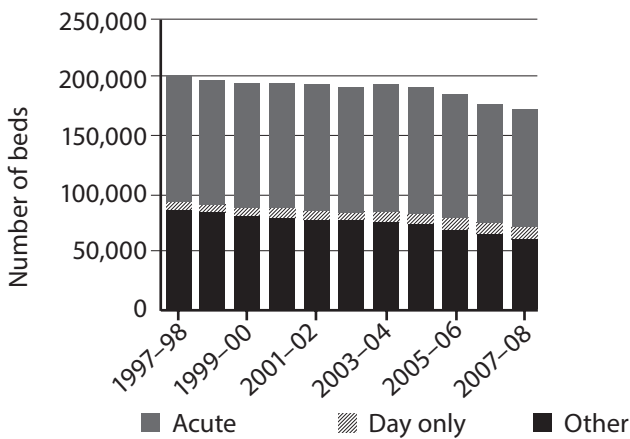
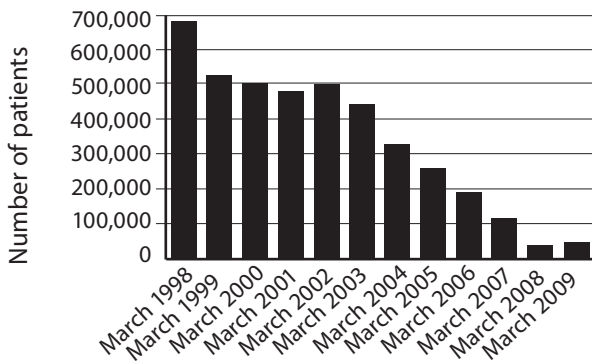
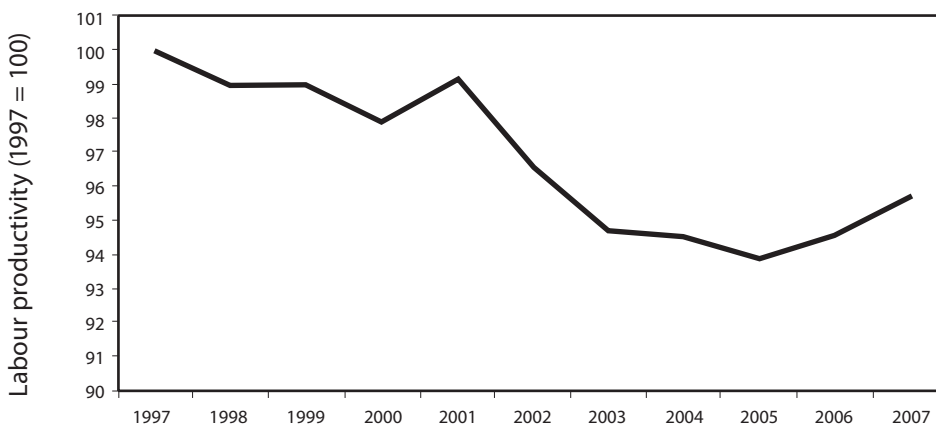


Figure 2 NHS: number of patients waiting for over 13 weeks for inpatient admission 1998–2009



Source: Figures 1 and 2: www.statistics.gov.uk/hub/health-social-care/health-care-system/hospitals-and-health-care-facilities/index.html

Figure 3 Productivity in the NHS 1997–2007



Source: www.statistics.gov.uk/articles/nojournal/TotalPublicServiceFinalv5.pdf

19 Apart from a shift in the production possibility frontier, assess the private and external benefits arising from the consumption of health care. Illustrate your answer with an appropriate diagram.

(14)

