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EDEXCEL A ECONOMICS: QUESTIONS BY TOPIC

How Markets Work (1.2)

A Level Economics Theme 1

165 questions · 702 marks · Mark schemes included

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HOW TO USE THIS BOOKLET

Questions are grouped by specification sub-topic and run from the lowest mark tariff to the highest within each one.
Click any row below to jump straight to that sub-topic or question.
On every question page, click ANSWER in the top-right corner to jump to its mark scheme.
Diagrams, graphs, tables and data are printed exactly as they appeared in the original papers.

	QUESTION	SOURCE	MARKS	PAGE
1.2.1	**RATIONAL DECISION MAKING**		18 Qs · 96 marks	**6**
1.	**Q4(b)**	AS Paper 1 June 2016	1	**7**
2.	**Q2(a)**	AS Paper 1 June 2017	1	**8**
3.	**Q2(c)**	AS Paper 1 June 2017	1	**9**
4.	**Q2(b)**	AS Paper 1 June 2017	2	**10**
5.	**Q4(a)**	AS Paper 1 June 2016	3	**11**
6.	**Q4**	AS Paper 1 June 2016	4	**12**
7.	**Q6(d)**	AS Paper 1 June 2016	4	**13**
8.	**Q2**	AS Paper 1 June 2017	4	**16**
9.	**Q6(d)**	AS Paper 1 June 2019	4	**17**
10.	**Q6(d)**	AS Paper 1 October 2020	4	**21**
11.	**Q6(a)**	A Level Paper 1 June 2018	5	**26**
12.	**Q6(a)**	A Level Paper 1 June 2025	5	**32**
13.	**Q1(b)**	A Level Paper 3 November 2021	8	**33**
14.	**Q6(b)**	AS Paper 1 June 2017	10	**37**
15.	**Q6(b)**	AS Paper 1 October 2020	10	**42**
16.	**Q6(b)**	AS Paper 1 June 2022	10	**49**
17.	**Q6(b)**	A Level Paper 1 June 2023	10	**54**
18.	**Q6(b)**	AS Paper 1 June 2025	10	**62**
1.2.2	**DEMAND**		4 Qs · 7 marks	**65**
19.	**Q2(c)**	AS Paper 1 June 2019	1	**66**
20.	**Q5(a)**	AS Paper 1 June 2025	1	**67**
21.	**Q2(b)**	A Level Paper 1 November 2021	1	**68**
22.	**Q5**	AS Paper 1 June 2025	4	**70**
1.2.3	**PRICE, INCOME AND CROSS ELASTICITIES OF DEMAND**		76 Qs · 362 marks	**72**
23.	**Q5(a)**	AS Paper 1 June 2016	1	**73**
24.	**Q2(b)**	AS Paper 1 June 2018	1	**74**
25.	**Q2(c)**	AS Paper 1 June 2018	1	**75**
26.	**Q4(a)**	AS Paper 1 June 2018	1	**76**
27.	**Q2(b)**	AS Paper 1 June 2019	1	**77**
28.	**Q3(a)**	AS Paper 1 June 2019	1	**78**
29.	**Q5(a)**	AS Paper 1 June 2019	1	**79**
30.	**Q2(a)**	AS Paper 1 October 2020	1	**80**

	QUESTION	SOURCE	MARKS	PAGE
31.	Q2(b)	AS Paper 1 June 2023	1	81
32.	Q4(b)	AS Paper 1 June 2023	1	82
33.	Q5(b)	AS Paper 1 June 2024	1	83
34.	Q5(c)	AS Paper 1 June 2024	1	84
35.	Q2(b)	AS Paper 1 June 2025	1	85
36.	Q1(b)	A Level Paper 1 June 2017	1	86
37.	Q2(c)	A Level Paper 1 June 2017	1	88
38.	Q2(c)	A Level Paper 1 June 2018	1	89
39.	Q5(a)	A Level Paper 1 June 2018	1	90
40.	Q1(b)	A Level Paper 1 June 2019	1	91
41.	Q1(a)	A Level Paper 1 June 2022	1	92
42.	Q2(c)	A Level Paper 1 June 2022	1	93
43.	Q3(a)	A Level Paper 1 June 2023	1	94
44.	Q1(b)	A Level Paper 1 June 2024	1	95
45.	Q2(b)	A Level Paper 1 June 2025	1	96
46.	Q2(a)	AS Paper 1 June 2018	2	97
47.	Q5(a)	AS Paper 1 June 2024	2	98
48.	Q2(b)	A Level Paper 1 June 2018	2	99
49.	Q5(b)	A Level Paper 1 June 2018	2	100
50.	Q5(c)	A Level Paper 1 June 2018	2	101
51.	Q2(a)	A Level Paper 1 June 2022	2	102
52.	Q2(b)	A Level Paper 1 June 2022	2	103
53.	Q5(b)	AS Paper 1 June 2016	3	104
54.	Q4(b)	AS Paper 1 June 2018	3	105
55.	Q3(b)	AS Paper 1 June 2019	3	106
56.	Q5(b)	AS Paper 1 June 2019	3	107
57.	Q2(b)	AS Paper 1 October 2020	3	108
58.	Q2(a)	AS Paper 1 June 2025	3	109
59.	Q5	AS Paper 1 June 2016	4	110
60.	Q6(d)	AS Paper 1 June 2017	4	111
61.	Q2	AS Paper 1 June 2018	4	114
62.	Q4	AS Paper 1 June 2018	4	116
63.	Q3	AS Paper 1 June 2019	4	117
64.	Q5	AS Paper 1 June 2019	4	118
65.	Q2	AS Paper 1 October 2020	4	119
66.	Q6(d)	AS Paper 1 June 2022	4	120
67.	Q6(d)	AS Paper 1 June 2023	4	123
68.	Q5	AS Paper 1 June 2024	4	126
69.	Q6(c)	AS Paper 1 June 2024	4	127
70.	Q2	AS Paper 1 June 2025	4	130

	QUESTION	SOURCE	MARKS	PAGE
71.	**Q2**	A Level Paper 1 June 2017	5	**131**
72.	**Q6(a)**	AS Paper 1 June 2017	5	**133**
73.	**Q5**	A Level Paper 1 June 2018	5	**136**
74.	**Q6(a)**	AS Paper 1 October 2020	5	**139**
75.	**Q1**	A Level Paper 1 June 2022	5	**144**
76.	**Q2**	A Level Paper 1 June 2022	5	**146**
77.	**Q3**	A Level Paper 1 June 2023	5	**148**
78.	**Q6(a)**	AS Paper 1 June 2023	5	**149**
79.	**Q1**	A Level Paper 1 June 2024	5	**152**
80.	**Q2**	A Level Paper 1 June 2024	5	**154**
81.	**Q1(a)**	A Level Paper 3 June 2024	5	**156**
82.	**Q6(a)**	AS Paper 1 June 2025	5	**163**
83.	**Q6(c)**	AS Paper 1 June 2017	6	**164**
84.	**Q6(d)**	AS Paper 1 June 2024	6	**167**
85.	**Q6(d)**	A Level Paper 1 June 2018	8	**170**
86.	**Q6(b)**	A Level Paper 1 October 2020	8	**175**
87.	**Q6(b)**	A Level Paper 1 June 2022	8	**179**
88.	**Q1(b)**	A Level Paper 3 June 2022	8	**183**
89.	**Q6(c)**	A Level Paper 1 June 2023	8	**188**
90.	**Q6(b)**	AS Paper 1 June 2016	10	**192**
91.	**Q6(c)**	A Level Paper 1 June 2025	12	**199**
92.	**Q6(e)**	AS Paper 1 June 2017	15	**202**
93.	**Q6(e)**	AS Paper 1 June 2019	15	**207**
94.	**Q6(e)**	AS Paper 1 October 2020	15	**214**
95.	**Q6(e)**	A Level Paper 1 November 2021	15	**222**
96.	**Q6(e)**	AS Paper 1 June 2023	15	**229**
97.	**Q1(e)**	A Level Paper 3 June 2018	25	**234**
98.	**Q7**	A Level Paper 1 October 2020	25	**242**
1.2.4	**SUPPLY**		4 Qs · 10 marks	**246**
99.	**Q2(a)**	AS Paper 1 June 2024	1	**247**
100.	**Q2(b)**	AS Paper 1 June 2024	1	**248**
101.	**Q5(b)**	AS Paper 1 June 2025	3	**249**
102.	**Q6(a)**	AS Paper 1 June 2022	5	**251**
1.2.5	**ELASTICITY OF SUPPLY**		13 Qs · 51 marks	**254**
103.	**Q5(b)**	AS Paper 1 June 2022	1	**255**
104.	**Q2(b)**	A Level Paper 1 June 2024	1	**256**
105.	**Q1(a)**	A Level Paper 1 June 2019	2	**257**
106.	**Q1(c)**	A Level Paper 1 June 2019	2	**258**
107.	**Q5(a)**	AS Paper 1 June 2022	3	**259**
108.	**Q2(a)**	AS Paper 1 June 2023	3	**260**

	QUESTION	SOURCE	MARKS	PAGE
109.	**Q5**	AS Paper 1 June 2022	4	**261**
110.	**Q2**	AS Paper 1 June 2023	4	**262**
111.	**Q6(a)**	AS Paper 1 June 2016	5	**264**
112.	**Q1**	A Level Paper 1 June 2019	5	**267**
113.	**Q2**	A Level Paper 1 June 2025	5	**269**
114.	**Q6(c)**	AS Paper 1 June 2025	6	**274**
115.	**Q6(b)**	AS Paper 1 June 2018	10	**275**
1.2.6	**PRICE DETERMINATION**		19 Qs · 73 marks	**281**
116.	**Q4(b)**	AS Paper 1 June 2017	1	**282**
117.	**Q5(b)**	AS Paper 1 June 2017	1	**283**
118.	**Q4(a)**	AS Paper 1 June 2025	1	**284**
119.	**Q2(b)**	A Level Paper 1 June 2019	1	**285**
120.	**Q2(c)**	AS Paper 1 June 2024	2	**286**
121.	**Q4(a)**	AS Paper 1 June 2017	3	**287**
122.	**Q5(a)**	AS Paper 1 June 2017	3	**288**
123.	**Q4(a)**	AS Paper 1 June 2023	3	**289**
124.	**Q4(b)**	AS Paper 1 June 2025	3	**290**
125.	**Q4**	AS Paper 1 June 2017	4	**291**
126.	**Q5**	AS Paper 1 June 2017	4	**293**
127.	**Q4**	AS Paper 1 June 2023	4	**295**
128.	**Q2**	AS Paper 1 June 2024	4	**296**
129.	**Q4**	AS Paper 1 June 2025	4	**298**
130.	**Q1**	A Level Paper 1 June 2017	5	**299**
131.	**Q6(a)**	AS Paper 1 June 2018	5	**301**
132.	**Q2**	A Level Paper 1 June 2019	5	**305**
133.	**Q6(a)**	A Level Paper 1 June 2024	5	**307**
134.	**Q6(e)**	AS Paper 1 June 2018	15	**310**
1.2.7	**PRICE MECHANISM**		9 Qs · 31 marks	**317**
135.	**Q3(a)**	AS Paper 1 June 2018	1	**318**
136.	**Q3(c)**	AS Paper 1 June 2018	1	**319**
137.	**Q1(a)**	AS Paper 1 October 2020	1	**320**
138.	**Q1(b)**	AS Paper 1 October 2020	1	**321**
139.	**Q3(b)**	AS Paper 1 June 2018	2	**322**
140.	**Q1(c)**	AS Paper 1 October 2020	2	**323**
141.	**Q3**	AS Paper 1 June 2018	4	**324**
142.	**Q1**	AS Paper 1 October 2020	4	**326**
143.	**Q6(e)**	AS Paper 1 June 2016	15	**328**
1.2.8	**CONSUMER AND PRODUCER SURPLUS**		7 Qs · 22 marks	**333**
144.	**Q4(c)**	A Level Paper 1 June 2023	1	**334**
145.	**Q2(a)**	AS Paper 1 June 2019	2	**335**

	QUESTION	SOURCE	MARKS	PAGE
146.	**Q4(a)**	A Level Paper 1 June 2023	2	**336**
147.	**Q4(b)**	A Level Paper 1 June 2023	2	**337**
148.	**Q2**	AS Paper 1 June 2019	4	**338**
149.	**Q4**	A Level Paper 1 June 2023	5	**340**
150.	**Q6(c)**	AS Paper 1 June 2016	6	**342**
1.2.9	**INDIRECT TAXES AND SUBSIDIES**		10 Qs · 30 marks	**345**
151.	**Q3(b)**	A Level Paper 1 June 2017	1	**346**
152.	**Q3(c)**	A Level Paper 1 June 2017	1	**347**
153.	**Q2(a)**	A Level Paper 1 June 2017	2	**348**
154.	**Q2(b)**	A Level Paper 1 June 2017	2	**349**
155.	**Q3(a)**	A Level Paper 1 June 2017	2	**350**
156.	**Q2(a)**	A Level Paper 1 June 2018	2	**351**
157.	**Q3**	A Level Paper 1 June 2017	5	**352**
158.	**Q2**	A Level Paper 1 June 2018	5	**354**
159.	**Q6(a)**	A Level Paper 1 October 2020	5	**357**
160.	**Q2**	A Level Paper 1 November 2021	5	**360**
1.2.10	**ALTERNATIVE VIEWS OF CONSUMER BEHAVIOUR**		5 Qs · 20 marks	**362**
161.	**Q3(b)**	A Level Paper 1 June 2018	1	**363**
162.	**Q3(a)**	A Level Paper 1 June 2018	2	**364**
163.	**Q3(c)**	A Level Paper 1 June 2018	2	**365**
164.	**Q3**	A Level Paper 1 June 2018	5	**366**
165.	**Q6(b)**	AS Paper 1 June 2024	10	**368**

QUESTIONS

165 questions · 702 marks · 10 sub-topics

SUB-TOPIC 1.2.1

RATIONAL DECISION MAKING

Sub-topic 1.2.1 · 18 questions · 96 marks · lowest tariff first

4 A restaurant in London offers an "all you can eat buffet for £8.99". At this price you can refill your plate as many times as you like.

(b) If the price of an "all you can eat buffet" fell from £8.99 to £6.99, which **one** of the following is likely to happen?

(1)

- ☒ **A** There is an extension in demand
- ☒ **B** The demand curve shifts to the left
- ☒ **C** The supply curve shifts to the left
- ☒ **D** There is a contraction in demand

(Total for Question 4(b) = 1 mark)

2 The table below shows UK wheat production between 2010 and 2015.

Year	Wheat production ('000 tonnes)	Index numbers of wheat production (2010 is base year)
2010	14 878	100
2011	15 257	
2012	13 261	
2013	11 921	80.1
2014	16 606	111.6
2015	16 129	108.4

(Source: adapted from https://www.gov.uk/government/uploads/system/uploadsattachment_data/file/466383/farming-statistics-2015-wheat-and-barley-production-uk.pdf)

(a) Define the term 'base year'.

(1)

.....

.....

(Total for Question 2(a) = 1 mark)

2 The table below shows UK wheat production between 2010 and 2015.

Year	Wheat production ('000 tonnes)	Index numbers of wheat production (2010 is base year)
2010	14 878	100
2011	15 257	
2012	13 261	
2013	11 921	80.1
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2015	16 129	108.4

(Source: adapted from https://www.gov.uk/government/uploads/system/uploadsattachment_data/file/466383/farming-statistics-2015-wheat-and-barley-production-uk.pdf)

(c) The percentage change in wheat production from 2014 to 2015 was:

(1)

- ☒ **A** 0.03
- ☒ **B** –2.87
- ☒ **C** –2.95
- ☒ **D** –477

(Total for Question 2(c) = 1 mark)

2 The table below shows UK wheat production between 2010 and 2015.

Year	Wheat production ('000 tonnes)	Index numbers of wheat production (2010 is base year)
2010	14 878	100
2011	15 257	
2012	13 261	
2013	11 921	80.1
2014	16 606	111.6
2015	16 129	108.4

(Source: adapted from https://www.gov.uk/government/uploads/system/uploadsattachment_data/file/466383/farming-statistics-2015-wheat-and-barley-production-uk.pdf)

(b) Calculate the index numbers for 2011 and 2012, using 2010 as the base year.

(2)

.....

.....

.....

.....

(Total for Question 2(b) = 2 marks)

4 A restaurant in London offers an "all you can eat buffet for £8.99". At this price you can refill your plate as many times as you like.

(a) With reference to the statement above explain what is meant by 'diminishing marginal utility'.

(3)

(Total for Question 4(a) = 3 marks)

4 A restaurant in London offers an "all you can eat buffet for £8.99". At this price you can refill your plate as many times as you like.

(a) With reference to the statement above explain what is meant by 'diminishing marginal utility'.

(3)

(b) If the price of an "all you can eat buffet" fell from £8.99 to £6.99, which **one** of the following is likely to happen?

(1)

☒ **A** There is an extension in demand

☒ **B** The demand curve shifts to the left

☒ **C** The supply curve shifts to the left

☒ **D** There is a contraction in demand

(Total for Question 4 = 4 marks)

SECTION B

Read the following Figures (1 to 2) and Extracts (A to B) before answering Question 6.

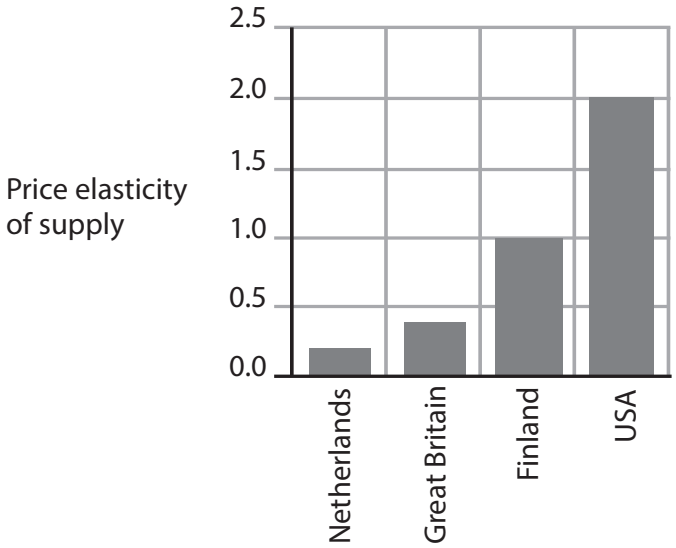
Answer ALL Question 6 (a) to 6 (e) and EITHER Question 6 (f) OR Question 6 (g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

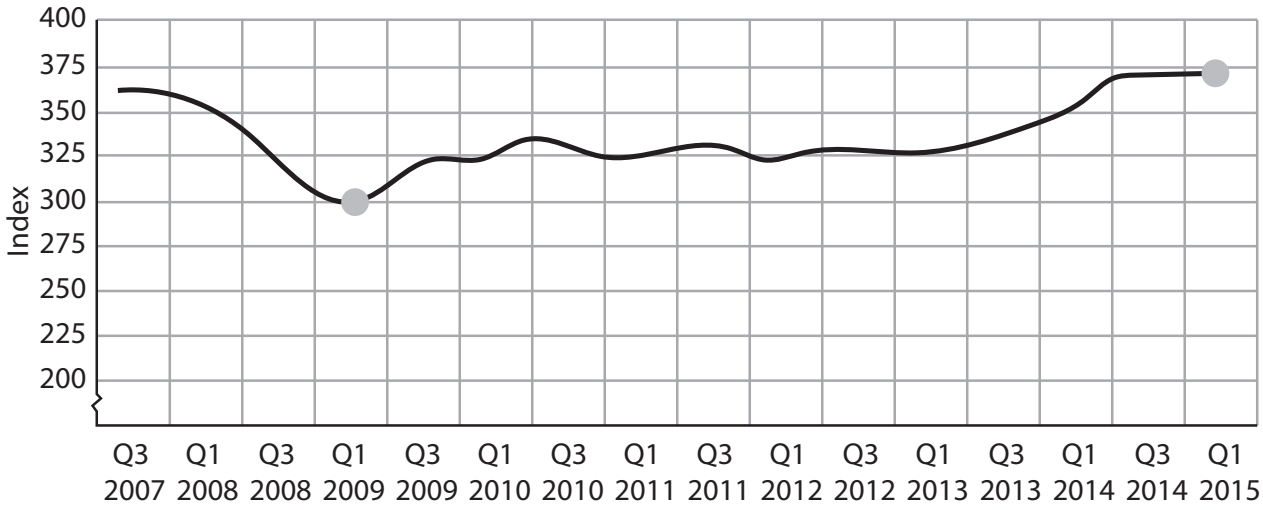
The market for housing

Figure 1 – Estimates of the price elasticity of supply of new housing, selected countries



(Source: adapted from Caldera Sánchez, A. and Å. Johansson (2011), "The Price Responsiveness of Housing Supply in OECD Countries", Figure 3, OECD Economics Department Working Papers, No. 837, OECD Publishing. http://dx.doi.org/10.1787/5kgk9qhrnn33-en)

Figure 2 – Index of UK house prices (1993 = 100)



(Source: http://www.nationwide.co.uk/about/house-price-index/download-data#~)

Extract A

Problems facing UK first time buyers

Over a third of aspiring first time buyers in the UK have given up hope of ever being able to save for a deposit to buy a property, new research has found. A deposit is the minimum amount that must be paid upfront when buying a property, which is a proportion of the price of the property.

The UK Government has a Help to Buy scheme designed to help people buy a home. The government subsidises the mortgage (loan) needed to buy a property, so buyers require a smaller amount saved as a deposit. Under this scheme, first time buyers need as little as a 5% deposit to qualify for a mortgage. This is due to end in the first few months of 2017. The research from mortgage insurer Genworth says this will mean a return to 20% deposits, which would see the average time needed to save for a deposit rise from three years to over 10 years.

"Trying to buy your first home in the current climate is like chasing a runaway train. Even with good salaries that could comfortably support a mortgage, thousands of aspiring first time buyers can only save modest sums, especially those who are already paying rent. This deposit trap is why many feel they are left with the all or nothing choice of borrowing from family or waving goodbye to ever owning a home," said Simon Crone, a vice president at Genworth.

"Help to Buy has significantly improved access to mortgages with deposits that are actually realistic to save. The numbers using the scheme may be modest, but it has made significant inroads in the short-term to boost access at the lower end of the property market," he pointed out.

(Source: adapted from http://www.propertywire.com/news/europe/uk-first-time-buyers-201409309641.html September 2014)

Extract B

Housing and flood defences

A radical new approach to housing and a £2.3 billion of investment in flood defences were announced as part of the UK Government's new National Infrastructure Plan 2014.

One key proposal is for the government to plan, build and sell homes. An initial programme on a government-owned former airfield near Cambridge will see the development of 10 000 homes. This approach will fast track the development by providing certainty and making new homes available more quickly.

The government will make the initial investment but expects that later costs will be met through the sale of land and homes. It will also evaluate the feasibility and economic effects of rolling out this model on a wider scale, to support and accelerate housing supply.

The plan also commits to £2.3 billion of capital investment to over 1400 flood defence projects in a 6-year programme of investment. As a result, over 300 000 homes will be better protected and over £30 billion of economic damages prevented. Major projects that will benefit include £42 million for the Oxford Flood Alleviation Scheme, £80 million for the Humber Estuary and over £17 million for Tonbridge, Yalding and the surrounding communities.

(Source: adapted from https://www.gov.uk/government/news/ambitious-plans-for-housing-flood-defence-and-roads-set-out-in-national-infrastructure-plan-2014)

(d) With reference to Figure 2, calculate the percentage change in house prices between the first quarter of 2009 and the first quarter of 2015. You are advised to show your working.

(4)

2 The table below shows UK wheat production between 2010 and 2015.

Year	Wheat production ('000 tonnes)	Index numbers of wheat production (2010 is base year)
2010	14 878	100
2011	15 257	
2012	13 261	
2013	11 921	80.1
2014	16 606	111.6
2015	16 129	108.4

(Source: adapted from https://www.gov.uk/government/uploads/system/uploadsattachment_data/file/466383/farming-statistics-2015-wheat-and-barley-production-uk.pdf)

(a) Define the term 'base year'.

(1)

(b) Calculate the index numbers for 2011 and 2012, using 2010 as the base year.

(2)

(c) The percentage change in wheat production from 2014 to 2015 was:

(1)

- ☒ **A** 0.03
- ☒ **B** –2.87
- ☒ **C** –2.95
- ☒ **D** –477

(Total for Question 2 = 4 marks)

SECTION B

Read Figure 1 and 2 and the following extracts (A to C) before answering Question 6.

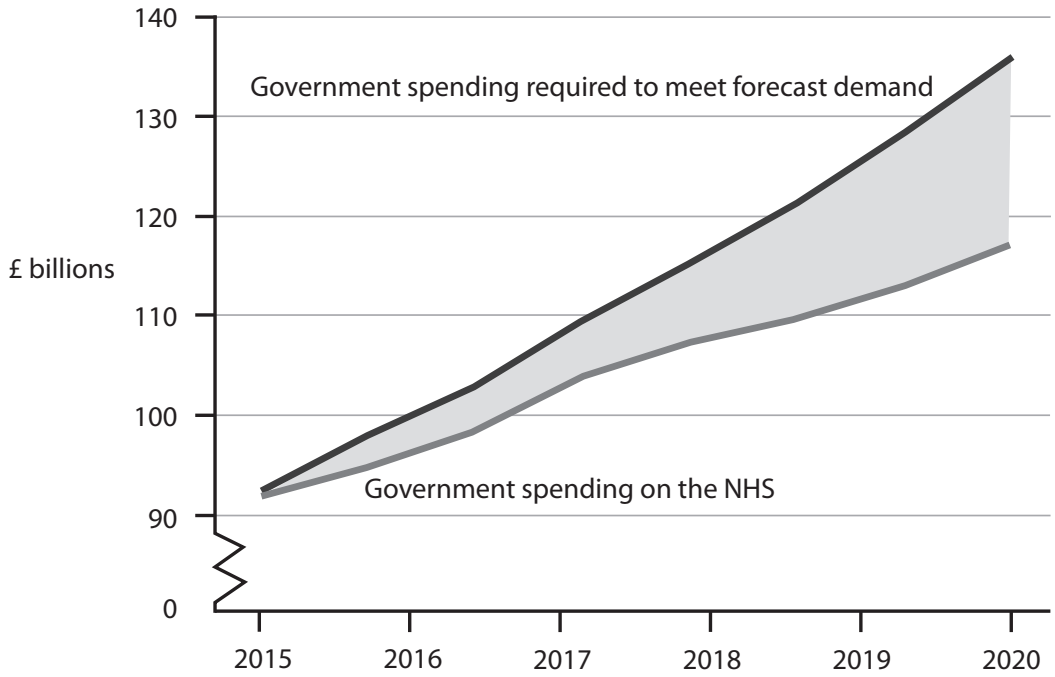
Answer ALL Questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour 5 minutes on this section.

Question 6

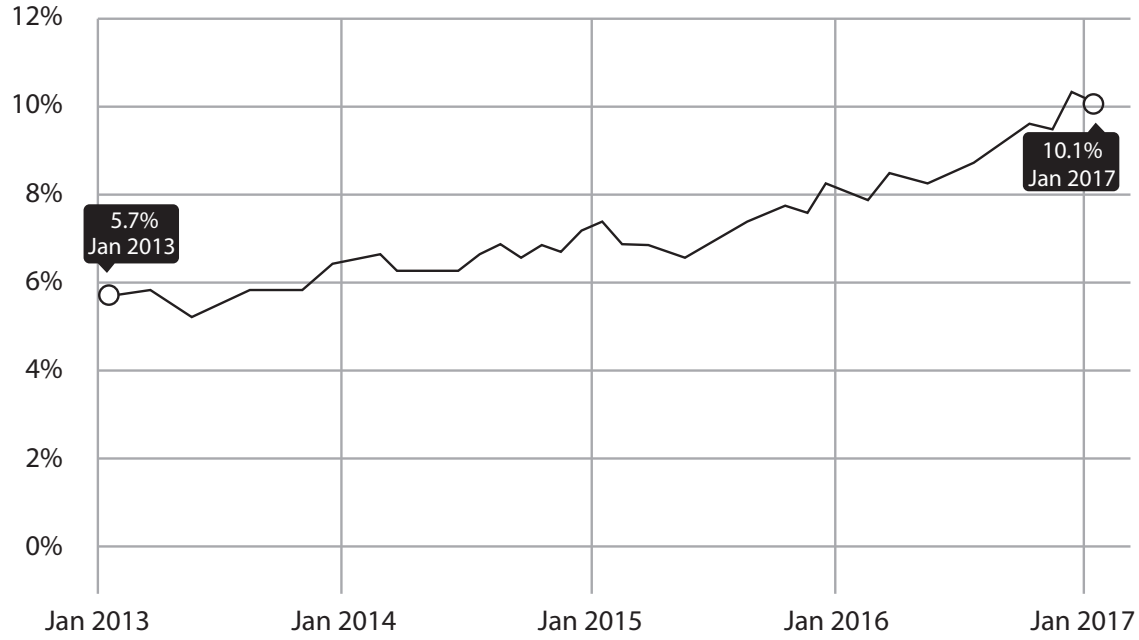
Health provision

Figure 1: National Health Service (NHS) in England: Government spending and projected funding gap, £ billions, 2015 to 2020



(Source: https://www.economist.com/news/britain/21706563-nhs-mess-reformers-believe-new-models-health-care-many-pioneered)

Figure 2: Percentage of NHS patients in England waiting over 18 weeks for non-emergency treatment



(Source: https://www.statista.com/chart/8813/more-and-more-people-made-to-wait-by-the-nhs/)

Extract A

Hospitals already full

National Health Service (NHS) managers' warned that bed occupancy rates are approaching 99% in some parts of the country, compared with recommended levels of 85%. In 2017 the number of patients waiting for non-urgent treatment passed the four million mark, the highest figure for almost a decade.

The chief executive of the NHS suggested that waiting list targets for routine operations such as hip and knee replacements would have to be sacrificed in order to protect other services, including accident and emergency (A&E) and cancer care.

However, the government has insisted waiting time targets must still be met. Recently the Chancellor awarded the NHS £2.8 billion over three years, including £1.6 billion in 2018 - less than the £4 billion which NHS officials had asked for to keep up with an ageing population and new medical technologies.

NHS managers said there was now very little spare capacity in the system, warning of shortages of paramedics, doctors, A&E consultants and nurses.

(Source: adapted from http://www.telegraph.co.uk/news/2017/12/07/hospitals-already-full-bursting-pressures-mount-warn-nhs-chiefs/)

Extract B

How health care is funded

Most countries have a mixed economy of health provision typically funded from taxation, patient fees and private health insurance.

The NHS was launched in the UK in 1948 to ensure direct state provision by the government of health care 'free at the point of use'. The NHS is mainly funded from general taxation. However, some NHS patients pay for some of their medical care, such as prescriptions to buy medicine.

In the ongoing debate about how best to fund the NHS, some people have proposed introducing a £12 charge for visiting a General Practitioner (GP) doctor. Proponents argue that such a charge would deter overuse of GP services by those who do not have genuine health needs. It would also raise additional money for the NHS and create incentives which will stimulate innovation and more choice.

Estimates suggested that a £12 charge on the 450 million visits a year to GPs could have raised enough to cover hospitals' overspend in 2016. Based on exemptions for prescriptions, 90% of patients will not be charged including the elderly, children and low income groups. There would also be administrative costs of collecting the charge and verifying exemptions. These arrangements would significantly reduce the amount a charge would generate, assuming no one paying would be dissuaded from visiting their GP.

The proportion of people in the UK taking out private health insurance (PHI) to pay for private health care has increased to 10.6%, despite significant increases in the prices of treatment in private hospitals. Some economists argue that the government should provide subsidies to encourage people to take out private health insurance. This would reduce the burden on the NHS by taking some people out of the state system. Furthermore it is argued that private health care increases choice for users, encourages competition and drives up standards of care.

A typical PHI policy for a healthy 35-year-old costs about £650 a year but this rises steeply to £2 300 for those aged 70, when claims are far more likely. The level of contribution is based on their risk of requiring health care. PHI also tends to incur high management and administrative costs due to the resources required to assess risk and claims. Also there is the possibility of market failure given asymmetric information.

(Source: adapted from https://www.kingsfund.org.uk/publications/how-health-care-is-funded)

Extract C

Public parks are a public good

Public parks are places which people can use for free to exercise or to relax. Parkrun Limited organises free weekly runs in local parks attracting hundreds of joggers per park to enjoy healthy exercise. The government is proposing to ban local authorities charging Parkrun for the use of public parks to fund the maintenance of public parks. The government considers that it is appropriate for the public to pay a reasonable sum for the private use of a facility such as a tennis court or a football pitch which may be used exclusively. However, the government does not consider it appropriate for a local authority to charge a volunteer community group 'seeking to provide a free weekly event' for the use of a public park. Parkrun share the park with other park users. Although a running course may be marked out there is no restriction on other people using the park.

(Source: adapted from © Crown Copyright Running Free – Government consultation on preserving the free use of public parks, April 2017, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/608372/Parkrun_ConDoc.pdf and http://www.telegraph.co.uk/news/2017/04/14/councils-banned-charging-runners-take-part-regular-saturday/)

(d) Calculate the annual revenue raised by charging £12 per GP visit. Assume there will be 450 million GP visits per year and 90% of these will not be charged. You are advised to show your working.

(4)

SECTION B

Read Figures 1, 2, 3 and the following extracts (A to B) before answering Question 6.

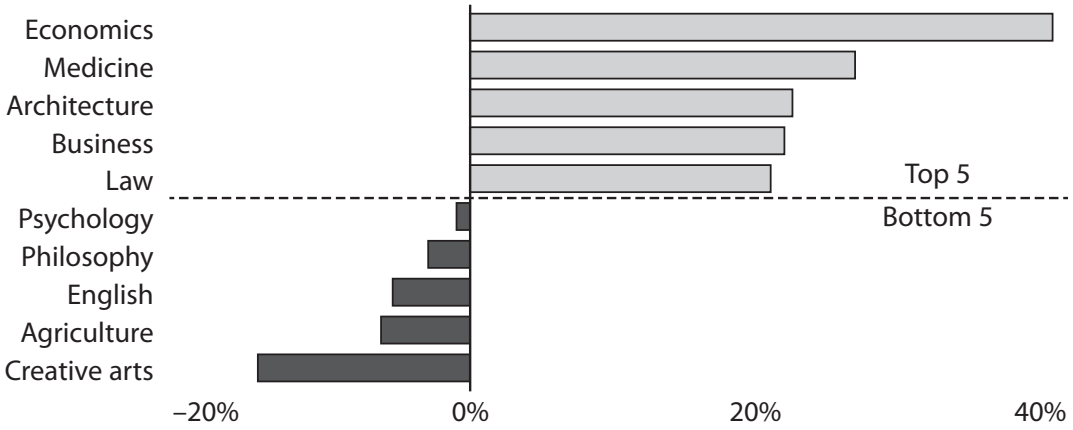
Answer ALL questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

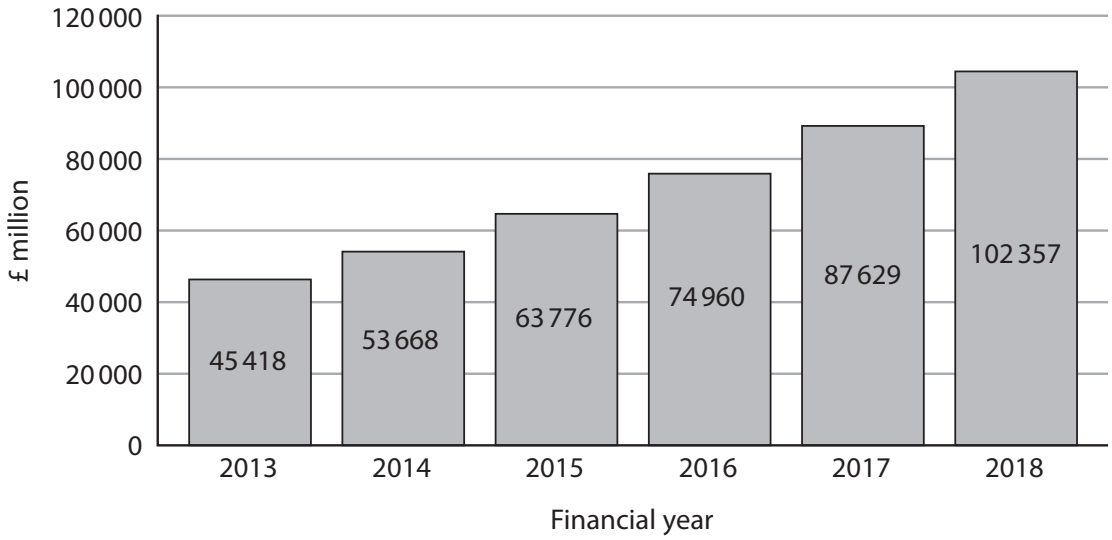
The market for higher education in the UK

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



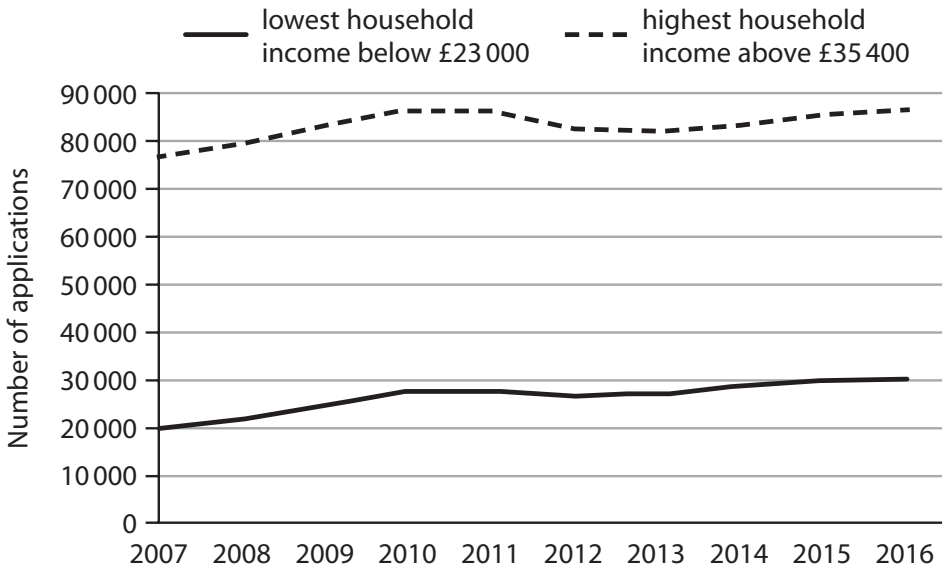
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Figure 2: Student loans outstanding at the end of financial years 2013 to 2018 in England



(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.

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.

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.

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.

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.

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.

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.

(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.

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.

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.'

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

(d) With reference to Figure 2, calculate the percentage increase in outstanding student loans from 2013 to 2018. You are advised to show your working.

(4)

SECTION B

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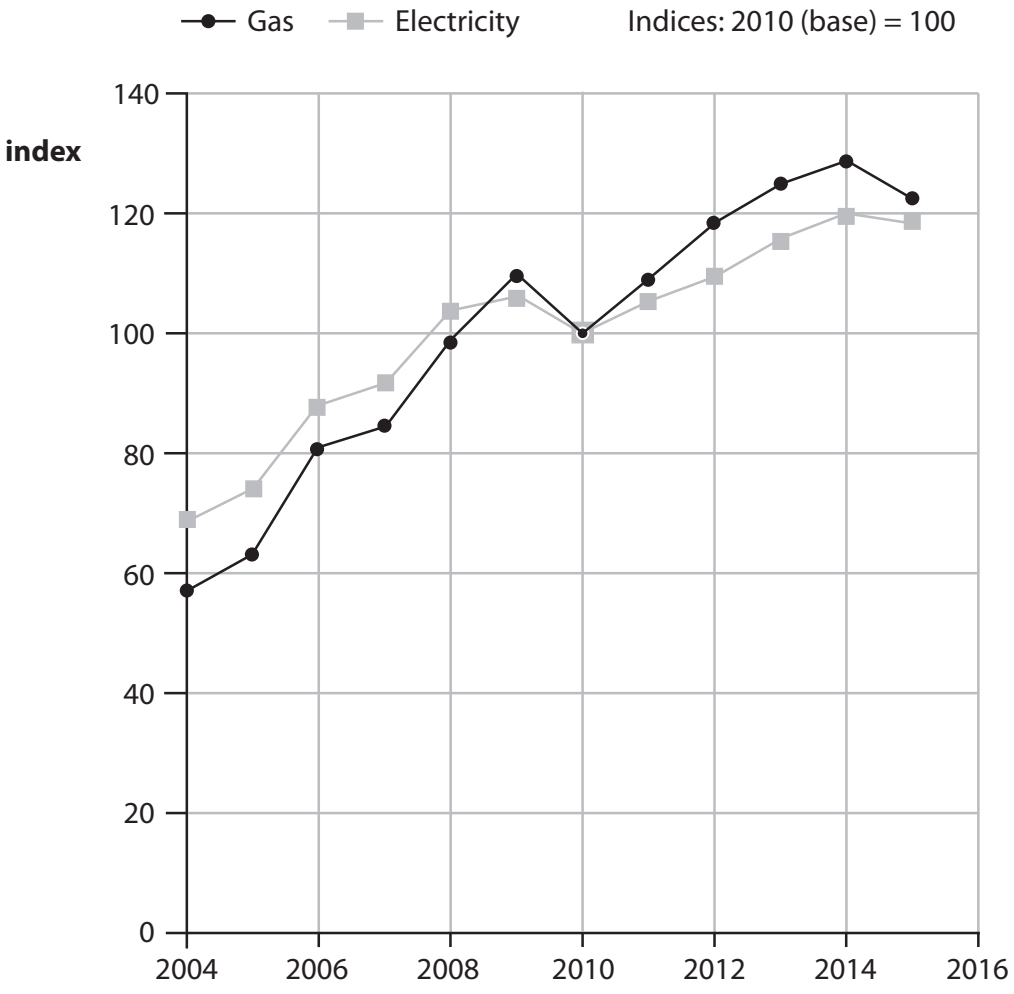
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You are advised to spend 1 hour on this section.

Question 6

The UK energy market

Figure 1: UK retail electricity and gas real price indices, 2004–2015



(Source: https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf)

Figure 2: UK retail electricity and gas supply: market share by company, 2016

Company	Electricity %	Gas %
British Gas	23	36
EON	16	13
SSE	16	13
EDF	12	8
Scottish Power	11	9
RWE (nPower)	10	9
Other companies	12	12
Total	**100**	**100**

(Sources: https://www.ofgem.gov.uk/chart/electricity-supply-market-shares-company-domestic-gb and https://www.ofgem.gov.uk/data-portal/retail-market-indicators)

Extract A

Competition and Markets Authority (CMA) report into the UK energy market

An investigation into the UK energy market by the CMA concluded that customers have been paying £1.4 billion a year more than they would in a fully competitive market. It found that 70% of domestic customers of the six largest energy firms were on an expensive standard rate. These customers could each save over £300 a year by switching to a cheaper deal but appear reluctant to do so.

However, the CMA investigation found no evidence of anti-competitive practices by firms. There has even been an increase in new entrant energy suppliers over recent years and their combined market share has reached 12% in both gas and electricity supply.

To protect consumers, the CMA has introduced various measures to open up and increase competition in the UK energy market. These include:

- the creation of a database designed to help consumers switch energy suppliers – rival suppliers can directly contact these customers
- the conversion of all homes to smart energy meters making it easier for customers to measure energy consumption and switch supplier
- new rules to protect the four million vulnerable customers using prepaid meters – this includes a temporary price cap until smart meters have been installed.

(Source: adapted from 'Competition and Markets Authority Final report into Energy Market Investigation' https://www.gov.uk/government/news/cma-publishes-final-energy-report-in-full)

Extract B

Proposals to regulate profits in the UK energy market

Currently energy retail companies make an average profit of 7% of total revenue. The Chairman of the Competition and Markets Authority (CMA) suggested that these profits are as much as five times higher than they should be, given the companies' limited role in marketing, metering and billing customers. He recommended a profit cap of 1.25% of total revenue.

However, Scottish Power criticised proposals for regulating profits saying that it would reduce investment in the energy industry and undermine long-term energy provision. The firm claimed that such a low rate of return is below the profit margin made by supermarkets.

All six large energy firms are vertically integrated – producing as well as distributing gas and electricity. This can provide efficiency benefits but also harm competition.

(Source: adapted from 'Profit cap doesn't fit with new investment, energy boss warns', by Robin Pagnamenta, *The Times*, 19th September 2016)

Extract C

Skills shortages in the UK energy sector

The energy sector is facing a skills shortage of engineers and technicians. Some 29% of employers in the gas and electricity industries report unfilled job vacancies compared with an average of 18% across all industries.

A lack of information and advice on career prospects for young people is partly to blame - many graduates have a negative image of the work involved. There is also a lack of students taking science, technology, engineering and maths-based subjects at school and university. Less than one-fifth of the energy sector's workforce are women.

The energy sector is characterised by an ageing workforce - data from the UK Labour Force Survey reveal that around two-thirds of workers are aged over 50. These cannot easily be replaced as a long time period is required for training and developing workers' skills in a highly regulated industry.

Urgent action is required by businesses and the government to reduce labour immobility to benefit the energy sector. This action could include policies to increase investment in training programmes, recruit skilled workers from overseas, change the industry image and deal with its ageing workforce.

(Source: adapted from 'Sector insights: skills and performance challenges in the energy sector', by the UK Commission for Employment and Skills, March 2015; https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/416998/15.03.25._Energy_SLMI_-_evidence_report.pdf)

(a) With reference to Figure 1, explain **one** likely reason for the overall trend in the real price of gas and electricity.

(5)

Sources for use with SECTION B

Read the following figure (1) and extracts (A to C) before answering Question 6.

Question 6

Digital markets

Figure 1: UK sales of selected best-selling video games, 2022

Name of game	Game publisher	Sales (quantity)	Game price
FIFA 23	Electronic Arts (EA)	2 530 510	£59.99
COD: MW II	Activision	1 675 323	£59.99
Mario Kart 8	Nintendo	426 748	£39.99
Gran Turismo 7	Sony	356 630	£69.99
Minecraft	Microsoft	219 679	£14.99

(Source: adapted from https://www.statista.com/statistics/274072/most-popular-games-in-the-united-kingdom-uk-by-unit-sales)

Extract A

Digital markets

Digital markets refer to firms producing and buying information technology services. Examples include digital banking, online retailing, computer games and mobile applications (apps). The emergence of digital markets has brought about increased competition across a wide range of products and services. They have also been beneficial for consumers who now have greater choice and access to higher-quality products at lower prices, for example, fashion clothing and language tuition. But while the digital revolution has enabled greater competition, it also presents some challenges for competition law enforcement.

(Source: adapted from https://pearsonblog.campaignserver.co.uk/digital-markets-reform-of-competition-laws/)

Extract B

Addictive video games

When consumers want to play a new video game, there are three payment options to access the full gaming experience. There is the price for the game (see Figure 1), the subscription fee to play online with friends (e.g. £13.99 a month) and there are many in-game purchases. For example, a Spiderman 'skin' which costs £9.99 enhances the appearance of the player. The high prices do not seem to deter many new buyers, especially in markets such as sports and multi-player action games. 40% of the world's population are online gamers. Young players spend up to 10–16 hours a day on their games due to the addictive nature of the games.

The video games can take up to five years to develop and cost over £150 million to produce with 200 full time employees working on the software. Starting salaries for software developers can be £100 000. However, some simple video games and apps cost as little as £23 000 to develop and take about six months.

All the major firms – EA, Microsoft, Nintendo and Sony – offer subscriptions that give access to new game releases. The US technology company, Microsoft, is one of the dominant firms in the market for subscription services. In October 2023, it merged with the game designer, Activision, which already owns one of the world's most popular video games (see Figure 1). The £65 billion merger is the largest in the history of the video games industry. However, Sony is concerned that the Microsoft-Activision merger may restrict access to popular video games owned by Microsoft and therefore reduce competition.

(Source: adapted from https://www.theguardian.com/technology/2023/apr/26/what-does-uks-ban-on-microsofts-activision-blizzard-takeover-mean-for-gaming?)

Extract C

The growth of automation

Automation is the use of technology to perform tasks previously carried out by humans. Automation has the potential to bring great economic benefits to both consumers and firms, contributing up to £12 trillion to global GDP by 2030. This extra income will also create demand for many new jobs. However, there are also concerns that it could displace many existing workers.

Financial services jobs are most at risk from automation in the shorter term and transport jobs, such as train drivers, in the longer run. For example, the growth of online banking has already led to the closure of many high street bank branches. By the mid-2030s, up to 30% of all jobs could be automated, with slightly more impact on men.

Another form of revenue for Microsoft is the artificial intelligence (AI) program ChatGPT. The growth of AI will require highly skilled workers such as trainers and engineers. Microsoft's annual gross profit for 2023 was £146 billion, a 7.69% increase on 2022.