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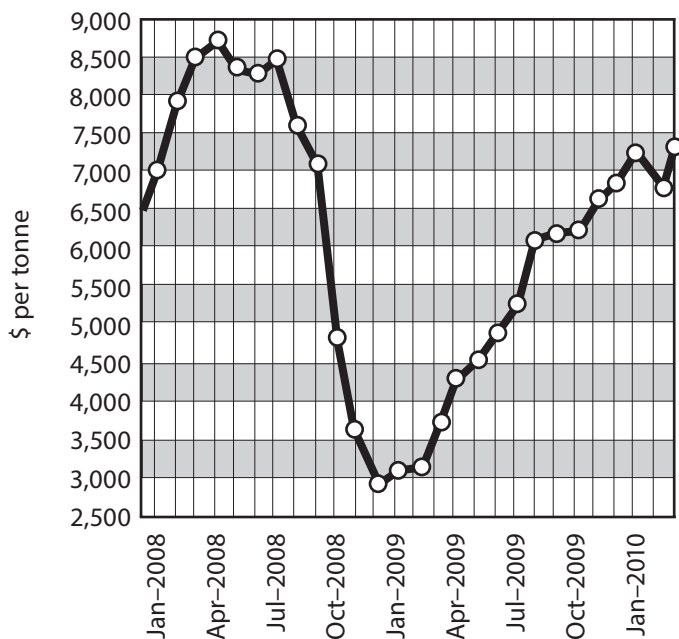
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(Total for Question 19 = 14 marks)

20 The market for copper

Figure 1 Copper prices, January 2008–March 2010



Source: www.lme.com/copper_charts.asp

Extract 1 Unstable copper prices

The price of copper has been highly unstable over the past year. It collapsed from a record level of \$8,940 in April 2008 to \$2,871 per tonne by December of that year. The steep drop in price followed lower global economic growth, especially from China. The decrease in demand was most noticeable in the motor vehicle and construction sectors which use vast amounts of the metal. Its impact was to reduce profits and share prices of major copper mining companies such as Chile's Antofagasta.

5

However, by March 2010, copper prices recovered to almost \$7,500 per tonne. This followed disruption to supply in several major copper mines in Chile due to a severe earthquake and a series of strikes by miners, demanding a 7.5% pay rise. The global economy has also recovered from the recession and China is expected to achieve an economic growth rate of 9.5% in 2010. The dramatic fluctuations in copper prices have led some analysts to propose a guaranteed minimum price scheme.

10

Source: Adapted from 'Miners dragged lower as price of copper tumbles', Peter Stiff, *The Times*, 19th December 2009.

Extract 2 Proposals for a major copper mine in Bristol Bay, Alaska

Rising copper prices has made it profitable to open new mines. The mining companies Northern Dynasty and Anglo-American Corporation have jointly proposed creating North America's largest open pit mine at Pebble Mill in Bristol Bay, Alaska. It would be 3.2 kilometres long and 610 metres deep. It would also involve building the largest dam in the world to hold back the vast amount of toxic waste created in the mining process. The dam, made of earth rather than concrete, would be 220 metres high and 7 kilometres long. It takes a thousand tonnes of copper ore to produce just one tonne of copper metal.

5

However, Bristol Bay is home to the world's most productive wild salmon fishery and there is concern that pollution from the mines would destroy the \$400 million a year fishing and canning industries, as well as having a negative impact on tourism. The area already has a history of earthquakes and severe flooding which increase the chances of pollution from the mining project. The local native communities strongly oppose the scheme and the planning enquiry is expected to take several years.

10

Source: Adapted from Pebble mine – Bristol Bay Alaska
www.renewableresourcescoalition.org/project_outline.htm
www.ourbristolbay.com/commerical-fisheries.html

20 Using the concept of external costs, assess the possible economic effects of building the Pebble Mill copper mine in Alaska, referred to in Extract 2. Use an appropriate diagram in your answer.

(14)

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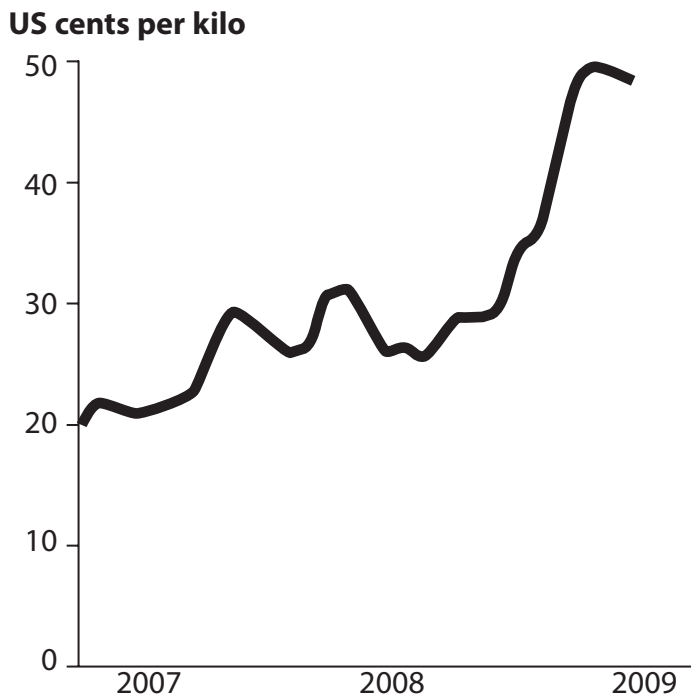
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(Total for Question 20 = 14 marks)