(Source: adapted from https://www.economist.com/business/2023/03/26/big-tech-and-the-pursuit-of-ai-dominance)

6 (a) With reference to Extract A, explain **one** likely impact of the growth of digital markets on allocative efficiency.

(5)

SECTION A

Read extracts A and B before answering Question 1.

Answer ALL Questions 1(a) to 1(c), and EITHER Question 1(d) OR 1(e).

Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

Question 1

Hand car wash (HCW) firms in the UK

Extract A

What is the true human cost of your £5 hand car wash (HCW)?

The UK's hand car washes (HCWs) are extremely price competitive, but they have also been linked to modern slavery. Are they ever fair for workers?

There is little agreement about how many HCWs there are in the UK. Estimates range from 10 000 to 20 000. This lack of accurate information about the industry makes government regulation very difficult. Automated car washes, with their fierce rotating bristles, used to be the first option for drivers in a hurry. Now there is more choice. While the economy slows and incomes fail to keep up with inflation, demand for HCWs has grown. Many people see paying £5 for a car washed by someone else, rather than cleaning it at home, as a small expense which yields a high utility. But what is the true cost of a £5 car wash – and what should we be paying?

The growth of HCWs is partly the result of changes in the structure of industry in the UK. Many petrol stations have closed as drivers fill up at supermarkets. Garages and their forecourts have closed as cars become more reliable and locked into service agreements. The available sites for HCWs have therefore increased significantly and rents have fallen.

HCW entrepreneurs have identified available land and have benefitted from changes in the labour market, partly as a result of EU migration. UK drivers are now able to obtain cheap and effective hand car washing. For many migrants, car washes are a first job. "They accept car washing for a short period while they improve their language skills and move into other industries," says Ian Clark, a professor of work and employment at Nottingham Business School. "But there are also car-wash workers without networks who are in a dead end, working there for long periods."

Many drivers are only interested in getting the cheapest wash. If the price is very low, it probably means that workers are receiving less than the minimum wage and working in poor conditions. Crude calculations illustrate the problem. A £5 HCW employing five workers for 10 hours a day would need to wash 79 cars a day to just cover the wage costs. This assumes the workers are paid the minimum wage. This is one car every seven and a half minutes. Even if the profit can be higher on valet services, the price of which can be as little as £12 for a full inside-and-out clean, it's hard to see how a car wash price as low as £5 pays a living wage. This ignores all other costs which HCWs incur such as business rates and rent.

Evidence from car-wash workers is limited but Clark and others have been able to build a picture of some of the tougher conditions on drenched forecourts. "Like nail bars and small garment manufacturers, car washes are what we call 'hard-to-reach places,'" Clark explains. As part of the research, Clark and his team spoke to workers from 45 HCWs in the Midlands.

Clark and his team met and observed workers who lacked waterproof boots or trousers, or hi-vis jackets and gloves. "They're spraying around hydrochloric acid solution for alloy wheels, breathing in the vapour and fumes," Clark says. Some workers were paid a little over half the minimum wage.

(Source adapted from: https://www.theguardian.com/world/2018/jul/16/true-human-cost-5-pound-hand-car-wash-modern-slavery)

Extract B

Government intervention in the HCW industry

There are three main areas of government intervention that might impact on labour intensive firms such as HCWs:

First, there is the planning issue which focuses on the impact on the environment, for example, the disposal and recycling of waste water and chemicals. There could be planning regulations to prevent the use of tarmac rather than concrete on forecourts. Tarmac allows waste water and chemicals to seep into the sub soil. It could also be a requirement to have a sludge trap to stop the waste entering waterways.

Second, there is the health and safety issue for workers. Prolonged exposure to chemicals and lack of protective clothing puts the health of workers at risk. Performance targets could involve minimum levels of protective clothing and rest breaks for the workers.

Third, there is the issue of tax. The informal nature of the business type makes tax evasion easier.

Not all UK HCWs violate regulations. There are legitimate, regulated HCW firms as well as examples of good practice by independent outlets. One national supermarket, Tesco, has banned all independent hand car washes from its car parks. It is now in a partnership agreement with national car wash operator Waves. It uses a WashMark certificate of quality and compliance which was introduced by the industry to improve working conditions. Other major supermarkets are considering similar changes. One adviser believes £9 is a reasonable minimum price for a basic wash. Some pressure groups have developed a mobile phone app where evidence of unreasonable conditions can be reported by drivers.

Involving drivers in the issue, and making them demand fairer car washes, creates an incentive for good businesses to improve practices and come forward to get a WashMark certificate.

(Source adapted from: https://www.parliament.uk/documents/commons-committees/environmental-audit/Hand-Car-Wash-evidence.pdf research into HCWs by Professor Ian Clark, Nottingham Business School May 2018)

(b) Examine **two** reasons why the demand for HCWs increases during a period when consumer 'incomes fail to keep up with inflation' (Extract A line 8).

(8)

SECTION B

Read Figure 1 and the following extracts (A and B) before answering Question 6.

Answer ALL Question 6 (a) to 6 (e), and EITHER Question 6 (f) OR Question 6 (g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

The market for cigarettes

Figure 1: Price elasticity of demand - a comparison between tobacco and e-cigarettes

Price of packet of 20 tobacco cigarettes £7.70–£9.50	Price of e-cigarette kit £9.99–£19.99
Average price per tobacco cigarette 48p	Single cigarette equivalent price of an e-cigarette 7p
Price elasticity of demand for tobacco cigarettes –0.35	Price elasticity of demand for e-cigarettes –1.9

(Source: adapted from https://www.blucigs.co.uk/united-kingdom/kits/all-kits)

Extract A

Government intervention on tobacco

There was a time when smoking was fashionable. Television and magazine advertisements glorified smoking. Everyone from your dad to your doctor smoked in all places – cars, restaurants and even hospitals.

Tobacco is still the single biggest cause of cancer in the world and the leading cause of preventable deaths. Nearly 80% of the 1 billion smokers worldwide live in low- and middle-income countries.

Bans on tobacco advertising, promotion and sponsorship can reduce tobacco consumption. Comprehensive smoking bans covering indoor workplaces, public places and public transport have been introduced in 48 countries.

Tobacco taxes are the most cost-effective way to reduce tobacco use, especially among the young and people in low-income groups. A tax increase that raises tobacco prices by 10% decreases tobacco consumption by 4% in high-income countries and 5% in low- and middle-income countries.

However, some 8 million people are expected to die each year by 2030 – because they have smoked tobacco or have been exposed to passive smoking. The use of alternative products such as electronic cigarettes (e-cigarettes) are gaining in popularity but information about their effects is uncertain. Little research has yet been done about the long-term health effects of e-cigarettes and the nicotine dispensed by e-cigarettes is highly addictive. The illegal tobacco market still counts for 1 in every 10 cigarettes consumed globally. In addition, tobacco companies still spend tens of billions of dollars each year on advertising and promoting tobacco products and sponsoring events. They continuously challenge the regulatory measures governments are taking.

(Source: adapted from http://www.who.int/topics/tobacco/en/ and http://www.who.int/mediacentre/commentaries/reducing-tobacco-use/en/)

Extract B

Free market approach

Are free markets incompatible with good health? If the solution to every problem involves banning advertising, raising prices and restricting availability, you might easily conclude that the free market is the disease and government regulation is the cure. From this perspective, the providers of food, alcohol and tobacco are determined to push the most unhealthy products on the public at the lowest prices.

Contrary to this viewpoint, the profit motive is not unhealthy. Businesses have an obvious incentive to keep their customers alive and customers have a strong incentive to seek out healthier options. Any company that can make a scientifically sound health claim gains a competitive advantage over its rivals. Health sells. In contrast, government regulation can lead to negative health outcomes. Markets can correct themselves long before government failures are even acknowledged. Over a million Britons, almost all of whom are smokers or ex-smokers, use e-cigarettes, as a less hazardous product than cigarettes and yet e-cigarettes face increased regulations and in many countries they are banned.

It is neither consistent nor ethical to prevent smokers from switching to much safer alternatives. Efforts to regulate e-cigarettes are a far greater threat to public health than the products themselves.

We argue that the interests of consumers are nearly always better advanced by the provision of accurate information and free choice than by prohibitions and regulations. The government policy of small but steady tax rises on tobacco and ever-larger warning labels is becoming less effective and leads to unintended consequences.

(Source: adapted from http://www.iea.org.uk/blog/free-market-solutions-in-health-should-be-allowed-to-flourish, Christopher Snowdon, 11th July 2013)

(b) With reference to the information provided and your own knowledge, assess the view that tobacco consumers switching to e-cigarettes is an example of rational behaviour.

(10)

SECTION B

Read Figures 1, 2, 3 and the following extracts (A to B) before answering Question 6.

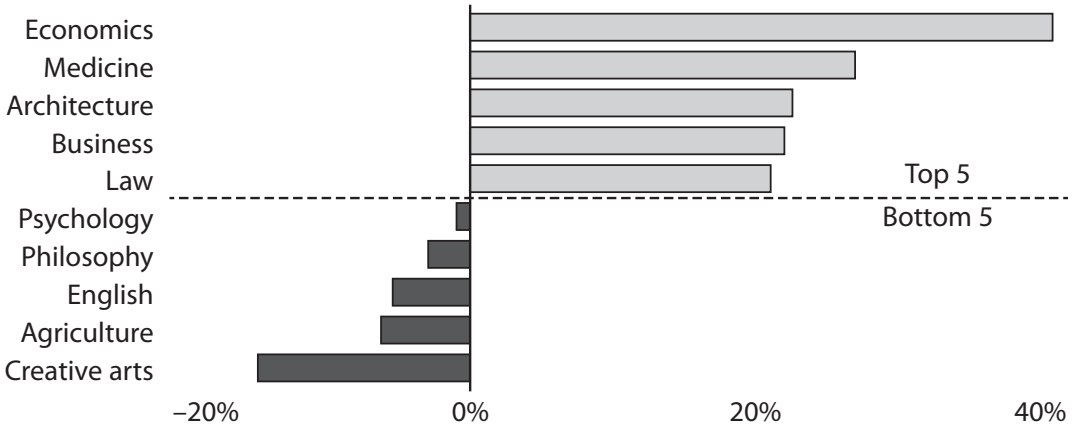
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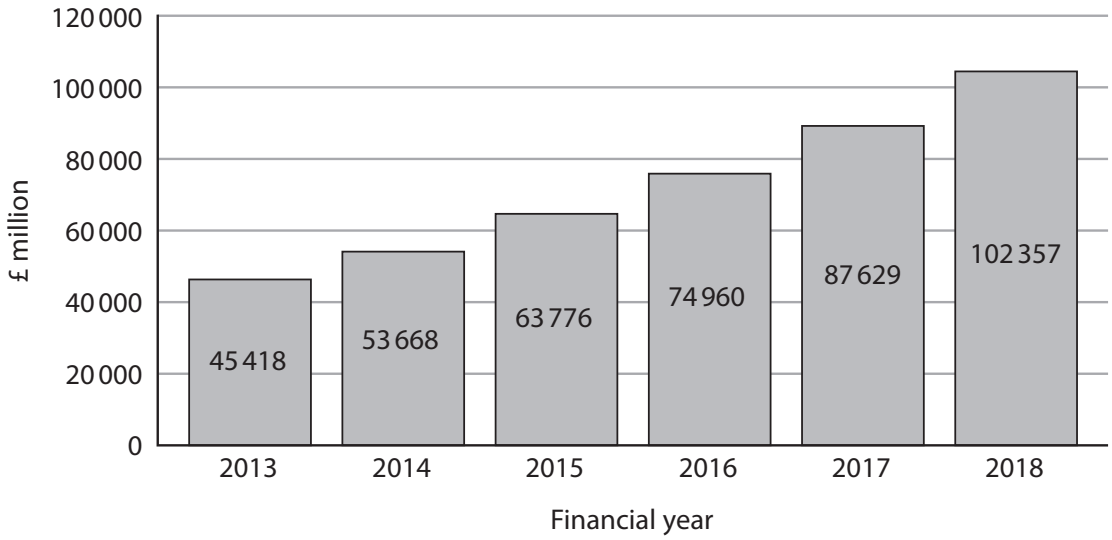
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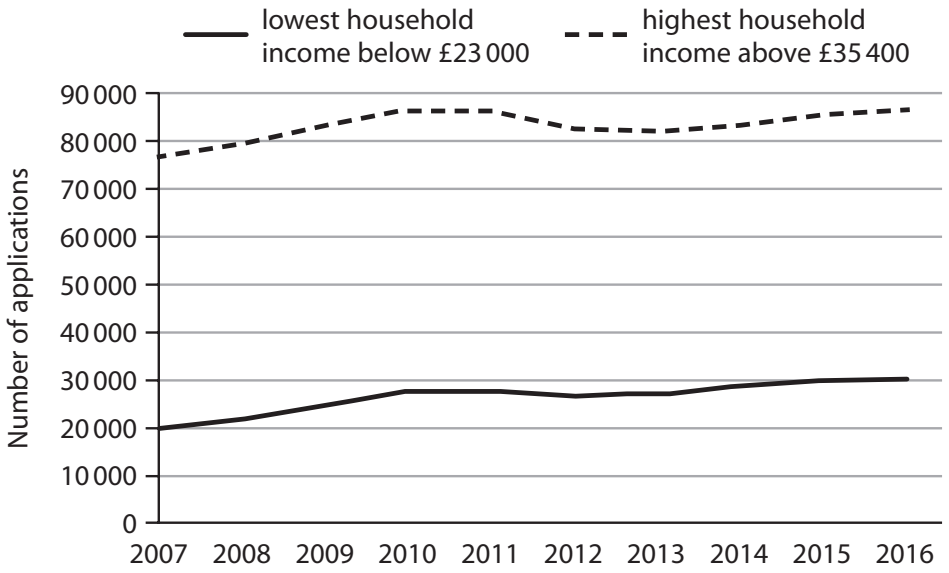
(Source: adapted from https://www.ifs.org.uk/publications/13731
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Extract A

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(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.

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.

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.'

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

According to Extract B, the drop-out rate of students from low-income households is much higher than that of high-income households.

(b) Assess the likely impact of these drop-out rates on the allocation of resources within an economy.

(10)

SECTION B

Read Extracts A and B and Figure 1 before answering Question 6.

Answer ALL Questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

The market for fish

Extract A

Total allowable catches of North Sea cod halved in response to falling stocks

In 2020, new lower limits on the quantity of cod that can be caught by the UK fishing fleet came into force. These limits on the fish catch, called total allowable catches (TACs), were agreed at the annual EU fisheries negotiations.

It was the last December EU meeting attended by the UK before it left the EU. It was agreed that cod catch limits will be cut by 50% in the North Sea, while reduced limits were agreed for cod in the Celtic Sea, Irish Sea and west of Scotland.

However, there were increases for other types of fish, with TACs for haddock in the North Sea rising by 23% and for sole rising by 19%.

UK Fisheries Minister George Eustice said: "This year there has been mounting scientific evidence suggesting that cod is being overfished in many parts of the northeast Atlantic and we have responded to conserve stocks".

These new regulations applied to the UK while it remained part of the Common Fisheries Policy. In the future it will become an independent coastal state and negotiate on fisheries with the EU and other coastal states such as Norway.

(Source adapted from: https://www.independent.co.uk/news/business/news/north-sea-cod-stocks-quota-climate-change-brexit-a9252196.html)

Figure 1

Atlantic over-fishing: share of total allowable catch (TAC) in excess of scientific advice (2019)

Country	**Excess TAC** (%)	**Excess TAC** (tonnes)
Sweden	52.4	17 369
United Kingdom	24.3	106 925
Ireland	21.7	34 052
Denmark	19.7	49 914
Germany	18.0	20 620
The Netherlands	13.5	31 910
Belgium	10.4	3 009
France	9.4	27 230
Spain	6.6	16 689
Portugal	3.8	3 662

(Source adapted from: Statista 2018)

Extract B

The tragedy of the commons

The 'tragedy of the commons' may occur when there are common access resources (CARs). These are natural resources over which no private ownership has been established. Therefore, there are difficulties in excluding people from using or exploiting them. CARs include fisheries and common grazing lands. Oceans are so vast that it is impractical for one fishing company to establish ownership and control. This means that others cannot be prevented from exploiting the ocean. Economists have suggested that with the lack of ownership of these resources, private producers will act in their own self-interest and exploit CARs to maximise profit. This exploitation is unsustainable. In other words, CARs provide an opportunity for individuals to create profit, while creating negative externalities which impact on everybody else. This process is referred to as the 'tragedy of the commons'.

The 'tragedy of the commons' is at the core of a range of problems that are relevant and threatening to natural resources, environments and human health. In the case of overfishing, fishing companies are not made accountable for the state of the ocean. They continue to fish as much as possible to maximise profit. Today, 90% of fish stocks are depleted.

The reason for such a wide range of problems is because there is an environmental cost for everything. The 'tragedy of the commons' is the outcome of the fact that every resource is limited on this planet, coupled with the rising level of demand for these resources. These issues are large-scale and require laws, regulation and international cooperation.

(Source adapted from: http://felixonline.co.uk/articles/2019-12-09-tragedy-commons-drama-planet-not-enjoying/)

According to Extract B, lines 15–16, 'fishing companies are not made accountable for the state of the ocean. They continue to fish as much as possible to maximise profit'.

(b) Assess whether it is rational for fishing companies to behave in this way.

(10)

SECTION B

Read Figures 1 and 2 and the following extracts (A to C) before answering Question 6.

Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

Question 6

The UK online streaming services market

Figure 1: Market share of UK online streaming services

	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022
Amazon Prime Video	37.9%	41.1%	45.0%	27.1%	25.9%
Disney+	16.0%	17.7%	19.3%	14.1%	21.5%
Netflix	15.0%	10.5%	5.0%	9.4%	4.5%
NOW	11.3%	11.2%	5.6%	11.0%	11.1%
AppleTV+	4.0%	5.5%	7.3%	9.2%	9.9%
BritBox	4.0%	3.0%	5.7%	6.0%	5.9%
Others	11.8	11.0%	12.1%	23.2%	21.2%

(Source adapted from: Kantar, Worldpanel Division Geotech 2022)

Figure 2: UK online streaming services – monthly fees

Streaming service provider	**September 2022**
Netflix premium (4 users/ultra HD*)	£15.99
Netflix standard (2 users/HD)	£10.99
Netflix basic (single user/non HD**)	£6.99
Amazon Prime Video	£8.99
Amazon Prime Video – Student price	£4.49
Disney+	£7.99
AppleTV+	£4.99

*This is the highest quality picture currently available

** This is the basic quality picture

(Source adapted from: https://www.radiotimes.com/tv/what-to-watch-tv/best-streaming-service-uk/)

Extract A

How Netflix makes use of behavioural science

In the last few years, companies have been trying to find ways to attract the attention of customers. Various streaming platforms such as Netflix, Amazon, and YouTube use 'nudges' to influence consumer behaviour. The 'next-up' feature on Netflix or 'auto-play' on YouTube has been subject to research that relates it to binge-watching. Binge-watching is the practice of viewing for a prolonged period, multiple episodes of a TV show or several films in rapid succession.

Similarly, the policy of offering a one-month free subscription under the label of 'free trial' requires credit card information to turn the forgetful subscriber into a potential paying one. Following this strategy, Netflix has expanded to 190 countries in just seven years and according to the Wall Street Journal, the company generated total revenue of over $5.2 billion in 2019, which was an increase from 2018 of around $4 billion.

However, 2022 data shows that consumers, increasingly worried about the rising cost of living, are turning their back on Netflix. With a reported cancellation of over 200 000 subscriptions in the first quarter and another two million forecast to leave by the end of the year. Subscribers are rethinking their commitment to the streaming services that grew their numbers sharply during the home-based months of the global health crisis. Netflix subscribers have also quoted a decline in value for money and satisfaction with the quality of the shows as key motives for cancellation.

Disney now see higher satisfaction rankings than Netflix across the quality of shows, amount of original content, number of new-release films, variety of classic films and amount of kids' content. Forecast cancellation rates for Disney+ fell to an all-time low of 3.2%.

(Source adapted from: https://www.novanudge.com/post/sludge-on-demand-how-netflix-makes-use-of-behavioural-science
https://www.theguardian.com/media/2022/apr/20/netflix-shares-fall-losing-subscribers)

Extract B

The economics of price discrimination

Throughout 2022, Netflix, a 100-billion-dollar company, increased prices in the US, Canada, the UK and Ireland (most of which saw similar price increases in 2021, too). In sharp contrast, Netflix recently announced it was reducing its prices in India (standard/2-user 499 rupees a month, equivalent to £5.42) in a bid to compete with Disney+ and Prime.

UK students currently enrolled in a college or university who have a valid student email address can join Prime Student through the Amazon website. This gives them nearly 50% off a standard Prime membership and many other exclusive benefits.

(Source adapted from: https://help.netflix.com/en/node/24926/in)

Extract C

Educational Website and TV Programmes

BBC Bitesize is a learning platform created by the BBC in 1998. The online study resource allows parents to teach their children from home, using ready-made lesson plans and study guides with questions for all ages. The revision sessions are free to watch and they are available for children aged five up to their late teens. The guides are written by teachers and subject experts, so they are reliable and follow the National Curriculum. Last year Bitesize attracted around two million weekly unique browsers with a peak week of 3.3 million in the GCSE exam period.

Oak National Academy is a freely available learning resource website created for pupils aged four to sixteen. Launched in 2020, as a response to the global health crisis, the website includes lesson slides, video lessons, worksheets, and quizzes conforming to the national curriculum in England. Ministers have set aside £43 million to fund the Oak National Academy over the next three years.

(Source adapted from: https://www.bbc.co.uk/bitesize/articles/zmjdhbk
https://www.structural-learning.com/post/oak-academy-a-teachers-guide#:~:text=Oak%20National%20Academy%20is%20a,the%20national%20curriculum%20of%20England)

(b) With reference to the information provided, assess whether Netflix subscribers behave rationally.

(10)

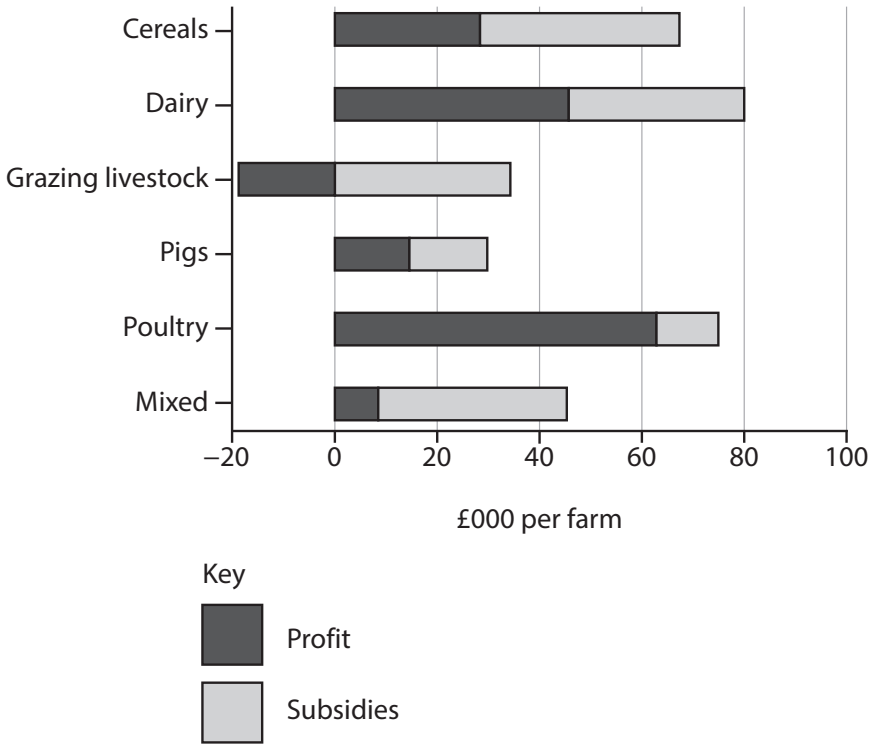
Sources for use with SECTION B

Read the following figures (1 and 2) and extracts (A and B) before answering Question 6.