21 The Price of Sugar

Figure 1: World price of sugar



(Source: www.mongabay.com/images/commodities/charts/sugar.html)

Extract 1 Soaring price of sugar

Sugar prices around the world more than doubled over the last few years, reaching 50.8 US cents per kilo in 2009, a 28-year high.

Sugar production in Brazil, the world's largest producer, has been hit by heavy rain. Brazil is also diverting part of its sugar cane crop to making ethanol fuel for use by motor vehicles.

Speculative demand has also forced up sugar prices. Eugene Weinberg, an analyst at Commerzbank, pointed out that cash-rich speculators have purchased sugar stocks in anticipation of its price rising to even higher levels next year.

For much of the last decade, sugar has not been a very profitable crop compared to other types of farming. Recent high prices cannot result in an immediate increase in sugar production, as it may take up to two years for supply to respond. Destroying rainforests as a means to increase sugar production has a negative environmental and social impact.

(Source: adapted from 'Food groups say US is running out of sugar', by Alexandra Frean, *The Times*, 13th August, 2009 and 'Chasing a sugar rush: global deficit drives price rises', by Sean O'Grady, *The Independent*, 11th August, 2009.)

Extract 2 US faces sugar shortage

America's obesity problems may soon shrink amid fears that the makers of treats, such as Oreo cookies, Krispy Kreme doughnuts and Hershey bars, could run out of sugar. Leading food companies, including Kraft, Mars and Hershey, have warned the government that there may be a serious sugar shortage unless it allows more imports of the commodity into the country. The food companies blame the shortage on the government's policy of restricting imports of sugar in order to protect the incomes of US sugar farmers in the Midwest. 5

Rising sugar prices have affected the production costs of chocolate and other confectionery companies. However, there are many other costs to consider. At Mars, for example, sugar is third on its list of ingredient costs behind cocoa and milk. Moreover, the price of milk has been falling over recent years, helping to offset the increase in sugar costs. 10

Chocolate and other confectionery companies have experienced increased sales during the recession as people attempt to cheer themselves up by consuming more sugary treats. 15

(Source: adapted from 'Food groups say US is running out of sugar', by Alexandra Frean, *The Times*, 13th August, 2009 and 'Chasing a sugar rush: global deficit drives price rises', by Sean O'Grady, *The Independent*, 11th August, 2009.)

21 To what extent is market failure likely to result from the consumption **and** production of sugar?

(14)

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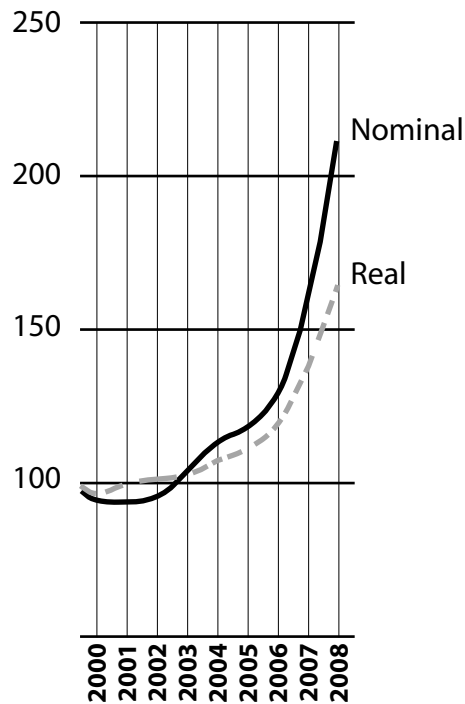
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(Total for Question 21 = 14 marks)

22 Rising Food Prices

Figure 1 Food and Agricultural Organisation (FAO) Food Price Indices, 2000–2008



Source: <ftp://ftp.fao.org/docrep/fao/meeting/013/k2414e.pdf>

Extract 1 Food Prices

The UK faces a major food crisis unless urgent steps are taken to support its agricultural sector, warns a report by Chatham House, an influential research organisation. The report suggests that UK consumers must expect to pay significantly more for food to ensure long term security. It warns that developed countries have tended to take their food supply for granted and that recent sharp rises in commodity prices will occur more frequently in the future.