The market for meat and the growth of vegetarianism

Figure 1

The impact of subsidies on farmer income, in England, 2018–2019 (£000 per farm)



(Source: adapted from www.FT.com)

Figure 2

Potential impact of indirect tax rises on meat prices per kg, 2023–2030

Type of Meat	Before indirect tax increases	After indirect tax increases
Beef/Veal	£24.24	£29.50
Chicken	£7.60	£8.63

(Source: adapted from Tax beef, pork and chicken to help climate and health, EU urged – CGTN)

Extract A

The case for cutting out meat

Around a third of Britons are reducing the amount of meat they eat or are cutting it out altogether. Are these consumers right to be cutting out meat? For a start, there are the greenhouse gases released as a result of producing food. The evidence is clear that switching to a plant-based diet would lower emissions. A UK study found that eating a diet high in meat costs 7.2 kg carbon dioxide emissions per day, compared with 3.8 kg for vegetarians. It would also free up land for other uses. Nearly 80% of the world's farmland is dedicated to rearing animals; a plant-based diet would cut the use of land for agriculture by 76%. The land currently used by grazing livestock could be used for "rewilding", allowing the environment and animal species destroyed by meat farming to recover.

Our health and wealth would be better too. A study published in 2016 modelled what would happen to our health and the global economy if we all switched to vegetarian diets. The economic benefits of switching to plant-based diets could be as much as £700 billion to £1 trillion per year in terms of savings on healthcare costs and lost working days due to ill health.

Some economists recommend an increased indirect tax on animal products so that their prices reflect the cost of externalities.

This could impact on European farmers, if adopted by the European Union. The tax could bring £35 billion to the EU, with around £15 billion of that going directly to farmers. The rest would be used to bring down VAT on fruit and vegetables, and fund other policies to encourage healthy-eating diets both in and outside the EU.

(Source: adapted from https://moneyweek.com/499842/the-economic-consequences-of-veganism December-28-2018)

Extract B

Businesses benefitting from meat-substitute products

There is one group for whom the trend towards meat-substitute products is definitely a good thing: processed food manufacturers and retailers.

Finest British beef burgers are priced at £6.61 per kg. The 'fake burger' (which is made mostly of pea protein) is priced at £21.81 per kg even though the ingredients used to make them, such as mushrooms, peas and palm oil, are cheaper ingredients than meat. Despite high prices, demand continues to rise for these products. This might benefit shareholders, but is it doing any real good for the rest of us?

A large food producer bought meat-substitute product maker Vegetarian Butcher in December 2018 and is moving towards a range with more meat-substitute products. In 2017, Nestlé bought Sweet Earth, a California-based maker of vegetarian foods, and it is launching its own meat-substitute 'Incredible Burger'. It expects its meat-substitute revenues to reach $1 billion by 2029.

As subsidies are being cut in every area of farming, consumers ought to be willing to pay higher prices for all food products. If farmers are to stay in business, they need to find additional sources of revenue such as oyster mushrooms, goji berries and basil.

(Source: adapted from http://www.financialtimes.com/the-veganism-boom-does-more-for-food-company-profits-than-the-planet February-22-2019)

(b) With reference to the information provided and your own knowledge, assess the view that consumers switching to meat-substitute products is an example of rational behaviour.

(10)

SUB-TOPIC 1.2.2

DEMAND

Sub-topic 1.2.2 · 4 questions · 7 marks · lowest tariff first

2 The consensus that diesel emissions are bad for health has led to many cities planning to ban diesel vehicles from their centres. The mayors of Paris, Mexico City, Madrid and Athens have said they intend to ban these vehicles by 2025.

(Source: adapted from http://www.autoexpress.co.uk/car-news/consumer-news/98747/diesel-ban-clean-air-zone-expansion-could-see-diesel-cars-charged-to)

(c) Define the term 'demand'.

(1)

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(Total for Question 2(c) = 1 mark)

5 In March 2019, 458 054 new car registrations were made, which subsequently fell by 44% in March 2020 due to the impact of the global health crisis. Demand for new vehicles can change quickly and can be caused by a variety of factors.

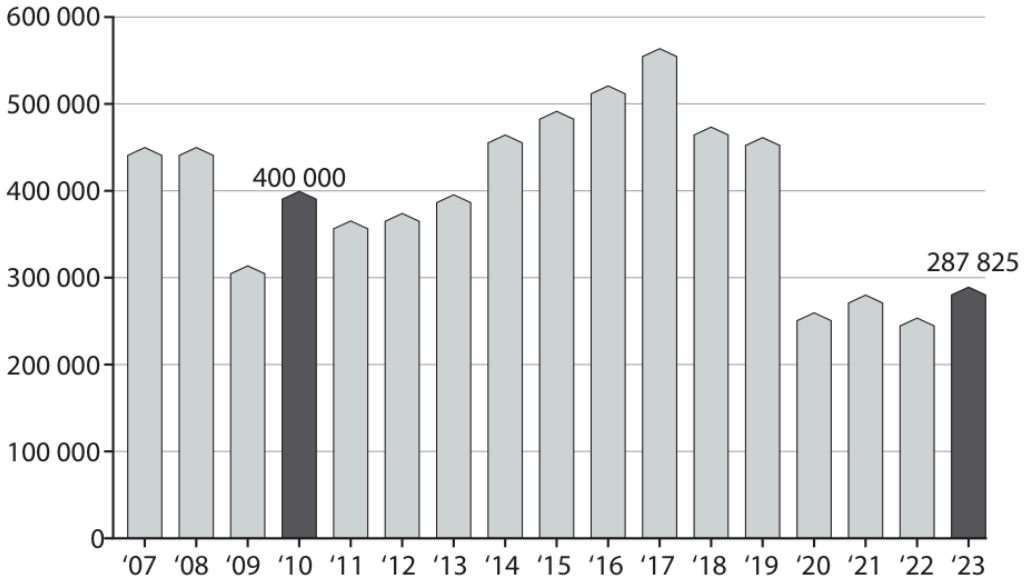
(Source: adapted from https://fleetworld.co.uk/uk-new-car-registrations-slump-44-in-march/)

(a) Which **one** of the following factors may cause a shift in demand for new cars?

(1)

- ☒ **A** Advertising
- ☒ **B** Cost of production
- ☒ **C** Indirect taxes
- ☒ **D** Subsidy to producers

March new car registrations 2007 to 2023



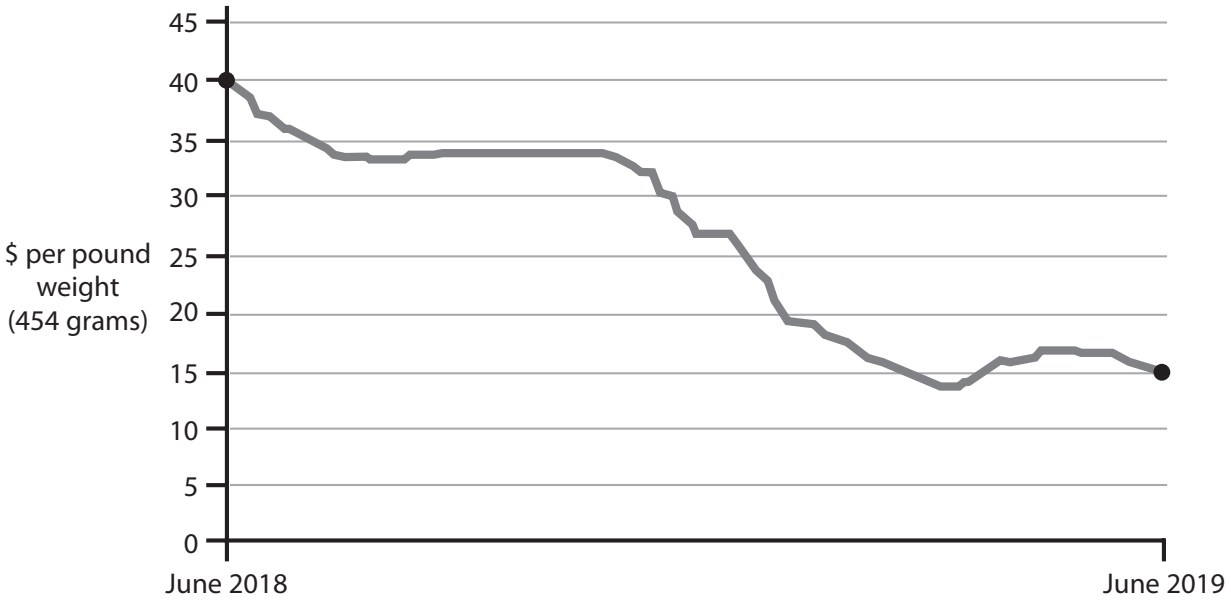
(Source: adapted from https://www.smmt.co.uk/vehicle-data/car-registrations/)

(Total for Question 5(a) = 1 mark)

2 Cobalt is a key metal used in the batteries of electric cars. China is the world's largest producer of electric cars but has recently cut subsidies to its manufacturers.

The Democratic Republic of the Congo (DRC) produces more than 60% of the world's supply of cobalt, from its small-scale mines. Many new small mines opened in 2018 as a result of improved expectations of profit.

The following graph shows the price of cobalt between June 2018 and June 2019.



(a) With reference to the information provided, draw a supply and demand diagram to show why the price of cobalt fell between June 2018 and June 2019.

(4)



(b) Between June 2018 and June 2019 the price of cobalt fell by:

(1)

- ☒ **A** 25%
- ☒ **B** 37.5%
- ☒ **C** 62.5%
- ☒ **D** 166.7%

(Total for Question 2 = 5 marks)

5 In March 2019, 458 054 new car registrations were made, which subsequently fell by 44% in March 2020 due to the impact of the global health crisis. Demand for new vehicles can change quickly and can be caused by a variety of factors.

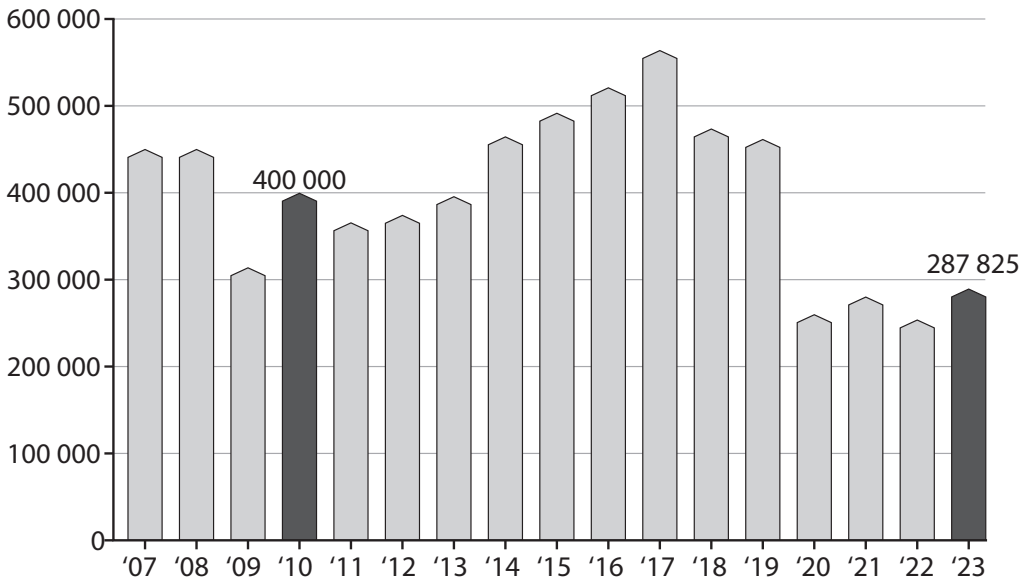
(Source: adapted from https://fleetworld.co.uk/uk-new-car-registrations-slump-44-in-march/)

(a) Which **one** of the following factors may cause a shift in demand for new cars?

(1)

- ☒ **A** Advertising
- ☒ **B** Cost of production
- ☒ **C** Indirect taxes
- ☒ **D** Subsidy to producers

March new car registrations 2007 to 2023



(Source: adapted from https://www.smmt.co.uk/vehicle-data/car-registrations/)

(b) The diagram on the previous page shows new car registrations in March from 2007 to 2023. Using 2010 as the base year, calculate the index number for 2023.

(3)

(Total for Question 5 = 4 marks)

TOTAL FOR SECTION A = 20 MARKS

SUB-TOPIC 1.2.3

PRICE, INCOME AND CROSS ELASTICITIES OF DEMAND

Sub-topic 1.2.3 · 76 questions · 362 marks · lowest tariff first

5 "Since peaking at 132p a litre in July 2014, petrol prices have fallen by 20%".

(Source: adapted from UK petrol prices cut again, L Elliott, The Guardian 12-1-15
http://www.theguardian.com/business/2015/jan/12/oil-slump-uk-petrol-prices-fall)

(a) What is the expected percentage change in the quantity of petrol demanded if the price elasticity of demand is –0.2?

(1)

☒ **A** –0.4%

☒ **B** +0.4%

☒ **C** –4%

☒ **D** +4%

(Total for Question 5(a) = 1 mark)

2 In February 2016 the Daily Mail newspaper increased its price from 60p to 65p. By August 2016 its sales had fallen by 5.41%.

(b) Which **one** of the following is most likely to be a determinant of price elasticity of demand for the Daily Mail newspaper?

(1)

- ☒ **A** Availability of rival newspapers
- ☒ **B** Change in population size
- ☒ **C** Decrease in the cost of producing the Daily Mail newspaper
- ☒ **D** Expected rise in the price of the Daily Mail newspaper

(Total for Question 2(b) = 1 mark)

2 In February 2016 the Daily Mail newspaper increased its price from 60p to 65p. By August 2016 its sales had fallen by 5.41%.

(c) Define the term 'ceteris paribus'.

(1)

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(Total for Question 2(c) = 1 mark)

4 Between 2013 and 2015, median household income in the UK increased from £24 200 to £25 700. Over the same period the demand for bus travel fell by 3%.

(a) Which **one** of the following is the most accurate explanation of the term 'median household income'?

(1)

- ☒ **A** The difference between the highest level of household income and the lowest level of household income
- ☒ **B** The middle household income after placing all household incomes in numerical order
- ☒ **C** The most frequently occurring level of household income
- ☒ **D** Total household income divided by the number of households

(Total for Question 4(a) = 1 mark)

2 The consensus that diesel emissions are bad for health has led to many cities planning to ban diesel vehicles from their centres. The mayors of Paris, Mexico City, Madrid and Athens have said they intend to ban these vehicles by 2025.

(Source: adapted from http://www.autoexpress.co.uk/car-news/consumer-news/98747/diesel-ban-clean-air-zone-expansion-could-see-diesel-cars-charged-to)

(b) A ban on diesel vehicles in city centres will reduce the demand for diesel fuel. This is because:

(1)

- ☒ **A** consumers are irrational
- ☒ **B** consumers expect the price of diesel to rise
- ☒ **C** the goods are complements
- ☒ **D** the goods are substitutes

(Total for Question 2(b) = 1 mark)

3 Amazon Prime, Netflix and NowTV all charge £7.99 per month for streaming very similar film and television services.

(a) The most likely cross price elasticity of demand for close substitutes is:

(1)

- ☒ **A** – 2.1
- ☒ **B** – 0.1
- ☒ **C** + 0.1
- ☒ **D** + 2.1

In 2016 the average cinema ticket price in the UK was £7.41, and there were 19.1 million tickets sales. The price elasticity of demand was estimated to be –0.5.

(Total for Question 3(a) = 1 mark)

5

	2015	2017
Average weekly pocket money for children aged under 10 years	£7	£8.75

In the UK, Freddo is a popular chocolate snack bought by children who are under 10 years old. Freddo's income elasticity of demand is estimated to be –0.1.

(a) Calculate the percentage change in quantity demanded for Freddos between 2015 and 2017, ceteris paribus:

(1)

- ☒ **A** –0.8%
- ☒ **B** –2%
- ☒ **C** –2.5%
- ☒ **D** –25%

(Total for Question 5(a) = 1 mark)

2 (a) The income elasticity of demand for bus travel is estimated to be –1.5.
This implies that:

(1)

- ☒ **A** a 10% increase in fares will lead to a 15% decrease in passengers
- ☒ **B** as unemployment falls, more people will use buses
- ☒ **C** bus travel has a negative cross elasticity of demand compared to rail travel
- ☒ **D** bus travel is an inferior good

(Total for Question 2(a) = 1 mark)

2 The world's largest producer of natural gas is the USA. In 2021 production fell even though the price increased.

(b) The table below shows estimates of the price elasticity of supply and price elasticity of demand for gas.

	Natural Gas
Price elasticity of supply	+0.14
Price elasticity of demand	−0.10

(Source: adapted from http://www.usaee.org/usaee2013/submissions/Abs/Ponce_Neumann_Elasticities_gas_supply.pdf, http://www.mackinac.org/1247)

Which **one** of the following can be inferred from the table?

(1)

☒ **A** A 10% increase in the price of gas would cause a more than 10% increase in the supply

☒ **B** Gas is a normal good with income inelastic demand

☒ **C** The demand and supply of gas are both price inelastic

☒ **D** The demand for gas is more responsive to changes in price than supply

(Total for Question 2(b) = 1 mark)

4 During 2021 the UK experienced severe shortages of crisps, petrol and many other items.

(Source: adapted from https://www.independent.co.uk/news/business/news/uk-shortages-covid-brexit-supply-chain-b1968458.html)

Esso, Tesco and Sainsbury's all charge £1.48 for a litre of petrol.

(b) Which **one** of the following is the most likely cross price elasticity of demand for close substitutes?

(1)

☒ **A** – 2.1

☒ **B** – 0.1

☒ **C** + 0.1

☒ **D** + 2.1

(Total for Question 4(b) = 1 mark)

5 Chief Executive Elon Musk said "affordability" was the biggest barrier to Tesla reaching a far larger market. Before recent price cuts for its electric vehicles, he said, "We weren't sure about what the price elasticity of demand was for Tesla. We found that even small changes in price have a big impact on demand."

(Source adapted from: https://www.ft.com/)

(b) Define the term '*ceteris paribus*'.

(1)

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.....

.....

.....

(Total for Question 5(b) = 1 mark)

5 Chief Executive Elon Musk said "affordability" was the biggest barrier to Tesla reaching a far larger market. Before recent price cuts for its electric vehicles, he said, "We weren't sure about what the price elasticity of demand was for Tesla. We found that even small changes in price have a big impact on demand."

(Source adapted from: https://www.ft.com/)

(c) Which **one** of the following is most likely to be a determinant of price elasticity of demand for the Model 3 electric vehicle?

(1)

- ☒ **A** Availability of substitute electric vehicles
- ☒ **B** Change in population size
- ☒ **C** Increase in the cost of steel
- ☒ **D** Number of unsold Model 3 electric vehicles

(Total for Question 5 = 4 marks)

TOTAL FOR SECTION A = 20 MARKS

(Total for Question 5(c) = 1 mark)

2 (a) In 2021, a bakery sold 2.5 million sausage rolls per week at the price of £1.00 each. In 2022 the price increased to £1.20. The price elasticity of demand was estimated to be –0.2.

Calculate the new quantity of sausage rolls sold per week in 2022 after the price increased, ceteris paribus.

(3)

(b) Which **one** of the following is the most appropriate description of the price elasticity of demand of –0.2?

(1)

- ☒ **A** Perfectly inelastic
- ☒ **B** Relatively elastic
- ☒ **C** Relatively inelastic
- ☒ **D** Unitary elastic

(Total for Question 2 = 4 marks)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 30 minutes on this section.

Use the data to support your answers where relevant. You may annotate and include diagrams in your answers.

1 The table shows market data for e-cigarette kits. The original equilibrium price is £23.

Price £	Quantity demanded per month (000)	Quantity supplied per month (000)	New quantity demanded per month (000)	New quantity supplied per month (000)
25	5	9		
24	6	8		
23	7	7		
22	8	6		
21	9	5		

As a result of a successful advertising campaign, demand increased by 3 000 e-cigarette kits at all prices. At the same time production costs fell leading to an increase in supply of 1000 e-cigarette kits at all prices.

(a) Calculate the new equilibrium price and quantity following the successful advertising campaign and the fall in production costs. Use the last two columns for your working.

(4)

(b) Research conducted in New Zealand in 2014 estimated the cross elasticity of demand for e-cigarettes to be 0.16 in response to changes in the price of tobacco. This implies that a 5% increase in the price of tobacco will cause the percentage change in demand for e-cigarettes to be:

(1)

- ☒ **A** -31.25
- ☒ **B** -0.16
- ☒ **C** 0.8
- ☒ **D** 31.25

(Total for Question 1 = 5 marks)

2 Between 2010 and 2015 the average price of tea in the UK increased from £7.20 per kilo to £8.48 per kilo. Over the same period the quantity of tea purchased fell from 97 million kilos to 76 million kilos.

(Source: http://www.theguardian.com/lifeandstyle/shortcuts/2015/aug/05/brew-do-you-think-you-are-why-tea-needs-to-copy-coffee-in-order-to-survive)

(c) Estimates for the demand for black tea in the UK suggest that it is an inferior good. This implies it has a negative:

(1)

- ☒ **A** cross elasticity of demand
- ☒ **B** income elasticity of demand
- ☒ **C** price elasticity of demand
- ☒ **D** price elasticity of supply

(Total for Question 2(c) = 1 mark)

2 The number of individual weekly ticket sales from UK National Lottery games operated by Camelot was 73 million in the financial year 2015–2016.

The sale price of each lottery ticket was £2. This figure included 24 pence of tax revenue on each ticket sold.

In 2016 a coastal flood defence scheme was completed at Broomhill Sands in Kent, protecting people, homes and businesses. A £30 million grant from the National Lottery paid for the scheme.

(Source: https://www.gov.uk/government/news/30-million-project-set-to-reduce-flood-risk-in-kent)

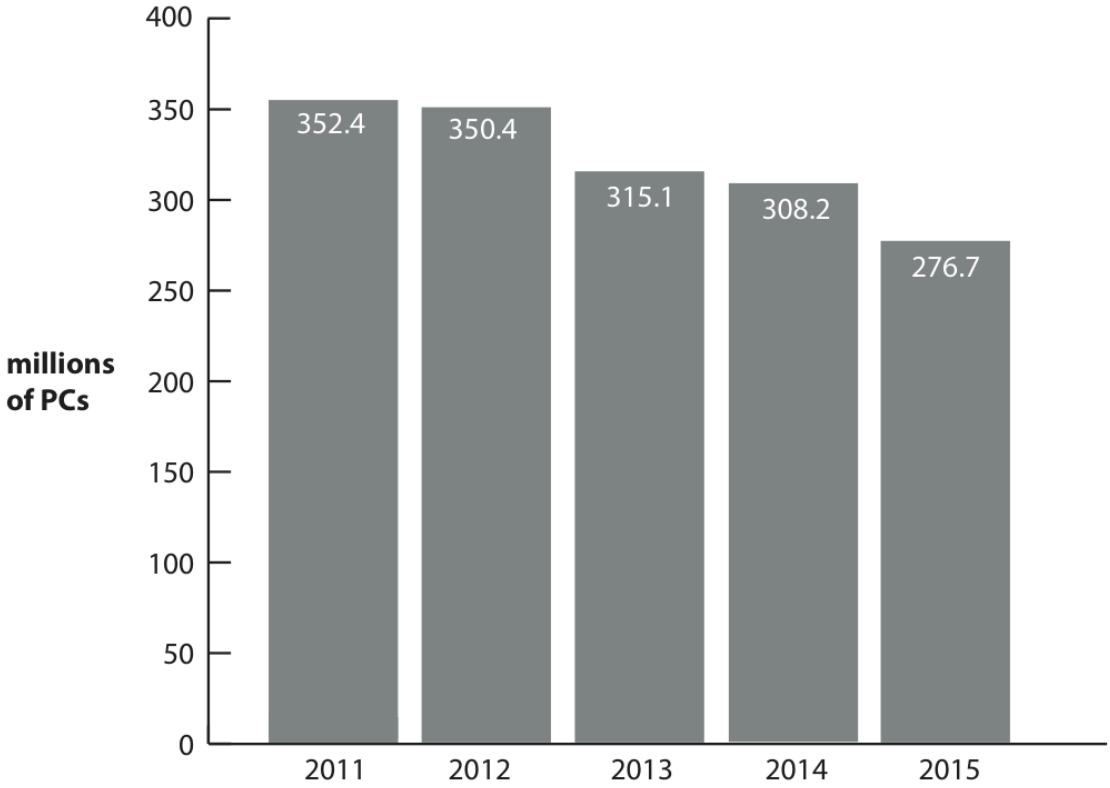
(c) The most likely reason for this grant is to ensure the:

(1)

- ☒ **A** exclusivity of Broomhill Sands
- ☒ **B** provision of a private good
- ☒ **C** provision of a public good
- ☒ **D** rivalry of Broomhill Sands

(Total for Question 2(c) = 1 mark)

5 The following graph shows the global sales of personal computers (PCs) between 2011 and 2015.



(Source: adapted from IDC and reported in *The Times*, 14th January 2016)

(a) The percentage decrease in sales of PCs between 2011 and 2015 is:

(1)

- ☒ **A** 21.5
- ☒ **B** 27.3
- ☒ **C** 31.5
- ☒ **D** 75.7

(Total for Question 5(a) = 1 mark)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 30 minutes on this section.

Use the data to support your answers where relevant. You may annotate and include diagrams in your answers.

1 Between 2016 and 2017 the average price of new build houses in the UK rose by an estimated 5.4%.

Year	Quantity of UK new house builds
2016	134 612
2017	162 880

(Source: http://www.telegraph.co.uk/business/2017/05/25/number-new-homes-built-hits-highest-level-since-financial-crisis/)

(b) A 2.5% increase in new build house prices in one region of the UK causes a 10% increase in the number of houses built. Ceteris paribus, this suggests that supply of new house builds is:

(1)

☒ **A** perfectly price elastic

☒ **B** perfectly price inelastic

☒ **C** relatively price elastic

☒ **D** relatively price inelastic

(Total for Question 1(b) = 1 mark)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 30 minutes on this section.

Use the data to support your answers where relevant. You may annotate and include diagrams in your answers.

1 Disney+ is a streaming service that distributes films and television series produced by the Walt Disney Studios.

	Disney+ subscribers (million)
November 2019	10
December 2019	26.5
February 2020	28.6
April 2020	50

(Source adapted from: https://www.businessofapps.com/data/disney-plus-statistics/)

(a) *Ceteris paribus*, the most likely consequence of the above data is that Disney+ will experience an increase in its:

(1)

☒ **A** fixed costs

☒ **B** income elasticity of demand

☒ **C** price elasticity of demand

☒ **D** revenue

(Total for Question 1(a) = 1 mark)

2 The table below shows data on the drinks market in Chile in 2017.

Price elasticity of demand for sweetened drinks	−1.37
Cross price elasticity of demand for bottled water in response to a price change in sweetened drinks	+0.63

(Source: adapted from https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-017-4098-x)

(c) Using the data on page 4, which **one** of the following is most likely?

(1)

		A decrease in the price of sweetened drinks will have the following effect on revenue:	Sweetened drinks and bottled water are:
☒	**A**	Decrease	Complements
☒	**B**	Decrease	Substitutes
☒	**C**	Increase	Complements
☒	**D**	Increase	Substitutes

(Total for Question 2(c) = 1 mark)

3 A luxury brownie baker is faced with falling demand as incomes fall.

(a) The likely income elasticity of demand for a luxury good is:

(1)

- ☒ **A** −3.40
- ☒ **B** −0.74
- ☒ **C** +0.74
- ☒ **D** +3.40

(Total for Question 3(a) = 1 mark)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 30 minutes on this section.

Use the data to support your answers where relevant.
You may annotate and include diagrams in your answers.

1 The table below shows price elasticity of demand for bus tickets in London 2021

Age	Price elasticity of demand
18+ Student	–0.7
Adult	–0.4

(Source adapted from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/669090/youth-travel-concessions-price-elasticity.pdf and https://tfl.gov.uk/fares/find-fares/bus-and-tram-fares#on-this-page-4)

(b) In 2021, the adult 7-day bus ticket was £21.90. Bus ticket prices in London in 2022 increased by 4.8%. Ceteris paribus, which **one** of the following is the percentage decrease in the 7-day bus ticket demand by adults?

(1)

☒ **A** 0.08

☒ **B** 1.92

☒ **C** 3.36

☒ **D** 12.00

(Total for Question 1(b) = 1 mark)

2 In 2022 the UK government provided 130 new licences for North Sea oil and gas exploration, in order to reduce energy prices. However, companies can take 20 years to begin to extract oil. Furthermore, they often have to continue producing oil even when prices fall because the equipment has no other uses.

(Source: adapted from https://www.theguardian.com/environment/2022/dec/12/uk-ministers-face-legal-challenge-over-north-sea-oil-and-gas-licences)

(b) The cross elasticity of demand for petrol cars with respect to the price of diesel cars is estimated to be +0.64.

Which **one** of the following is the most likely impact if the price of diesel cars falls by 10%?

(1)

- ☒ **A** The price of petrol cars falls by 6.4%
- ☒ **B** The price of petrol cars rises by 64%
- ☒ **C** The quantity demanded of petrol cars falls by 6.4%
- ☒ **D** The quantity demanded of petrol cars rises by 64%

(Total for Question 2(b) = 1 mark)

2 In February 2016 the Daily Mail newspaper increased its price from 60p to 65p. By August 2016 its sales had fallen by 5.41%.

(a) Ceteris paribus, calculate the price elasticity of demand for the Daily Mail newspaper over this period. You are advised to show your working.

(2)

(Total for Question 2(a) = 2 marks)

5 Chief Executive Elon Musk said "affordability" was the biggest barrier to Tesla reaching a far larger market. Before recent price cuts for its electric vehicles, he said, "We weren't sure about what the price elasticity of demand was for Tesla. We found that even small changes in price have a big impact on demand."

(Source adapted from: https://www.ft.com/)

(a) In June 2023, Tesla further reduced the price of its Model 3 vehicle by £4 200 from £42 990. It has been forecast that the price cut will lead to a 15% increase in demand. *Ceteris paribus*, calculate the price elasticity of demand for the Model 3. You are advised to show your working.

(2)

(Total for Question 5(a) = 2 marks)

2 The number of individual weekly ticket sales from UK National Lottery games operated by Camelot was 73 million in the financial year 2015–2016.

The sale price of each lottery ticket was £2. This figure included 24 pence of tax revenue on each ticket sold.

Research conducted for HMRC estimated the cross elasticity of demand for using gaming machines to be 1.28 in response to changes in the price of national lottery tickets.

(Source: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/322845/report313.pdf)

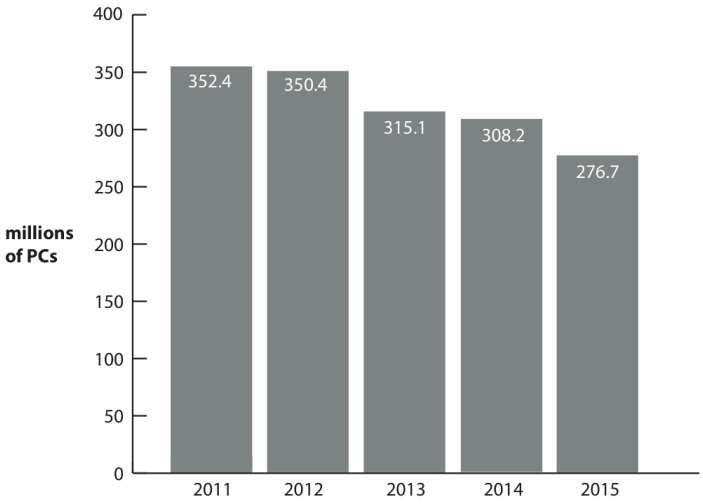
In October 2013 Camelot increased the price of a national lottery ticket from £1 to £2.

(b) Explain the likely impact of the price increase of national lottery tickets on the demand for using gaming machines.

(2)

(Total for Question 2(b) = 2 marks)

5 The following graph shows the global sales of personal computers (PCs) between 2011 and 2015.



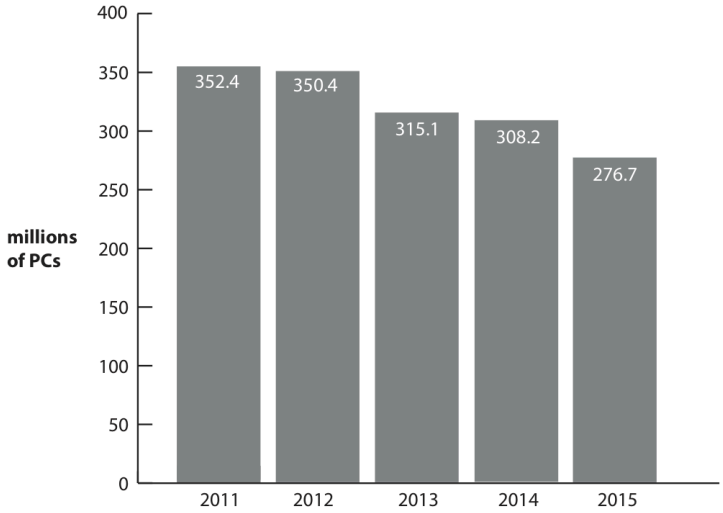
(Source: adapted from IDC and reported in *The Times*, 14th January 2016)

(b) Explain **one** likely reason for the decrease in sales of PCs.

(2)

(Total for Question 5(b) = 2 marks)

5 The following graph shows the global sales of personal computers (PCs) between 2011 and 2015.



(Source: adapted from IDC and reported in *The Times*, 14th January 2016)

The following table shows global sales of PCs by company in 2015.

Company	Sales of PCs (million)
Lenovo	57 182
HP	53 534
Dell	39 049
Apple	20 794
Acer Group	19 680
Others	86 461
Total	**276 700**

(Source: IDC, reported in *The Times*, 14th January 2016)

(c) Calculate the five-firm concentration ratio. You are advised to show your working.

(2)

(Total for Question 5(c) = 2 marks)

2 The table below shows data on the drinks market in Chile in 2017.

Price elasticity of demand for sweetened drinks	−1.37
Cross price elasticity of demand for bottled water in response to a price change in sweetened drinks	+0.63

(Source: adapted from https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-017-4098-x)

(a) The price of sweetened drinks increases by 5%. *Ceteris paribus*, calculate the percentage change in the quantity demanded for sweetened drinks. You are advised to show your working.

(2)

(Total for Question 2(a) = 2 marks)

2 The table below shows data on the drinks market in Chile in 2017.

Price elasticity of demand for sweetened drinks	−1.37
Cross price elasticity of demand for bottled water in response to a price change in sweetened drinks	+0.63

(Source: adapted from https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-017-4098-x)

(b) The price of sweetened drinks increases by 5%. *Ceteris paribus*, calculate the percentage change in the quantity demanded for bottled water. You are advised to show your working.

(2)

(Total for Question 2(b) = 2 marks)

5 "Since peaking at 132p a litre in July 2014, petrol prices have fallen by 20%".

(Source: adapted from UK petrol prices cut again, L Elliott, The Guardian 12-1-15
http://www.theguardian.com/business/2015/jan/12/oil-slump-uk-petrol-prices-fall)

(b) The price elasticity of demand for petrol is –0.2. Explain the change to the total revenue of petrol stations as a result of cutting their prices.

(3)

(Total for Question 5(b) = 3 marks)

4 Between 2013 and 2015, median household income in the UK increased from £24 200 to £25 700. Over the same period the demand for bus travel fell by 3%.

(b) Using the data provided, explain whether bus travel is a normal good or an inferior good.

(3)

(Total for Question 4(b) = 3 marks)

3 Amazon Prime, Netflix and NowTV all charge £7.99 per month for streaming very similar film and television services.

(b) Calculate the new total revenue if prices were raised by 3% in 2017 to £7.63, if everything else remained unchanged. You are advised to show your working.

(3)

(Total for Question 3(b) = 3 marks)

5

	2015	2017
Average weekly pocket money for children aged under 10 years	£7	£8.75

In the UK, Freddo is a popular chocolate snack bought by children who are under 10 years old. Freddo's income elasticity of demand is estimated to be –0.1.

(b) Explain **one** reason why the income elasticity of demand is significant to the producer of Freddos.

(3)

(Total for Question 5(b) = 3 marks)

2 (a) The income elasticity of demand for bus travel is estimated to be –1.5.
This implies that:

(1)

- ☒ **A** a 10% increase in fares will lead to a 15% decrease in passengers
- ☒ **B** as unemployment falls, more people will use buses
- ☒ **C** bus travel has a negative cross elasticity of demand compared to rail travel
- ☒ **D** bus travel is an inferior good

(b) Explain why a firm might try to reduce the price elasticity of demand for its products.

(3)

(Total for Question 2 = 4 marks)

2 (a) In 2021, a bakery sold 2.5 million sausage rolls per week at the price of £1.00 each. In 2022 the price increased to £1.20. The price elasticity of demand was estimated to be –0.2.

Calculate the new quantity of sausage rolls sold per week in 2022 after the price increased, ceteris paribus.

(3)

(Total for Question 2(a) = 3 marks)

5 "Since peaking at 132p a litre in July 2014, petrol prices have fallen by 20%".

(Source: adapted from UK petrol prices cut again, L Elliott, The Guardian 12-1-15 http://www.theguardian.com/business/2015/jan/12/oil-slump-uk-petrol-prices-fall)

(a) What is the expected percentage change in the quantity of petrol demanded if the price elasticity of demand is –0.2?

(1)

- ☒ **A** –0.4%
- ☒ **B** +0.4%
- ☒ **C** –4%
- ☒ **D** +4%

(b) The price elasticity of demand for petrol is –0.2. Explain the change to the total revenue of petrol stations as a result of cutting their prices.

(3)

(Total for Question 5 = 4 marks)

TOTAL FOR SECTION A = 20 MARKS

SECTION B

Read Figure 1 and the following extracts (A and B) before answering Question 6.

Answer ALL Question 6 (a) to 6 (e), and EITHER Question 6 (f) OR Question 6 (g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

The market for cigarettes

Figure 1: Price elasticity of demand - a comparison between tobacco and e-cigarettes

Price of packet of 20 tobacco cigarettes £7.70–£9.50	Price of e-cigarette kit £9.99–£19.99
Average price per tobacco cigarette 48p	Single cigarette equivalent price of an e-cigarette 7p
Price elasticity of demand for tobacco cigarettes –0.35	Price elasticity of demand for e-cigarettes –1.9

(Source: adapted from https://www.blucigs.co.uk/united-kingdom/kits/all-kits)

Extract A

Government intervention on tobacco

There was a time when smoking was fashionable. Television and magazine advertisements glorified smoking. Everyone from your dad to your doctor smoked in all places – cars, restaurants and even hospitals.

Tobacco is still the single biggest cause of cancer in the world and the leading cause of preventable deaths. Nearly 80% of the 1 billion smokers worldwide live in low- and middle-income countries.

Bans on tobacco advertising, promotion and sponsorship can reduce tobacco consumption. Comprehensive smoking bans covering indoor workplaces, public places and public transport have been introduced in 48 countries.

Tobacco taxes are the most cost-effective way to reduce tobacco use, especially among the young and people in low-income groups. A tax increase that raises tobacco prices by 10% decreases tobacco consumption by 4% in high-income countries and 5% in low- and middle-income countries.

However, some 8 million people are expected to die each year by 2030 – because they have smoked tobacco or have been exposed to passive smoking. The use of alternative products such as electronic cigarettes (e-cigarettes) are gaining in popularity but information about their effects is uncertain. Little research has yet been done about the long-term health effects of e-cigarettes and the nicotine dispensed by e-cigarettes is highly addictive. The illegal tobacco market still counts for 1 in every 10 cigarettes consumed globally. In addition, tobacco companies still spend tens of billions of dollars each year on advertising and promoting tobacco products and sponsoring events. They continuously challenge the regulatory measures governments are taking.

(Source: adapted from http://www.who.int/topics/tobacco/en/ and http://www.who.int/mediacentre/commentaries/reducing-tobacco-use/en/)

Extract B

Free market approach

Are free markets incompatible with good health? If the solution to every problem involves banning advertising, raising prices and restricting availability, you might easily conclude that the free market is the disease and government regulation is the cure. From this perspective, the providers of food, alcohol and tobacco are determined to push the most unhealthy products on the public at the lowest prices.

Contrary to this viewpoint, the profit motive is not unhealthy. Businesses have an obvious incentive to keep their customers alive and customers have a strong incentive to seek out healthier options. Any company that can make a scientifically sound health claim gains a competitive advantage over its rivals. Health sells. In contrast, government regulation can lead to negative health outcomes. Markets can correct themselves long before government failures are even acknowledged. Over a million Britons, almost all of whom are smokers or ex-smokers, use e-cigarettes, as a less hazardous product than cigarettes and yet e-cigarettes face increased regulations and in many countries they are banned.

It is neither consistent nor ethical to prevent smokers from switching to much safer alternatives. Efforts to regulate e-cigarettes are a far greater threat to public health than the products themselves.

We argue that the interests of consumers are nearly always better advanced by the provision of accurate information and free choice than by prohibitions and regulations. The government policy of small but steady tax rises on tobacco and ever-larger warning labels is becoming less effective and leads to unintended consequences.

(Source: adapted from http://www.iea.org.uk/blog/free-market-solutions-in-health-should-be-allowed-to-flourish, Christopher Snowdon, 11th July 2013)

(d) With reference to Extract A, lines 11–13, calculate the price elasticity of demand for tobacco cigarettes in high-income countries and in low-middle-income countries. You are advised to show your working.

(4)

High-income countries

Low-middle-income countries

2 In February 2016 the Daily Mail newspaper increased its price from 60p to 65p. By August 2016 its sales had fallen by 5.41%.

(a) Ceteris paribus, calculate the price elasticity of demand for the Daily Mail newspaper over this period. You are advised to show your working.

(2)

(b) Which **one** of the following is most likely to be a determinant of price elasticity of demand for the Daily Mail newspaper?

(1)

- ☒ **A** Availability of rival newspapers
- ☒ **B** Change in population size
- ☒ **C** Decrease in the cost of producing the Daily Mail newspaper
- ☒ **D** Expected rise in the price of the Daily Mail newspaper

(c) Define the term 'ceteris paribus'.

(1)

.....

.....

.....

.....

.....

(Total for Question 2 = 4 marks)

4 Between 2013 and 2015, median household income in the UK increased from £24 200 to £25 700. Over the same period the demand for bus travel fell by 3%.

(a) Which **one** of the following is the most accurate explanation of the term 'median household income'?

(1)

- ☒ **A** The difference between the highest level of household income and the lowest level of household income
- ☒ **B** The middle household income after placing all household incomes in numerical order
- ☒ **C** The most frequently occurring level of household income
- ☒ **D** Total household income divided by the number of households

(b) Using the data provided, explain whether bus travel is a normal good or an inferior good.

(3)

(Total for Question 4 = 4 marks)

3 Amazon Prime, Netflix and NowTV all charge £7.99 per month for streaming very similar film and television services.

(a) The most likely cross price elasticity of demand for close substitutes is:

(1)

- ☒ **A** – 2.1
- ☒ **B** – 0.1
- ☒ **C** + 0.1
- ☒ **D** + 2.1

In 2016 the average cinema ticket price in the UK was £7.41, and there were 19.1 million tickets sales. The price elasticity of demand was estimated to be –0.5.

(b) Calculate the new total revenue if prices were raised by 3% in 2017 to £7.63, if everything else remained unchanged. You are advised to show your working.

(3)

(Total for Question 3 = 4 marks)

5

	2015	2017
Average weekly pocket money for children aged under 10 years	£7	£8.75

In the UK, Freddo is a popular chocolate snack bought by children who are under 10 years old. Freddo's income elasticity of demand is estimated to be –0.1.

(a) Calculate the percentage change in quantity demanded for Freddos between 2015 and 2017, ceteris paribus:

(1)

- ☒ **A** –0.8%
- ☒ **B** –2%
- ☒ **C** –2.5%
- ☒ **D** –25%

(b) Explain **one** reason why the income elasticity of demand is significant to the producer of Freddos.

(3)

(Total for Question 5 = 4 marks)

TOTAL FOR SECTION A = 20 MARKS

2 (a) The income elasticity of demand for bus travel is estimated to be –1.5.
This implies that:

(1)

- ☒ **A** a 10% increase in fares will lead to a 15% decrease in passengers
- ☒ **B** as unemployment falls, more people will use buses
- ☒ **C** bus travel has a negative cross elasticity of demand compared to rail travel
- ☒ **D** bus travel is an inferior good

(b) Explain why a firm might try to reduce the price elasticity of demand for its products.

(3)

(Total for Question 2 = 4 marks)

SECTION B

Read Extracts A and B and Figure 1 before answering Question 6.

Answer ALL Questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

The market for fish

Extract A

Total allowable catches of North Sea cod halved in response to falling stocks

In 2020, new lower limits on the quantity of cod that can be caught by the UK fishing fleet came into force. These limits on the fish catch, called total allowable catches (TACs), were agreed at the annual EU fisheries negotiations.

It was the last December EU meeting attended by the UK before it left the EU. It was agreed that cod catch limits will be cut by 50% in the North Sea, while reduced limits were agreed for cod in the Celtic Sea, Irish Sea and west of Scotland.

However, there were increases for other types of fish, with TACs for haddock in the North Sea rising by 23% and for sole rising by 19%.

UK Fisheries Minister George Eustice said: "This year there has been mounting scientific evidence suggesting that cod is being overfished in many parts of the northeast Atlantic and we have responded to conserve stocks".

These new regulations applied to the UK while it remained part of the Common Fisheries Policy. In the future it will become an independent coastal state and negotiate on fisheries with the EU and other coastal states such as Norway.

(Source adapted from: https://www.independent.co.uk/news/business/news/north-sea-cod-stocks-quota-climate-change-brexit-a9252196.html)

Figure 1

Atlantic over-fishing: share of total allowable catch (TAC) in excess of scientific advice (2019)

Country	**Excess TAC** (%)	**Excess TAC** (tonnes)
Sweden	52.4	17 369
United Kingdom	24.3	106 925
Ireland	21.7	34 052
Denmark	19.7	49 914
Germany	18.0	20 620
The Netherlands	13.5	31 910
Belgium	10.4	3 009
France	9.4	27 230
Spain	6.6	16 689
Portugal	3.8	3 662

(Source adapted from: Statista 2018)

Extract B

The tragedy of the commons

The 'tragedy of the commons' may occur when there are common access resources (CARs). These are natural resources over which no private ownership has been established. Therefore, there are difficulties in excluding people from using or exploiting them. CARs include fisheries and common grazing lands. Oceans are so vast that it is impractical for one fishing company to establish ownership and control. This means that others cannot be prevented from exploiting the ocean. Economists have suggested that with the lack of ownership of these resources, private producers will act in their own self-interest and exploit CARs to maximise profit. This exploitation is unsustainable. In other words, CARs provide an opportunity for individuals to create profit, while creating negative externalities which impact on everybody else. This process is referred to as the 'tragedy of the commons'.

The 'tragedy of the commons' is at the core of a range of problems that are relevant and threatening to natural resources, environments and human health. In the case of overfishing, fishing companies are not made accountable for the state of the ocean. They continue to fish as much as possible to maximise profit. Today, 90% of fish stocks are depleted.

The reason for such a wide range of problems is because there is an environmental cost for everything. The 'tragedy of the commons' is the outcome of the fact that every resource is limited on this planet, coupled with the rising level of demand for these resources. These issues are large-scale and require laws, regulation and international cooperation.

(Source adapted from: http://felixonline.co.uk/articles/2019-12-09-tragedy-commons-drama-planet-not-enjoying/)

Fish and chips are complementary goods with an estimated cross elasticity of demand of –8. Currently 950 000 bags of chips are sold in UK fish and chip shops each day.

(d) With reference to the information provided, calculate the new quantity demanded of bags of chips from fish and chip shops, following a 2% increase in the price of fish. You are advised to show your working.

(4)

SECTION B

Read Figures 1 and 2 and the following extracts (A to C) before answering Question 6.