5

The rapid rise in food prices is linked to the growth in global population and rising incomes in the developing world, along with increased costs of agricultural production.

The report warns of the limited availability of land for agricultural expansion in the UK and recommends a discussion of using intensive farming methods and genetically modified crops to increase output. However, this could reduce quality and bio-diversity while increasing the risk of crop diseases.

10

The UK produces just 48% of the food it consumes. Around 30% comes from the rest of Europe and the remaining 22% from non-European countries. A crisis could develop through some form of external shock, such as animal or crop disease, or extreme weather events leading to a shortage of affordable food. It is households on low incomes which are hit the hardest by rising food prices.

15

The report calls for government funding to expand agricultural production, innovation and skills. This includes guaranteed minimum prices to encourage more domestic agricultural production.

20

The report also indicates the need for consumer attitudes to change. Around one third of all food purchased is thrown away, some 6.7 million tonnes a year, most of which is edible.

Source: 'Britain must revive farms to avoid grave food crisis', by Jamie Doward, *The Observer*, 1st February 2009.

(a) Distinguish between *private costs* and *external costs*.

(4)

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(b) With reference to the concepts of private costs and external costs, assess the possible economic effects of 'using intensive farming methods and genetically modified crops' (*Extract 1, lines 11 and 12*). Use an appropriate diagram in your answer.

(12)

A series of horizontal dotted lines for writing the answer.

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(Total for Question 22 = 16 marks)

23 The Housing Market

Extract 1 Record fall in house prices

House prices fell by 13.4% between October 2007 and September 2008, the fastest rate for more than 50 years, according to Halifax Bank, Britain's biggest mortgage lender. The average price of a house fell from £198,533 to £172,108 over the period. Rising unemployment has reduced consumer confidence and new mortgages (house purchase loans) have become difficult to obtain. Banks have become very cautious over whom they lend to after experiencing losses from bad debtors.

5

Howard Archer, economist at Global Insight, predicted that the average house price will continue to fall to around £134,000 by 2010 due to concerns over the length of the economic downturn. The recent cuts in interest rates may have little impact as housing remains unaffordable for many people.

10

(Source: adapted from: 'House prices falling at fastest rate for 50 years, says the Halifax' by Myra Butterworth, *The Telegraph*, 10th October 2008.)

Figure 1: Average house prices and weekly earnings by selected region in England

Region	Average house price	Average annual earnings (i)	Unemployment rate (%) (ii)
Yorks and Humber	£128 591	£22 932	6.2
North West	£137 487	£23 411	6.6
West Midlands	£162 861	£23 343	6.4
East Anglia	£169 788	£24 342	4.8
South East	£233 086	£25 990	4.5
Greater London	£269 723	£31 861	7.5
National	£172 108	£24 888	5.7

(Source: HBOS.co.uk; ONS regional earnings survey, November 2008; Labour Force Survey (June-August 2008).)

- (i) Annual gross earnings per adult in employment by region – median figures, April 2008.
- (ii) Unemployment rate is the percentage of a region's workforce who are unemployed.

Extract 2 First-time buyers priced out of housing market

The number of first-time buyers has fallen dramatically over recent years according to Halifax Bank. It estimated that just 300,000 first-time buyers entered the housing market in 2007, down from 532,000 in 2002. Difficulties remain in obtaining mortgages and larger cash deposits are often required for these buyers, exceeding 10 per cent of the property value. First-time buyers are now more likely to be in their thirties than their twenties and to buy flats rather than terraced houses.

5

However, the Royal Institution of Chartered Surveyors believes that conditions for first-time buyers should improve over the next two years. Simon Rubinsohn, chief economist, said "there is huge pent-up demand from first-time buyers and should house prices continue to drop, many will be ready to enter the market."

10

(Source: adapted from 'First-time buyers priced out of market' by Patrick Collinson, *The Guardian*, 22nd December 2007.)