Answer ALL Questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

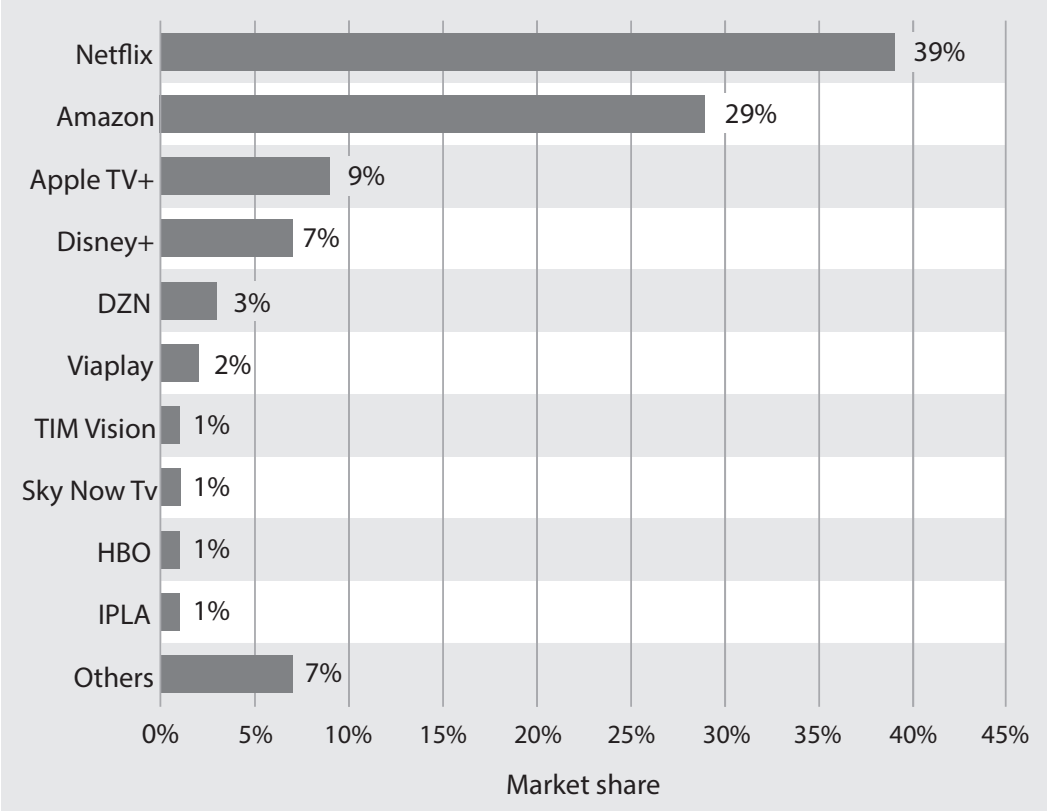
The market for television content

Figure 1: Elasticities of demand for streamed television services, UK, 2021

Price elasticity of demand	–0.6
Income elasticity of demand	1.6

(Source: adapted from https://www.consultancy.uk/news/24986/covid-19-presents-netflix-with-chance-to-hike-prices)

Figure 2: Market shares of streamed content providers, Europe, 2021



(Source: adapted from Statista 2021)

Extract A

The growth of streamed television content

Netflix currently has 13 million UK subscribers, who typically pay £9.99 a month to the US based private sector firm. At this price, up to two users can view the television content at the same time. The demand for individual firms' streamed television content boomed when people were forced to stay at home and has only begun to slow recently as more firms enter the market e.g. Amazon Prime Video.

The launch of Disney+ at the end of 2019, including original content such as the £74 million *Star Wars* TV spin-off *The Mandalorian*, resulted in the service adding more UK subscribers in a year in 2020 than any other streaming platform has ever managed.

However, the costs of providing streaming television content have risen. Consumers now expect original content, for example *Stranger Things* which costs around £10 million an episode to make. Furthermore, advertising in a saturated market is expensive.

In 2021, Netflix put up the price of its most-popular package by £1 a month to £9.99. Fortunately for Netflix, its subscriber demand has proven price inelastic. Just 3% of customers in a survey said they would definitely cancel their subscription after Netflix's latest price rise.

(Source: adapted from 'As UK hits peak, Netflix the streaming giant will have to work harder', The Guardian, Monday 3 January 2022)

Extract B

Is television content a public good?

Public service broadcasting in the UK is made up of a number of parts. First, there are the main UK-wide public service broadcasters (PSBs). There is the publicly funded BBC, and the publicly owned Channel 4 which is funded through advertisements.

The BBC was established in 1922 by a Royal Charter. It is mainly funded through the TV licence fee, which costs £159 a year and is a compulsory charge for those who watch live TV on any device. Live TV and catch-up services are free to view and do not restrict household usage. Without the licence fee very few people would pay due to the free rider problem.

The BBC's Charter sets out its five public purposes:

- To provide impartial news and information
- To support learning for people of all ages
- To show the most creative, highest quality and distinctive televised content
- To provide content for minority groups which would not be profitable for a private firm
- To reflect the UK, its culture and values to the world.

(Source: adapted from https://publications.parliament.uk/pa/cm5801/cmselect/cmcumeds/156/15604, and 'BBC licence fee to be abolished in 2027 and funding frozen', The Guardian, Sunday 16 January 2022)

Extract C

The environmental impact of streaming television content

The carbon footprint produced by watching a month of Netflix programmes is equivalent to driving a car to Saturn. Every activity in the chain required to stream video, from the use of huge datacentres and transmission over Wi-Fi and broadband to watching the content on a device, requires electricity. The majority of this is generated by emitting CO^2. Modern flatscreen televisions use significant amounts of energy.

There's very little a government can do about this in a free market dominated by US firms. The focus of any government intervention could be to encourage alternative forms of entertainment and recreation, support the development of more energy efficient devices, to improve information on the environmental effects or to use regulation to limit viewing hours.

(Source: adapted from 'Streaming's dirty secret: how viewing Netflix top 10 creates vast quantity of CO2', The Guardian, Friday 29 October 2021)

(d) Using examples from the information provided, explain what is meant by both 'substitutes' and 'complementary goods'.

(4)

5 Chief Executive Elon Musk said "affordability" was the biggest barrier to Tesla reaching a far larger market. Before recent price cuts for its electric vehicles, he said, "We weren't sure about what the price elasticity of demand was for Tesla. We found that even small changes in price have a big impact on demand."

(Source adapted from: https://www.ft.com/)

(a) In June 2023, Tesla further reduced the price of its Model 3 vehicle by £4 200 from £42 990. It has been forecast that the price cut will lead to a 15% increase in demand. *Ceteris paribus*, calculate the price elasticity of demand for the Model 3. You are advised to show your working.

(2)

(b) Define the term '*ceteris paribus*'.

(1)

(c) Which **one** of the following is most likely to be a determinant of price elasticity of demand for the Model 3 electric vehicle?

(1)

- ☒ **A** Availability of substitute electric vehicles
- ☒ **B** Change in population size
- ☒ **C** Increase in the cost of steel
- ☒ **D** Number of unsold Model 3 electric vehicles

(Total for Question 5 = 4 marks)

TOTAL FOR SECTION A = 20 MARKS

SECTION B

Read Figure 1 and the following extracts (A, B and C) before answering Question 6.

Answer ALL Questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour 5 minutes on this section.

Question 6

The market for plastic in the UK

Figure 1: Trend in the purchase of single-use plastic bags in millions, UK, 2014 to 2021

2014	2015	2016	2017	2018	2019	2020	2021
7 500	2 120	1 750	1 130	1 040	627	496	197

Extract A

10p charge continues to reduce use of plastic carrier bags

The 5p charge on single-use carrier bags was introduced in supermarkets in 2015. The charge was increased to 10p in 2021 and extended to all businesses.

The UK Environment Minister said that the plastic bag charge has ended the irrational purchase of billions of single-use carrier bags, thereby protecting our landscapes and ensuring millions of pounds are redistributed to worthy causes. This was needed as without this legislation, the market is not able to effectively manage the situation. Consumers are now in the habit of bringing reusable carrier bags when shopping.

In addition to single-use carrier bag charges, major retailers have offered bottle deposit return schemes and refillable food and cleaning product options. These provide incentives to consumers to reuse their plastic containers.

However, retailers have suggested that most customers do not wish to pay more for cleaning products in reusable packaging. With the average household income falling by 4.3% in 2023, sales of refillable cleaning products are expected to fall from 200 000 to 130 000 this year.

(Source adapted from: https://www.circularonline.co.uk/news/)

Extract B

Plastic packaging tax

Food manufacturers have criticised the implementation of a new UK environmental tax, warning it will force them to increase prices for consumers.

The 2018 tax was designed to provide incentives to businesses to use recycled plastic in packaging. Businesses manufacturing or importing 10 tonnes or more a year of plastic packaging that contains less than 30% recycled plastic are taxed at £200 a tonne. Plastic packaging containing more than this will be exempt from the tax.

Helene Roberts, Chief Executive of Robinson Packaging, said increased prices for the consumer would be an unintended consequence of the tax. "It will just create inflationary pressures within the supply chain and firms may need to pass this on." A wide range of businesses are affected by the new tax, including retailers importing items such as bin liners, drink bottles and carrier bags. Food manufacturers are particularly impacted as the industry uses 40% of packaging in the UK.

(Source adapted from: https://www.ft.com)

Extract C

Single-use cups

An estimated 2.5 billion single-use cups are used in the UK every year by consumers buying coffee from chains and cafes, creating approximately 25 000 tonnes of waste. Research has found that while a 25p charge on single-use cups increases the use of reusable coffee cups in coffee shops, a discount on reusable coffee cups has no impact at all on their use.

A 25p charge on single-use cups increases the use of reusable coffee cups by 3.4%. Environmental messaging in cafes, for example posters about litter, increases the use of reusable coffee cups by 2.3%. The availability of reusable cups leads to an increase of 2.5% whereas the distribution of free reusable cups leads to a further increase of 4.3%.

"While the increases for individual measures were modest, the greatest behavioural change was when the measures were combined," said Wouter Poortinga of Cardiff University.

(Source adapted from: https://www.theguardian.com/environment/2017/mar/30/)

(c) With reference to Extract A, explain the likely numerical value for the income elasticity of demand for reusable cleaning products.

(4)

2 (a) In 2021, a bakery sold 2.5 million sausage rolls per week at the price of £1.00 each. In 2022 the price increased to £1.20. The price elasticity of demand was estimated to be –0.2.

Calculate the new quantity of sausage rolls sold per week in 2022 after the price increased, ceteris paribus.

(3)

(b) Which **one** of the following is the most appropriate description of the price elasticity of demand of –0.2?

(1)

- ☒ **A** Perfectly inelastic
- ☒ **B** Relatively elastic
- ☒ **C** Relatively inelastic
- ☒ **D** Unitary elastic

(Total for Question 2 = 4 marks)

2 Between 2010 and 2015 the average price of tea in the UK increased from £7.20 per kilo to £8.48 per kilo. Over the same period the quantity of tea purchased fell from 97 million kilos to 76 million kilos.

(Source: http://www.theguardian.com/lifeandstyle/shortcuts/2015/aug/05/brew-do-you-think-you-are-why-tea-needs-to-copy-coffee-in-order-to-survive)

(a) Assume that the change in the quantity of tea purchased was only caused by the change in the price of tea. Calculate the price elasticity of demand for tea in response to the rise in its price. You are advised to show your working.

(2)

(b) Calculate the change in total sales revenue for UK tea retailers between 2010 and 2015. You are advised to show your working.

(2)

(c) Estimates for the demand for black tea in the UK suggest that it is an inferior good. This implies it has a negative:

(1)

- ☒ **A** cross elasticity of demand
- ☒ **B** income elasticity of demand
- ☒ **C** price elasticity of demand
- ☒ **D** price elasticity of supply

(Total for Question 2 = 5 marks)

SECTION B

Read Figure 1 and the following extracts (A and B) before answering Question 6.

Answer ALL Question 6 (a) to 6 (e), and EITHER Question 6 (f) OR Question 6 (g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

The market for cigarettes

Figure 1: Price elasticity of demand - a comparison between tobacco and e-cigarettes

Price of packet of 20 tobacco cigarettes £7.70–£9.50	Price of e-cigarette kit £9.99–£19.99
Average price per tobacco cigarette 48p	Single cigarette equivalent price of an e-cigarette 7p
Price elasticity of demand for tobacco cigarettes –0.35	Price elasticity of demand for e-cigarettes –1.9

(Source: adapted from https://www.blucigs.co.uk/united-kingdom/kits/all-kits)

Extract A

Government intervention on tobacco

There was a time when smoking was fashionable. Television and magazine advertisements glorified smoking. Everyone from your dad to your doctor smoked in all places – cars, restaurants and even hospitals.

Tobacco is still the single biggest cause of cancer in the world and the leading cause of preventable deaths. Nearly 80% of the 1 billion smokers worldwide live in low- and middle-income countries.

Bans on tobacco advertising, promotion and sponsorship can reduce tobacco consumption. Comprehensive smoking bans covering indoor workplaces, public places and public transport have been introduced in 48 countries.

Tobacco taxes are the most cost-effective way to reduce tobacco use, especially among the young and people in low-income groups. A tax increase that raises tobacco prices by 10% decreases tobacco consumption by 4% in high-income countries and 5% in low- and middle-income countries.

However, some 8 million people are expected to die each year by 2030 – because they have smoked tobacco or have been exposed to passive smoking. The use of alternative products such as electronic cigarettes (e-cigarettes) are gaining in popularity but information about their effects is uncertain. Little research has yet been done about the long-term health effects of e-cigarettes and the nicotine dispensed by e-cigarettes is highly addictive. The illegal tobacco market still counts for 1 in every 10 cigarettes consumed globally. In addition, tobacco companies still spend tens of billions of dollars each year on advertising and promoting tobacco products and sponsoring events. They continuously challenge the regulatory measures governments are taking.

(Source: adapted from http://www.who.int/topics/tobacco/en/ and http://www.who.int/mediacentre/commentaries/reducing-tobacco-use/en/)

Extract B

Free market approach

Are free markets incompatible with good health? If the solution to every problem involves banning advertising, raising prices and restricting availability, you might easily conclude that the free market is the disease and government regulation is the cure. From this perspective, the providers of food, alcohol and tobacco are determined to push the most unhealthy products on the public at the lowest prices.

Contrary to this viewpoint, the profit motive is not unhealthy. Businesses have an obvious incentive to keep their customers alive and customers have a strong incentive to seek out healthier options. Any company that can make a scientifically sound health claim gains a competitive advantage over its rivals. Health sells. In contrast, government regulation can lead to negative health outcomes. Markets can correct themselves long before government failures are even acknowledged. Over a million Britons, almost all of whom are smokers or ex-smokers, use e-cigarettes, as a less hazardous product than cigarettes and yet e-cigarettes face increased regulations and in many countries they are banned.

It is neither consistent nor ethical to prevent smokers from switching to much safer alternatives. Efforts to regulate e-cigarettes are a far greater threat to public health than the products themselves.

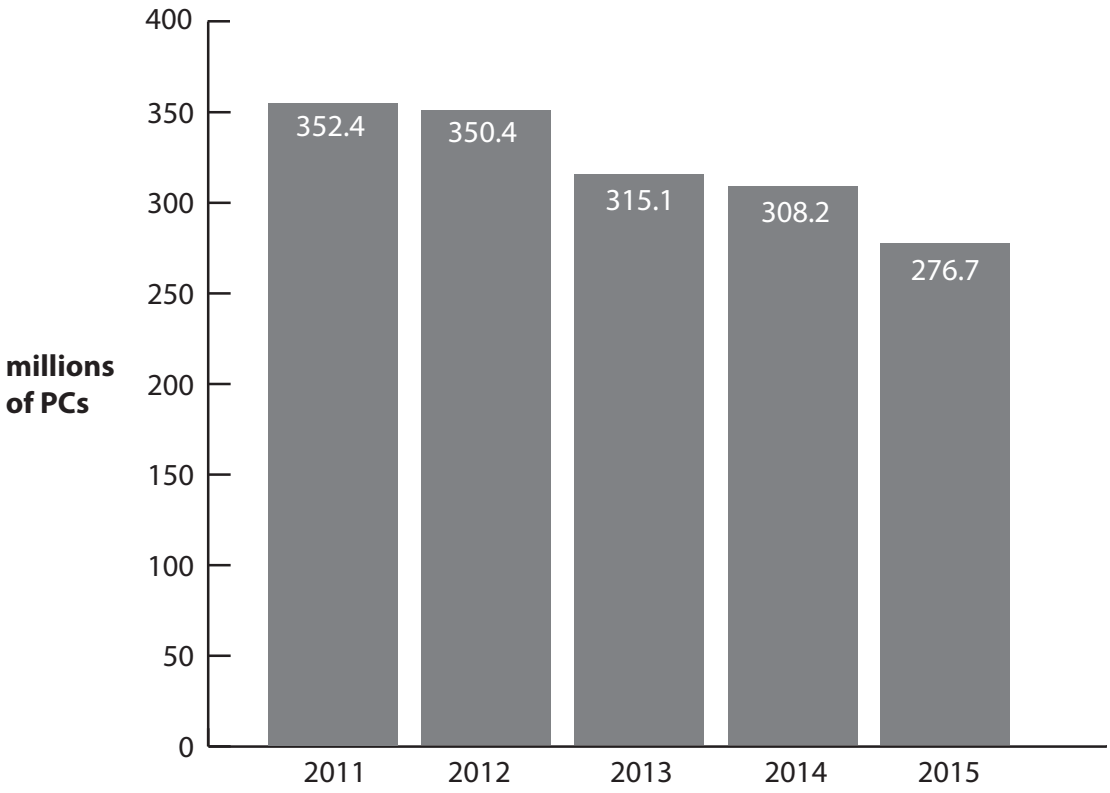
We argue that the interests of consumers are nearly always better advanced by the provision of accurate information and free choice than by prohibitions and regulations. The government policy of small but steady tax rises on tobacco and ever-larger warning labels is becoming less effective and leads to unintended consequences.

(Source: adapted from http://www.iea.org.uk/blog/free-market-solutions-in-health-should-be-allowed-to-flourish, Christopher Snowdon, 11th July 2013)

6 (a) Explain why 'bans on tobacco advertising' (Extract A, line 7) may result in a decrease in the revenue of tobacco firms. Include a supply and demand diagram in your answer.

(5)

5 The following graph shows the global sales of personal computers (PCs) between 2011 and 2015.



(Source: adapted from IDC and reported in *The Times*, 14th January 2016)

(a) The percentage decrease in sales of PCs between 2011 and 2015 is:

(1)

- ☒ **A** 21.5
- ☒ **B** 27.3
- ☒ **C** 31.5
- ☒ **D** 75.7

(b) Explain **one** likely reason for the decrease in sales of PCs.

(2)

The following table shows global sales of PCs by company in 2015.

Company	Sales of PCs (million)
Lenovo	57 182
HP	53 534
Dell	39 049
Apple	20 794
Acer Group	19 680
Others	86 461
Total	**276 700**

(Source: IDC, reported in *The Times*, 14th January 2016)

(c) Calculate the five-firm concentration ratio. You are advised to show your working.

(2)

(Total for Question 5 = 5 marks)

TOTAL FOR SECTION A = 25 MARKS

SECTION B

Read Figures 1, 2, 3 and the following extracts (A to B) before answering Question 6.

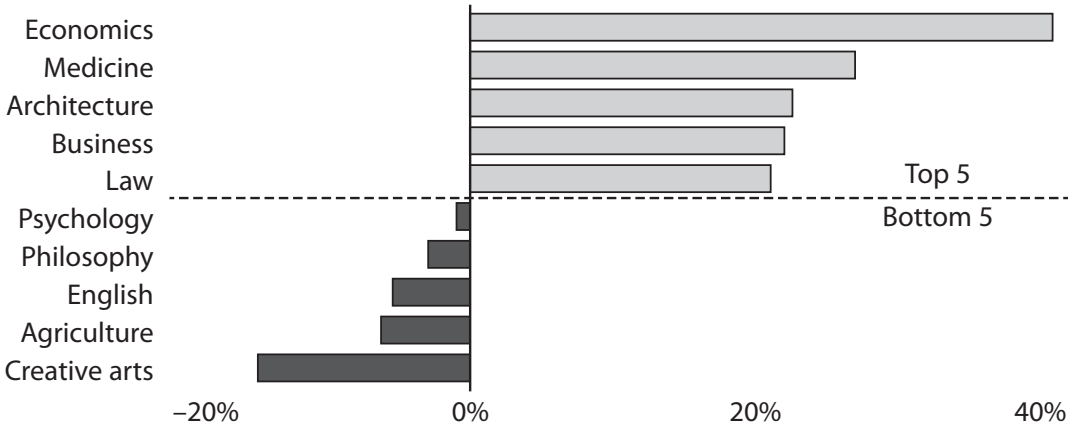
Answer ALL questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

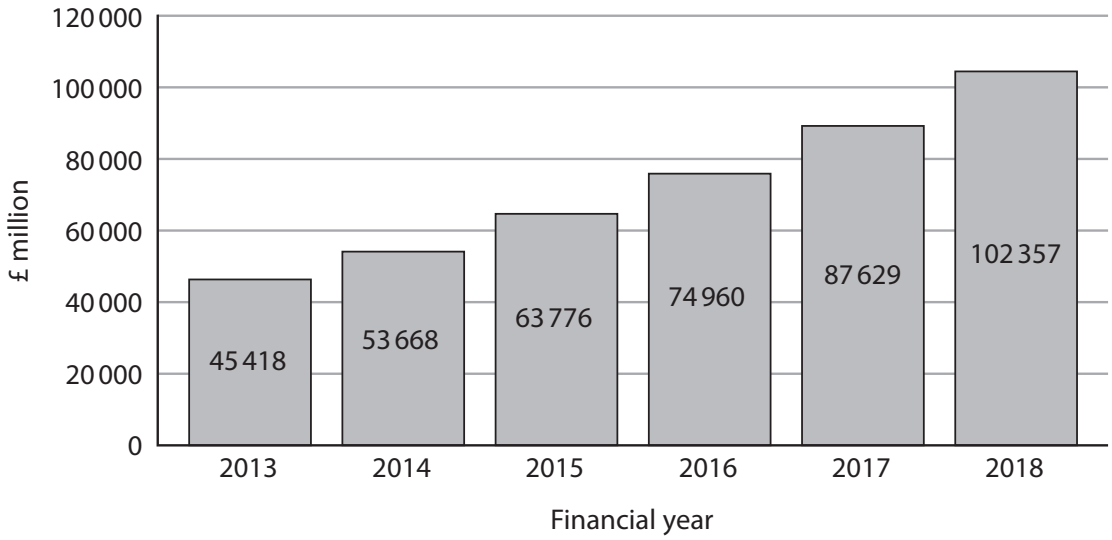
The market for higher education in the UK

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



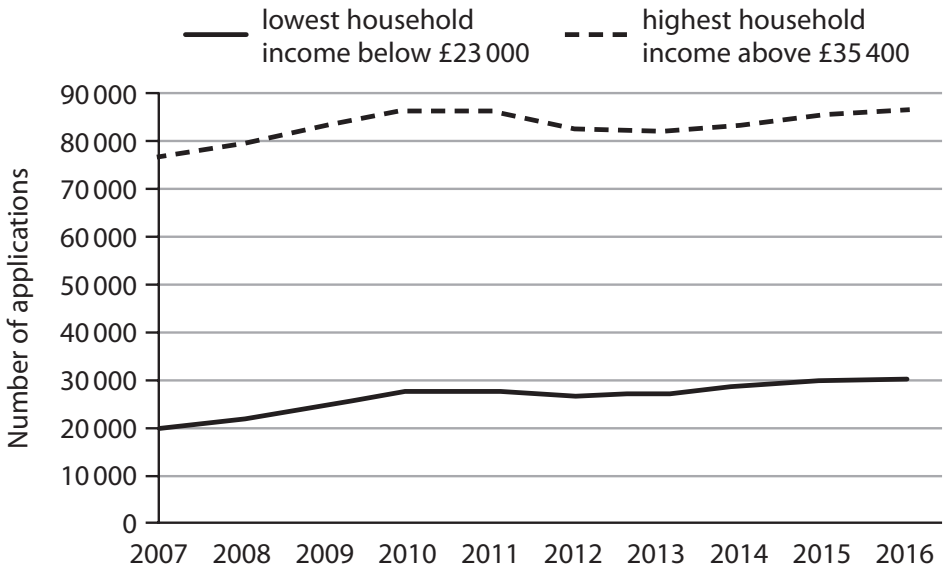
(Source: adapted from https://www.ifs.org.uk/publications/13731
The impact of undergraduate degrees on early-career earnings, Research report, November 2018)

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.

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.

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.

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.

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.

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.

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.

(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.

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.

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.'

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

6 (a) Explain why 'the price elasticity of demand for higher education is about –0.5' may be of relevance to English universities.

Refer to Extract A in your answer.

(5)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 30 minutes on this section.

Use the data to support your answers where relevant. You may annotate and include diagrams in your answers.

1 Disney+ is a streaming service that distributes films and television series produced by the Walt Disney Studios.

	Disney+ subscribers (million)
November 2019	10
December 2019	26.5
February 2020	28.6
April 2020	50

(Source adapted from: https://www.businessofapps.com/data/disney-plus-statistics/)

(a) *Ceteris paribus*, the most likely consequence of the above data is that Disney+ will experience an increase in its:

(1)

- ☒ **A** fixed costs
- ☒ **B** income elasticity of demand
- ☒ **C** price elasticity of demand
- ☒ **D** revenue

(b) Draw a supply and demand diagram to show the likely effect of the change in the number of subscribers on the market equilibrium for Disney+ services.

(4)



(Total for Question 1 = 5 marks)

2 The table below shows data on the drinks market in Chile in 2017.

Price elasticity of demand for sweetened drinks	–1.37
Cross price elasticity of demand for bottled water in response to a price change in sweetened drinks	+0.63

(Source: adapted from https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-017-4098-x)

(a) The price of sweetened drinks increases by 5%. *Ceteris paribus*, calculate the percentage change in the quantity demanded for sweetened drinks. You are advised to show your working.