Extract 3 Regional house prices

Despite falling house prices, regional differentials are expected to remain. Average house prices in Greater London are much higher than for other regions. This appears to be caused by several factors, for example, variations in regional earnings and availability of land to build on. Differences in regional unemployment may also be a factor.

The government intends to permit the building of more than 1.1 million homes in the south-east by 2016, despite strong opposition from local councils and environmental groups.

5

(Source: adapted from 'The housing crisis hits home' by Alexander Frean & Alexandra Blair, *The Times*, 21st May 2005)

(b) Using examples, evaluate the likely private costs and external costs of this house-building programme. Illustrate your answer with a diagram.

(12)

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(Total for Question 23 = 16 marks)

24 Tuition fees in higher education

Figure 1: World university rankings in academic research: top 10

University	Country	World ranking
Harvard	US	1
MIT	US	2
Cambridge	UK	3
Oxford	UK	4
Stanford	US	5
Berkeley, California	US	6
Yale	US	7
California IT	US	8
Princeton	US	9
Ecole Polytechnique	France	10

(Source: *Times* Higher Educational supplement, 4th February 2007)

Figure 2: Number of applications to higher education in UK 2003–2008

Year	Number of applications
2003	476,467
2004	486,028
2005	522,155
2006	506,304
2007	534,495
2008	540,108

(Source: www.UCAS/statistics)

Extract One The case for increasing tuition fees in higher education

University can give you a great start in life. You are more likely to be employed. You will earn, on average, well over £160,000 more over a lifetime than non-graduates with 'A' Levels, and 96% of students agree it is a worthwhile experience. Increased government investment in higher education means many more students now attend university than ten years ago. The UK has two universities ranked in the world's Top 10 for academic research and twenty-nine in the Top 200, according to the *Times* Higher Education survey. However, the US is in a league of its own, dominating research. 5

The expansion of higher education involves an opportunity cost to both the government and students. The UK government has increased its university tuition funding to £4,300 per student and also raised the student contribution from £1,175 to £3,000 per year. This means universities receive £7,300 in tuition fees for each student. But this figure is still well below the £11,500 average per student that American universities receive. 10

UK students do not have to finance tuition fees before or during the course since they can take out a loan at a rate of interest equal to the rate of inflation. Repayments only begin once they have finished studying, and are earning over £15,000 a year. For those from low-income families, there are grants worth up to £2,700 per year. Higher education can help reduce inequality. 15

Further increases in student contributions to tuition fees do more good than harm. It will encourage students to take their studies more seriously, and universities will be able to improve quality, innovation and choice in their education provision. 20

(Source: Adapted from 'Route to a secure future' by Bill Rammell, *The Guardian*, 4th September 2006 and 'The greater good is not served by market forces', Roger Brown, *The Guardian*, 11th December 2007.)

Extract Two The case against increasing tuition fees in higher education

The increase in tuition fees from £1,175 in 2005 to £3,000 in 2006 caused a 3% drop in applications for higher education. The huge rise in fees discouraged some young people, especially from low income families. It also undermined the government target of achieving 50% of young people in higher education by 2010.

According to a survey of university vice-chancellors, the student contribution to tuition fees will have to rise to £6,000 a year or more by 2010. Annual tuition fees are capped at £3,000 until then. The cost to the government of subsidising student loans and writing off unpaid debts has risen to nearly £1 billion a year. A highly qualified graduate workforce attracts more investment and generates more production and tax revenue for the economy. In this way, graduates already pay for their higher education. 10

(Source: Adapted from 'Fees trigger drop in university applications', by Donald Macleod, *The Guardian*, 10th February 2006)

24 Apart from a shift in the production possibility frontier, examine **two** likely external benefits of higher education. Illustrate your answer with an appropriate diagram.

(12)

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(Total for Question 24 = 12 marks)

END OF SECTION B

SECTION C

Write your answer in the space provided.

25 In September 2016 the government approved the building of an £18 billion nuclear power station, Hinkley Point C, which will supply 7% of UK electricity for up to 60 years. The power station is funded by Chinese and French investment.

Evaluate the likely private costs and external costs involved in such major power station construction projects. Use an appropriate externalities diagram in your answer.

(Total for Question 25 = 25 marks)

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END OF SECTION C