(2)

(b) The price of sweetened drinks increases by 5%. *Ceteris paribus*, calculate the percentage change in the quantity demanded for bottled water. You are advised to show your working.

(2)

(c) Using the data on page 4, which **one** of the following is most likely?

(1)

		A decrease in the price of sweetened drinks will have the following effect on revenue:	Sweetened drinks and bottled water are:
☒	**A**	Decrease	Complements
☒	**B**	Decrease	Substitutes
☒	**C**	Increase	Complements
☒	**D**	Increase	Substitutes

(Total for Question 2 = 5 marks)

3 A luxury brownie baker is faced with falling demand as incomes fall.

(a) The likely income elasticity of demand for a luxury good is:

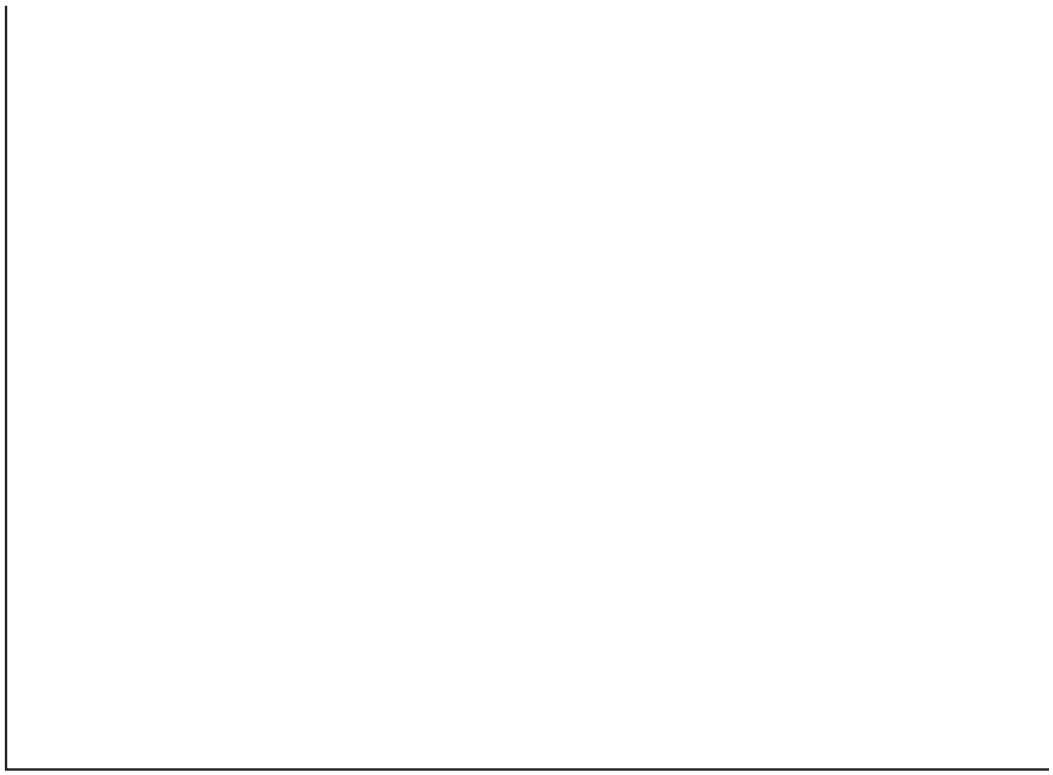
(1)

- ☒ **A** –3.40
- ☒ **B** –0.74
- ☒ **C** +0.74
- ☒ **D** +3.40

(b) Small local bakeries have many of the characteristics of monopolistic competition.

Draw the short run profit maximising equilibrium of a **loss-making** luxury brownie baker.

(4)



(Total for Question 3 = 5 marks)

SECTION B

Read Figures 1 and 2 and the following extracts (A to C) before answering Question 6.

Answer ALL Questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

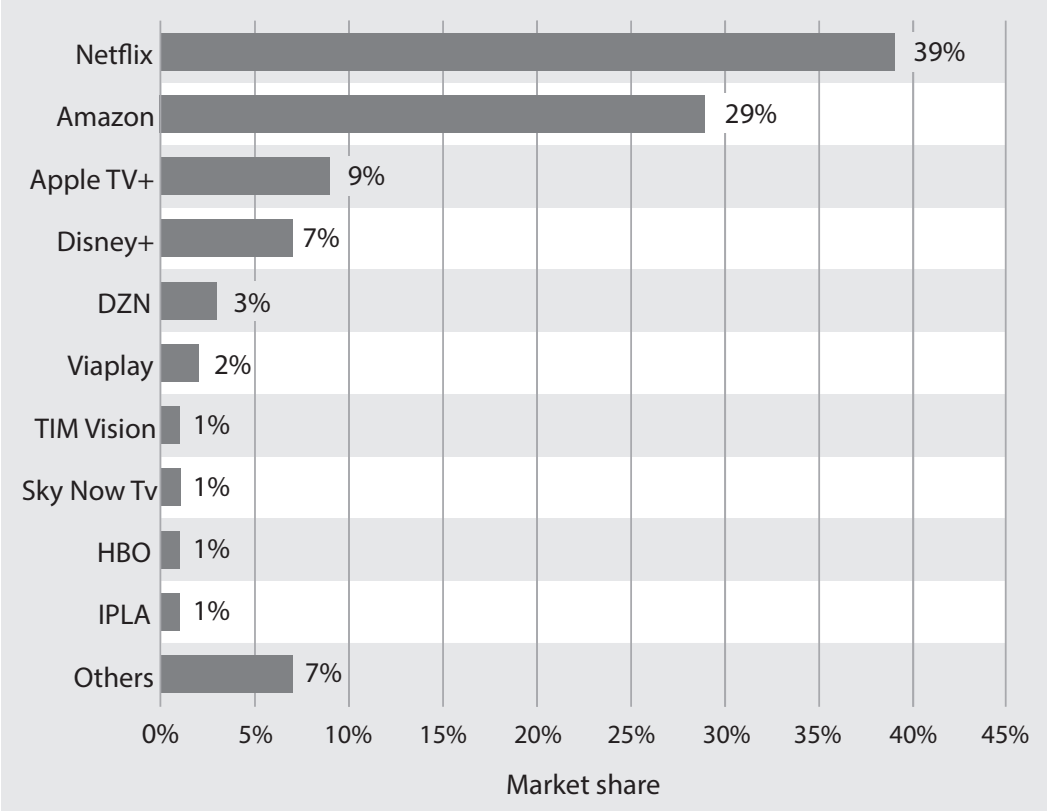
The market for television content

Figure 1: Elasticities of demand for streamed television services, UK, 2021

Price elasticity of demand	–0.6
Income elasticity of demand	1.6

(Source: adapted from https://www.consultancy.uk/news/24986/covid-19-presents-netflix-with-chance-to-hike-prices)

Figure 2: Market shares of streamed content providers, Europe, 2021



(Source: adapted from Statista 2021)

Extract A

The growth of streamed television content

Netflix currently has 13 million UK subscribers, who typically pay £9.99 a month to the US based private sector firm. At this price, up to two users can view the television content at the same time. The demand for individual firms' streamed television content boomed when people were forced to stay at home and has only begun to slow recently as more firms enter the market e.g. Amazon Prime Video.

The launch of Disney+ at the end of 2019, including original content such as the £74 million *Star Wars* TV spin-off *The Mandalorian*, resulted in the service adding more UK subscribers in a year in 2020 than any other streaming platform has ever managed.

However, the costs of providing streaming television content have risen. Consumers now expect original content, for example *Stranger Things* which costs around £10 million an episode to make. Furthermore, advertising in a saturated market is expensive.

In 2021, Netflix put up the price of its most-popular package by £1 a month to £9.99. Fortunately for Netflix, its subscriber demand has proven price inelastic. Just 3% of customers in a survey said they would definitely cancel their subscription after Netflix's latest price rise.

(Source: adapted from 'As UK hits peak, Netflix the streaming giant will have to work harder', The Guardian, Monday 3 January 2022)

Extract B

Is television content a public good?

Public service broadcasting in the UK is made up of a number of parts. First, there are the main UK-wide public service broadcasters (PSBs). There is the publicly funded BBC, and the publicly owned Channel 4 which is funded through advertisements.

The BBC was established in 1922 by a Royal Charter. It is mainly funded through the TV licence fee, which costs £159 a year and is a compulsory charge for those who watch live TV on any device. Live TV and catch-up services are free to view and do not restrict household usage. Without the licence fee very few people would pay due to the free rider problem.

The BBC's Charter sets out its five public purposes:

- To provide impartial news and information
- To support learning for people of all ages
- To show the most creative, highest quality and distinctive televised content
- To provide content for minority groups which would not be profitable for a private firm
- To reflect the UK, its culture and values to the world.

(Source: adapted from https://publications.parliament.uk/pa/cm5801/cmselect/cmcumeds/156/15604, and 'BBC licence fee to be abolished in 2027 and funding frozen', The Guardian, Sunday 16 January 2022)

Extract C

The environmental impact of streaming television content

The carbon footprint produced by watching a month of Netflix programmes is equivalent to driving a car to Saturn. Every activity in the chain required to stream video, from the use of huge datacentres and transmission over Wi-Fi and broadband to watching the content on a device, requires electricity. The majority of this is generated by emitting CO^2. Modern flatscreen televisions use significant amounts of energy.

There's very little a government can do about this in a free market dominated by US firms. The focus of any government intervention could be to encourage alternative forms of entertainment and recreation, support the development of more energy efficient devices, to improve information on the environmental effects or to use regulation to limit viewing hours.

(Source: adapted from 'Streaming's dirty secret: how viewing Netflix top 10 creates vast quantity of CO2', The Guardian, Friday 29 October 2021)

6 (a) With reference to Figure 1 and Extract A, explain the relationship between price elasticity of demand and total revenue.

(5)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 30 minutes on this section.

Use the data to support your answers where relevant.
You may annotate and include diagrams in your answers.

1 The table below shows price elasticity of demand for bus tickets in London 2021

Age	Price elasticity of demand
18+ Student	–0.7
Adult	–0.4

(Source adapted from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/669090/youth-travel-concessions-price-elasticity.pdf and https://tfl.gov.uk/fares/find-fares/bus-and-tram-fares#on-this-page-4)

(a) Explain **one** likely reason for the difference in the price elasticity of demand for the 18+ student bus ticket and the adult bus ticket.

(4)

(b) In 2021, the adult 7-day bus ticket was £21.90. Bus ticket prices in London in 2022 increased by 4.8%. Ceteris paribus, which **one** of the following is the percentage decrease in the 7-day bus ticket demand by adults?

(1)

- ☒ **A** 0.08
- ☒ **B** 1.92
- ☒ **C** 3.36
- ☒ **D** 12.00

(Total for Question 1 = 5 marks)

2 The table below shows price elasticity of supply for housing in the US in 2020.

US State	Price elasticity of supply
New York	+0.5
Texas	+1.8

(Source adapted from: https://bankunderground.co.uk/2020/02/25/the-declining-elasticity-of-us-housing-supply/)

(a) With reference to the data above, explain **one** likely reason for the difference in the price elasticity of supply.

(4)

(b) In Texas the price elasticity of supply is +1.8.
Which **one** of the following is the percentage increase in price if the quantity of housing supplied in Texas is increased by 12%?

(1)

- ☒ **A** 0.15
- ☒ **B** 1.50
- ☒ **C** 6.67
- ☒ **D** 21.60

(Total for Question 2 = 5 marks)

SECTION A

Read Figures 1 and 2 and the following extracts (A to C) before answering Question 1.

Answer ALL Questions 1(a) to 1(c), and EITHER Question 1(d) OR 1(e).

Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

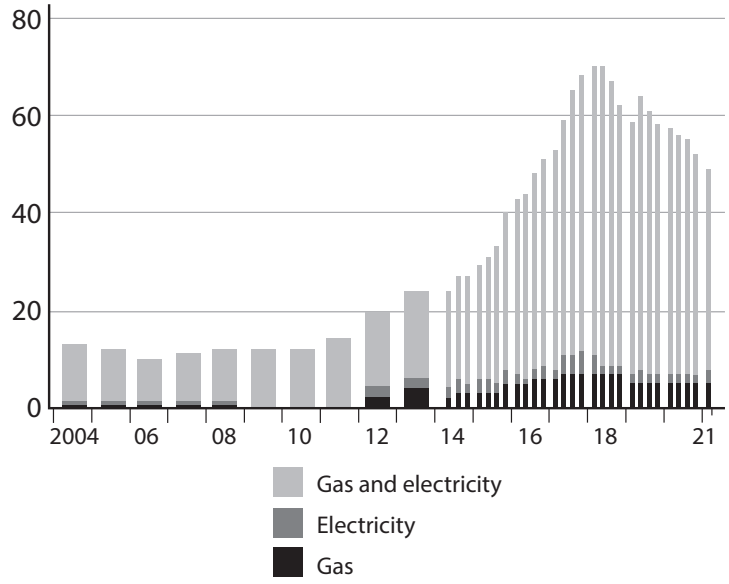
Question 1

The energy market

Figure 1: UK wholesale gas prices per therm, 2021, in pence



Figure 2: Number of firms supplying gas and electricity in the UK, 2004–2021



Extract A

Rising gas prices

UK consumers are some of the biggest users of gas. 85% of homes use gas central heating, and gas generates a third of the country's electricity. North Sea gas is running out – and as Britain has replaced coal-fired energy production with wind power in order to reduce carbon emissions, it has become dependent on gas imports.

Almost all UK businesses face significant rises in fuel costs over the next few months, and there is no substitute for energy, at least in the short run – an almost perfect example of price inelastic demand.

(Source: adapted from https://www.theecoexperts.co.uk/blog/reasons-for-uk-gas-price-increase)

Extract B

The UK gas market is broken

During the past decade the government has allowed new entrants into the retail energy market with business models that left them ill-prepared to achieve long term business growth. Now the UK must choose between letting its energy market collapse and offering large subsidies for energy retailers.

The problem began in the 1980s and 1990s, when privatisation created an oligopolistic energy market dominated by the "Big Six", which paid their shareholders high dividends and their bosses excessive salaries. The government responded to anger over high energy bills with further liberalisation. Some of the new entrants were innovative, such as Bulb, which offered consumption-tracking apps, and Octopus, which discouraged consumption when demand was high with dynamic pricing. But most were under-capitalised and produced no energy, merely buying it on global wholesale markets and selling it on. Some paid little attention to ensuring continuity of supply or forward buying of gas.

The constraints on energy retailers worsened in 2017 with the closure of a big gas-storage facility, which left the UK able to store just 2% of its annual demand. Other big gas importing countries, by contrast, can store 20%–30%. The risks rose further in 2019, when the government capped consumer prices in response to continued complaints about high energy bills.

The perfect storm came in the summer of 2021. As economies opened up, global demand for energy rose. Gas supply in Russia, a big producer, was disrupted, and unusually calm weather reduced UK wind turbine energy production to 11% of capacity. In August Ofgem, the industry regulator, said that from October the firms would be able to raise prices for households by 54%. But since then the wholesale price of gas paid by UK energy firms has risen by more than 70%. The result is that UK energy firms are tied into contracts to supply gas to households at far less than they must pay to get it.

(Source: adapted from https://www.economist.com/britain/britains-gas-market-is-broken/)

Extract C

The gender pay gap in the oil and gas industry

Despite best efforts to try to attract more women into the oil and gas industry, females are still hugely under-represented in science, technology, engineering and maths careers, whether school leavers, graduates or experienced workers. Women hold under 25% of careers in these areas, and typically hold more non-technical roles, which can attract lower salaries than technical disciplines.

There is an even smaller female representation in the offshore workforce (3.6%) e.g. working on rigs in the North Sea, an area that pays higher salaries than onshore work. Despite continued efforts there is still a lack of female applications. Only 5% of the applications to the technical apprentice programme were female, of which half withdrew their applications at the first stage of the recruitment process.

There is also a low representation of females in senior leadership roles within the oil and gas industry, especially in technical positions. Women also generally take up part-time positions which are typically lower paid. This has resulted in the oil and gas industry having an average gap in hourly pay of 25%.

In the majority of developed countries, women have made substantial progress in the labour market since the 1970s, with both wages and labour force participation increasing relative to that for men. Notwithstanding these large improvements, women still earn less than 'comparable' men in all developed countries and, since the 2000s, progress for women in the labour market seems to have slowed.

(Source: adapted from https://www.harbourenergy.com/media/2a2nmavb/chr-18311-01-gender-pay-gap-2020-v6-final.pdf and https://ftp.iza.org/dp10975.pdf)

(a) With reference to Figure 1 and Extract A, explain what is meant by 'price inelastic demand' (line 8).

(5)

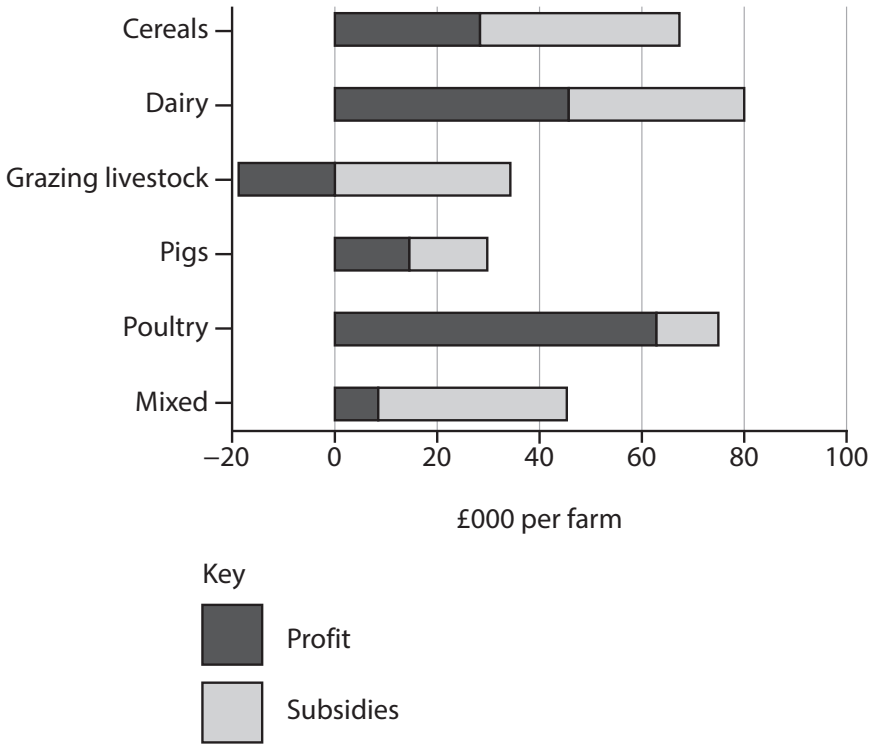
Sources for use with SECTION B

Read the following figures (1 and 2) and extracts (A and B) before answering Question 6.

The market for meat and the growth of vegetarianism

Figure 1

The impact of subsidies on farmer income, in England, 2018–2019 (£000 per farm)



(Source: adapted from www.FT.com)

Figure 2

Potential impact of indirect tax rises on meat prices per kg, 2023–2030

Type of Meat	Before indirect tax increases	After indirect tax increases
Beef/Veal	£24.24	£29.50
Chicken	£7.60	£8.63

(Source: adapted from Tax beef, pork and chicken to help climate and health, EU urged – CGTN)

Extract A

The case for cutting out meat

Around a third of Britons are reducing the amount of meat they eat or are cutting it out altogether. Are these consumers right to be cutting out meat? For a start, there are the greenhouse gases released as a result of producing food. The evidence is clear that switching to a plant-based diet would lower emissions. A UK study found that eating a diet high in meat costs 7.2 kg carbon dioxide emissions per day, compared with 3.8 kg for vegetarians. It would also free up land for other uses. Nearly 80% of the world's farmland is dedicated to rearing animals; a plant-based diet would cut the use of land for agriculture by 76%. The land currently used by grazing livestock could be used for "rewilding", allowing the environment and animal species destroyed by meat farming to recover.

Our health and wealth would be better too. A study published in 2016 modelled what would happen to our health and the global economy if we all switched to vegetarian diets. The economic benefits of switching to plant-based diets could be as much as £700 billion to £1 trillion per year in terms of savings on healthcare costs and lost working days due to ill health.

Some economists recommend an increased indirect tax on animal products so that their prices reflect the cost of externalities.

This could impact on European farmers, if adopted by the European Union. The tax could bring £35 billion to the EU, with around £15 billion of that going directly to farmers. The rest would be used to bring down VAT on fruit and vegetables, and fund other policies to encourage healthy-eating diets both in and outside the EU.

(Source: adapted from https://moneyweek.com/499842/the-economic-consequences-of-veganism December-28-2018)

Extract B

Businesses benefitting from meat-substitute products

There is one group for whom the trend towards meat-substitute products is definitely a good thing: processed food manufacturers and retailers.

Finest British beef burgers are priced at £6.61 per kg. The 'fake burger' (which is made mostly of pea protein) is priced at £21.81 per kg even though the ingredients used to make them, such as mushrooms, peas and palm oil, are cheaper ingredients than meat. Despite high prices, demand continues to rise for these products. This might benefit shareholders, but is it doing any real good for the rest of us?

A large food producer bought meat-substitute product maker Vegetarian Butcher in December 2018 and is moving towards a range with more meat-substitute products. In 2017, Nestlé bought Sweet Earth, a California-based maker of vegetarian foods, and it is launching its own meat-substitute 'Incredible Burger'. It expects its meat-substitute revenues to reach $1 billion by 2029.

As subsidies are being cut in every area of farming, consumers ought to be willing to pay higher prices for all food products. If farmers are to stay in business, they need to find additional sources of revenue such as oyster mushrooms, goji berries and basil.

(Source: adapted from http://www.financialtimes.com/the-veganism-boom-does-more-for-food-company-profits-than-the-planet February-22-2019)

6 (a) With reference to Extract B, explain why the change to meat-substitute products may result in an increase in the revenue of food companies. Refer to the concept of price elasticity of demand in your answer.

(5)

SECTION B

Read Figure 1 and the following extracts (A and B) before answering Question 6.

Answer ALL Question 6 (a) to 6 (e), and EITHER Question 6 (f) OR Question 6 (g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

The market for cigarettes

Figure 1: Price elasticity of demand - a comparison between tobacco and e-cigarettes

Price of packet of 20 tobacco cigarettes £7.70–£9.50	Price of e-cigarette kit £9.99–£19.99
Average price per tobacco cigarette 48p	Single cigarette equivalent price of an e-cigarette 7p
Price elasticity of demand for tobacco cigarettes –0.35	Price elasticity of demand for e-cigarettes –1.9

(Source: adapted from https://www.blucigs.co.uk/united-kingdom/kits/all-kits)

Extract A

Government intervention on tobacco

There was a time when smoking was fashionable. Television and magazine advertisements glorified smoking. Everyone from your dad to your doctor smoked in all places – cars, restaurants and even hospitals.

Tobacco is still the single biggest cause of cancer in the world and the leading cause of preventable deaths. Nearly 80% of the 1 billion smokers worldwide live in low- and middle-income countries.

Bans on tobacco advertising, promotion and sponsorship can reduce tobacco consumption. Comprehensive smoking bans covering indoor workplaces, public places and public transport have been introduced in 48 countries.

Tobacco taxes are the most cost-effective way to reduce tobacco use, especially among the young and people in low-income groups. A tax increase that raises tobacco prices by 10% decreases tobacco consumption by 4% in high-income countries and 5% in low- and middle-income countries.

However, some 8 million people are expected to die each year by 2030 – because they have smoked tobacco or have been exposed to passive smoking. The use of alternative products such as electronic cigarettes (e-cigarettes) are gaining in popularity but information about their effects is uncertain. Little research has yet been done about the long-term health effects of e-cigarettes and the nicotine dispensed by e-cigarettes is highly addictive. The illegal tobacco market still counts for 1 in every 10 cigarettes consumed globally. In addition, tobacco companies still spend tens of billions of dollars each year on advertising and promoting tobacco products and sponsoring events. They continuously challenge the regulatory measures governments are taking.

(Source: adapted from http://www.who.int/topics/tobacco/en/ and http://www.who.int/mediacentre/commentaries/reducing-tobacco-use/en/)

Extract B

Free market approach

Are free markets incompatible with good health? If the solution to every problem involves banning advertising, raising prices and restricting availability, you might easily conclude that the free market is the disease and government regulation is the cure. From this perspective, the providers of food, alcohol and tobacco are determined to push the most unhealthy products on the public at the lowest prices.

Contrary to this viewpoint, the profit motive is not unhealthy. Businesses have an obvious incentive to keep their customers alive and customers have a strong incentive to seek out healthier options. Any company that can make a scientifically sound health claim gains a competitive advantage over its rivals. Health sells. In contrast, government regulation can lead to negative health outcomes. Markets can correct themselves long before government failures are even acknowledged. Over a million Britons, almost all of whom are smokers or ex-smokers, use e-cigarettes, as a less hazardous product than cigarettes and yet e-cigarettes face increased regulations and in many countries they are banned.

It is neither consistent nor ethical to prevent smokers from switching to much safer alternatives. Efforts to regulate e-cigarettes are a far greater threat to public health than the products themselves.

We argue that the interests of consumers are nearly always better advanced by the provision of accurate information and free choice than by prohibitions and regulations. The government policy of small but steady tax rises on tobacco and ever-larger warning labels is becoming less effective and leads to unintended consequences.

(Source: adapted from http://www.iea.org.uk/blog/free-market-solutions-in-health-should-be-allowed-to-flourish, Christopher Snowdon, 11th July 2013)

Tobacco cigarettes and e-cigarettes are considered to be substitutes.

(c) Explain how changes in the price of tobacco cigarettes may affect the demand for e-cigarettes over time.

(6)

SECTION B

Read Figure 1 and the following extracts (A, B and C) before answering Question 6.

Answer ALL Questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour 5 minutes on this section.

Question 6

The market for plastic in the UK

Figure 1: Trend in the purchase of single-use plastic bags in millions, UK, 2014 to 2021

2014	2015	2016	2017	2018	2019	2020	2021
7 500	2 120	1 750	1 130	1 040	627	496	197

Extract A

10p charge continues to reduce use of plastic carrier bags

The 5p charge on single-use carrier bags was introduced in supermarkets in 2015. The charge was increased to 10p in 2021 and extended to all businesses.

The UK Environment Minister said that the plastic bag charge has ended the irrational purchase of billions of single-use carrier bags, thereby protecting our landscapes and ensuring millions of pounds are redistributed to worthy causes. This was needed as without this legislation, the market is not able to effectively manage the situation. Consumers are now in the habit of bringing reusable carrier bags when shopping.

In addition to single-use carrier bag charges, major retailers have offered bottle deposit return schemes and refillable food and cleaning product options. These provide incentives to consumers to reuse their plastic containers.

However, retailers have suggested that most customers do not wish to pay more for cleaning products in reusable packaging. With the average household income falling by 4.3% in 2023, sales of refillable cleaning products are expected to fall from 200 000 to 130 000 this year.

(Source adapted from: https://www.circularonline.co.uk/news/)

Extract B

Plastic packaging tax

Food manufacturers have criticised the implementation of a new UK environmental tax, warning it will force them to increase prices for consumers.

The 2018 tax was designed to provide incentives to businesses to use recycled plastic in packaging. Businesses manufacturing or importing 10 tonnes or more a year of plastic packaging that contains less than 30% recycled plastic are taxed at £200 a tonne. Plastic packaging containing more than this will be exempt from the tax.

Helene Roberts, Chief Executive of Robinson Packaging, said increased prices for the consumer would be an unintended consequence of the tax. "It will just create inflationary pressures within the supply chain and firms may need to pass this on." A wide range of businesses are affected by the new tax, including retailers importing items such as bin liners, drink bottles and carrier bags. Food manufacturers are particularly impacted as the industry uses 40% of packaging in the UK.

(Source adapted from: https://www.ft.com)

Extract C

Single-use cups

An estimated 2.5 billion single-use cups are used in the UK every year by consumers buying coffee from chains and cafes, creating approximately 25 000 tonnes of waste. Research has found that while a 25p charge on single-use cups increases the use of reusable coffee cups in coffee shops, a discount on reusable coffee cups has no impact at all on their use.

A 25p charge on single-use cups increases the use of reusable coffee cups by 3.4%. Environmental messaging in cafes, for example posters about litter, increases the use of reusable coffee cups by 2.3%. The availability of reusable cups leads to an increase of 2.5% whereas the distribution of free reusable cups leads to a further increase of 4.3%.

"While the increases for individual measures were modest, the greatest behavioural change was when the measures were combined," said Wouter Poortinga of Cardiff University.

(Source adapted from: https://www.theguardian.com/environment/2017/mar/30/)

(d) With reference to Extract C, explain how incentives to use reusable coffee cups may lead to a fall in demand for single-use cups.

(6)

SECTION B

Read Figures 1 and 2 and the following extracts (A to C) before answering Question 6.

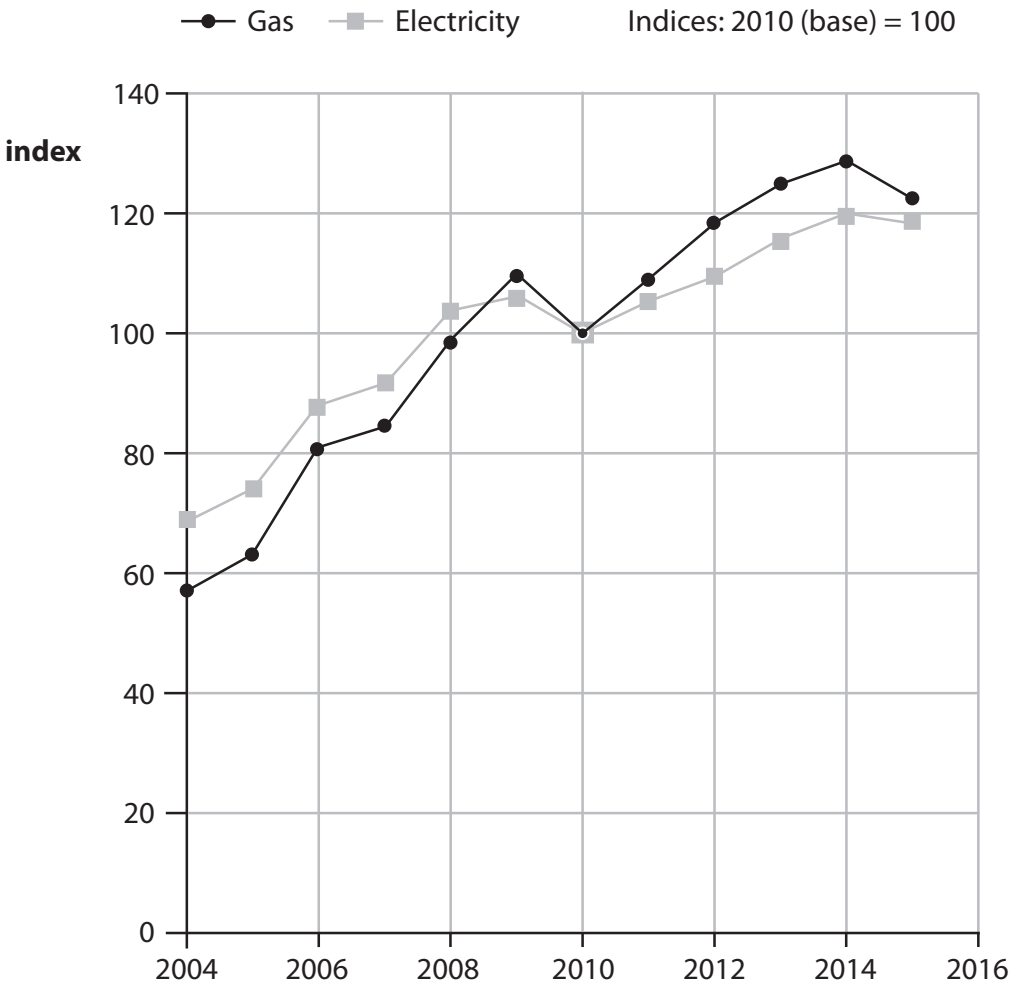
Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

Question 6

The UK energy market

Figure 1: UK retail electricity and gas real price indices, 2004–2015



(Source: https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf)

Figure 2: UK retail electricity and gas supply: market share by company, 2016

Company	Electricity %	Gas %
British Gas	23	36
EON	16	13
SSE	16	13
EDF	12	8
Scottish Power	11	9
RWE (nPower)	10	9
Other companies	12	12
Total	**100**	**100**

(Sources: https://www.ofgem.gov.uk/chart/electricity-supply-market-shares-company-domestic-gb and https://www.ofgem.gov.uk/data-portal/retail-market-indicators)

Extract A

Competition and Markets Authority (CMA) report into the UK energy market

An investigation into the UK energy market by the CMA concluded that customers have been paying £1.4 billion a year more than they would in a fully competitive market. It found that 70% of domestic customers of the six largest energy firms were on an expensive standard rate. These customers could each save over £300 a year by switching to a cheaper deal but appear reluctant to do so.

However, the CMA investigation found no evidence of anti-competitive practices by firms. There has even been an increase in new entrant energy suppliers over recent years and their combined market share has reached 12% in both gas and electricity supply.

To protect consumers, the CMA has introduced various measures to open up and increase competition in the UK energy market. These include:

- the creation of a database designed to help consumers switch energy suppliers – rival suppliers can directly contact these customers
- the conversion of all homes to smart energy meters making it easier for customers to measure energy consumption and switch supplier
- new rules to protect the four million vulnerable customers using prepaid meters – this includes a temporary price cap until smart meters have been installed.

(Source: adapted from 'Competition and Markets Authority Final report into Energy Market Investigation' https://www.gov.uk/government/news/cma-publishes-final-energy-report-in-full)

Extract B

Proposals to regulate profits in the UK energy market

Currently energy retail companies make an average profit of 7% of total revenue. The Chairman of the Competition and Markets Authority (CMA) suggested that these profits are as much as five times higher than they should be, given the companies' limited role in marketing, metering and billing customers. He recommended a profit cap of 1.25% of total revenue.

However, Scottish Power criticised proposals for regulating profits saying that it would reduce investment in the energy industry and undermine long-term energy provision. The firm claimed that such a low rate of return is below the profit margin made by supermarkets.

All six large energy firms are vertically integrated – producing as well as distributing gas and electricity. This can provide efficiency benefits but also harm competition.

(Source: adapted from 'Profit cap doesn't fit with new investment, energy boss warns', by Robin Pagnamenta, *The Times*, 19th September 2016)

Extract C

Skills shortages in the UK energy sector

The energy sector is facing a skills shortage of engineers and technicians. Some 29% of employers in the gas and electricity industries report unfilled job vacancies compared with an average of 18% across all industries.

A lack of information and advice on career prospects for young people is partly to blame - many graduates have a negative image of the work involved. There is also a lack of students taking science, technology, engineering and maths-based subjects at school and university. Less than one-fifth of the energy sector's workforce are women.

The energy sector is characterised by an ageing workforce - data from the UK Labour Force Survey reveal that around two-thirds of workers are aged over 50. These cannot easily be replaced as a long time period is required for training and developing workers' skills in a highly regulated industry.

Urgent action is required by businesses and the government to reduce labour immobility to benefit the energy sector. This action could include policies to increase investment in training programmes, recruit skilled workers from overseas, change the industry image and deal with its ageing workforce.

(Source: adapted from 'Sector insights: skills and performance challenges in the energy sector', by the UK Commission for Employment and Skills, March 2015; https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/416998/15.03.25._Energy_SLMI_-_evidence_report.pdf)

The price elasticity of demand for electricity in the UK is estimated to be –0.35 in the short run and –0.85 in the long run.

(d) With reference to Extract A and your own knowledge, examine **two** possible reasons for the change in price elasticity of demand for electricity over time.

(8)

SECTION B

Read Figures 1, 2 and 3 and the following extracts (A and B) before answering Question 6.

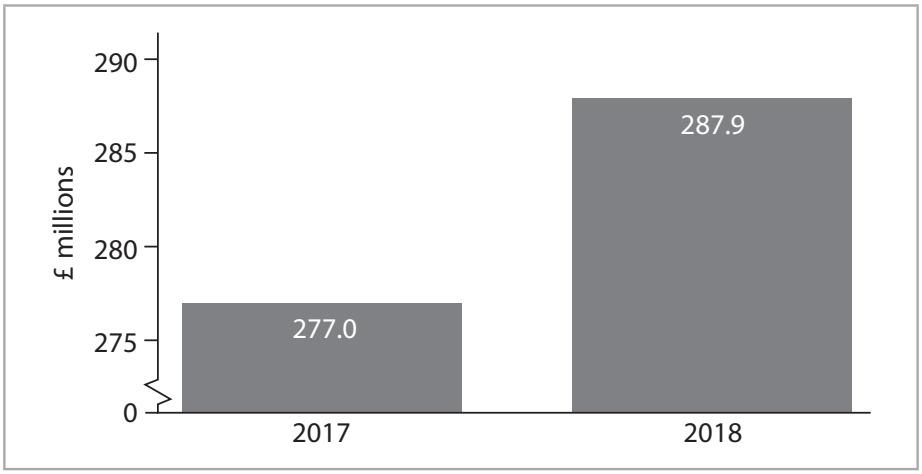
Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

Question 6

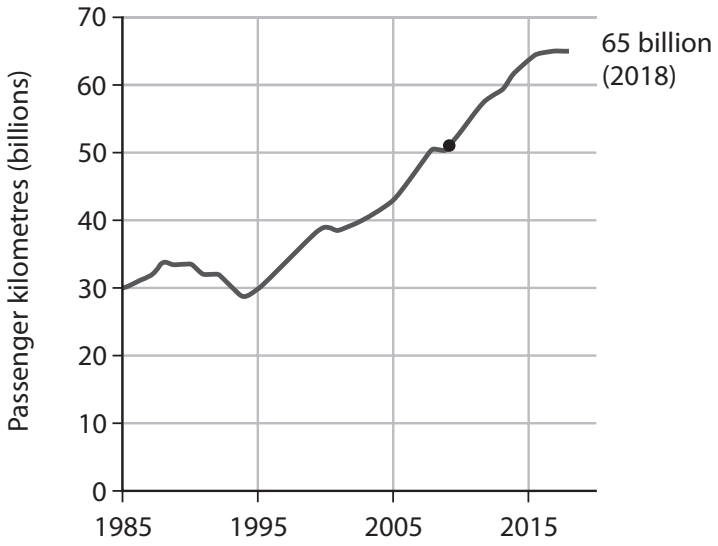
The UK Rail Industry

Figure 1: UK government subsidy to Northern, a train operating company in Northern England



(Source adapted from: https://www.theyworkforyou.com/wrans/?id=2018-10-18.181280.h)

Figure 2: Rail passenger kilometres travelled per year in the UK, billions



(Source adapted from: fullfact.org)

Figure 3: Price of a single off-peak train journey, Edinburgh to Leeds Saturday 22nd December 2018 19:00 hours

Adult	Young Persons (16–25) Railcard
£105.30	£69.50

(Source: https://www.lner.co.uk/buy-tickets/booking-engine)

Extract A

The case for nationalisation

Privatisation has not made the rail industry cheaper to operate, despite the promise from one government source that it would see private companies bringing: "more competition, greater efficiency and a wider choice of services".

One reason, suggest the critics, is fragmentation. Instead of pushing British Rail into the private sector as a single supplier the government chose to break it into three components of track, train operators and rolling stock i.e. the trains and carriages. This has encouraged each part of the rail industry to prioritise its own profits rather than collaborating to improve the system.

Privatisation, meanwhile, never really worked. The rail network of 2 500 stations and 32 000 km of tracks was renationalised in 2001. This has encouraged the government's transport secretary, a supporter of private sector involvement, to argue that the state Network Rail monopoly should be removed so that companies can bid to build new rail lines to upgrade the railway.

The privately-owned train operators are now the subject of fierce criticism, due to overcrowding and cancelled services. Private companies are supposed to compete to win a bid to be the train operator for a region for a short number of years. However in recent years the number of private companies bidding or renewing their contract as rail operators has fallen. In May 2018 the government rescued the East Coast line by renationalising it. The line had been run by the private rail operator Virgin Rail, which was suffering lower passenger numbers and revenue than forecast.

Some argue that there is a simple solution: reunite track and train in the only feasible manner, nationalisation.

(Source adapted from: https://www.ft.com/content/d82848ca-f7ba-11e7-88f7-5465a6ce1a00)

Extract B

Southern Rail boss paid £495 000

The Chief Executive of Southern Rail, the private-sector train operator that has become associated with delays, losses, cancellations and strikes, was paid £495 000 last year. This increased calls for nationalisation and a maximum wage for executives at companies with government contracts. In contrast the average base pay for a train driver in the UK is £47 705, although they can earn up to £63 000.

Nearly a third of Southern Rail trains were late in 2016 as it tried to deal with a labour dispute that involved extensive strike action. The rail trade unions are opposed to planned changes to the role of train guards, which they claim will put passenger safety at risk.

(Source adapted from: Rob Davies, The Guardian 10 April 2017
https://www.theguardian.com/business/2017/apr/10/southern-rail-boss-double-pay-rise)

(b) With reference to Figure 2, examine **two** possible factors which may have influenced demand for rail travel since 2008.

(8)

SECTION B

Read Figures 1 and 2 and extracts A and B before answering Question 6.

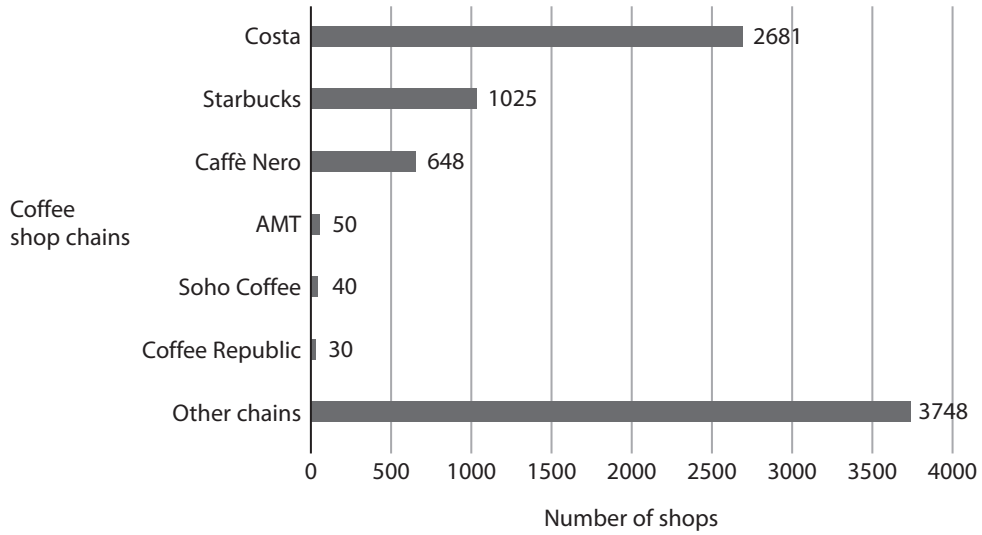
Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

Question 6

UK branded coffee shop chains market

Figure 1: Branded coffee shops by number of shops in the UK in 2021



(Source: adapted from https://www.statista.com/statistics/297863/leading-coffee-shop-chains-in-the-united-kingdom-uk-store-number/)

Figure 2: International coffee price (Arabica bean), US dollars per kilogram

Month	Price	Change
Jan 2020	3.13	–
Feb 2020	2.99	–4.47%
Mar 2020	3.27	9.36%
Apr 2020	3.41	4.28%
May 2020	3.30	–3.23%
Jun 2020	3.12	–5.45%
Jul 2020	3.24	3.85%
Aug 2020	3.60	11.11%
Sep 2020	3.67	1.94%
Oct 2020	3.35	–8.72%
Nov 2020	3.31	–1.19%
Dec 2020	3.48	5.14%

(Source: adapted from https://www.indexmundi.com/commodities/?commodity=other-mild-arabicas-coffee&months=12)

Extract A

Tough market conditions for coffee shops – but coffee quality is king

UK coffee shop chains have experienced slow growth opportunities and rising costs. In 2019 the UK market leader, Costa Coffee, opened over 60% fewer stores than in 2018, while Starbucks opened just three new stores overall in 2019.

By 2020, many costs were rising: staff shortages meant rising wages for baristas (trained coffeemakers), a 6.2% National Minimum Wage increase for over 25-year-olds and rising rents.

In a challenging UK economy, consumers placed coffee quality ahead of convenient location when choosing a coffee shop. This demonstrates the need for coffee shops to match rising expectations in the UK's increasingly crowded coffee shop market in order to stay competitive. Independent coffee shops (total 25 892 shops in 2020) remain a threat to the branded coffee shops as they pursue a unique luxury experience for customers. This will often focus on the atmosphere and customer service, luxury food and drink ranges and being a part of the local community. Independent coffee shops run on average profit as low as 2% of revenue, and many go out of business as new chains arrive in a locality.

In January 2020, Coca-Cola finalised its £3.9 billion takeover of market leader, Costa Coffee. The Coca-Cola company's stated aims are to maximise long-term returns to shareholders while being mindful of overall responsibilities such as supporting sustainable communities. Major brands, such as Costa, continue to lead coffee shop expansion in 2020 as competition intensifies.

(Source: adapted from https://www.worldcoffeeportal.com/Latest/InsightAnalysis/2020/February/5-UK-coffee-shop-market-dynamics-to-watch-in-2020)

Extract B

Greggs aiming for 'coffee shop experience'

Greggs is looking to increase its branded coffee shop market share after the British bakery chain achieved record profits and overtook Starbucks in the amount of coffee it served in the UK. Although Greggs will continue to focus on the food-to-go market, it will be investing in better coffee machines and providing WiFi. It wants one in three new outlets to have more seating. The company believes that it has the ability to take market share in two ways, by expanding its coffee range and at the same time enhancing the coffee shop experience. Greggs is modelling its plan on rival chain Pret A Manger, which has changed from focusing on food-to-go sales to mainly eating in. Greggs has transformed itself from an unremarkable seller of bread and pastries into one of the UK's most popular food-on-the-go chains, in part thanks to its embrace of vegan, gluten-free and healthy options as well as clever marketing that have changed its image.

(Source: adapted from Financial Times, 3 March 2020 https://www.ft.com/content/6fb6d73a-5d24-11ea-8033-fa40a0d65a98)

(b) With reference to Figure 2 and your understanding of price elasticity, examine **two** factors that may cause significant changes in the international price of coffee beans.

(8)

SECTION A

Read Figure 1 and the following extracts (A to C) before answering Question 1.

Answer ALL Questions 1(a) to 1(c), and EITHER Question 1(d) OR 1(e).

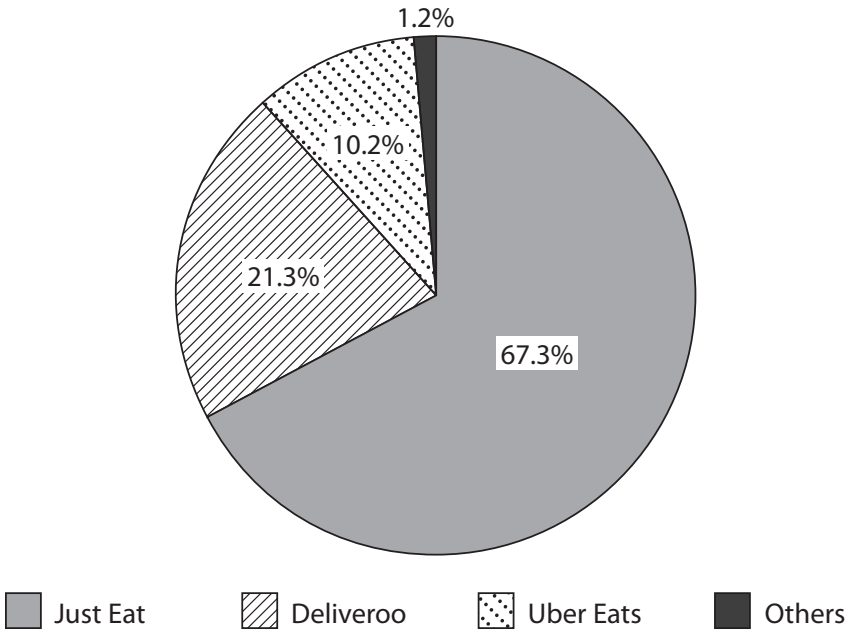
Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

Question 1

The food delivery industry

Figure 1: Market share for third-party food delivery services in the UK, 2019



(Source: adapted from https://onefourzerogroup.com/the-takeaway-takeover/)

Extract A

National Minimum Wage rises are more significant for 23 to 25-year-olds

In 2021, the National Minimum Wage main rate, also known as the National Living Wage, rose by 2.2% to £8.91, following a 6.2% rise in 2020. By reducing the age at which people are eligible for the National Living Wage to 23 in 2021, it is estimated that an additional 7.5% of 23 to 25-year-olds could get a 71p an hour pay rise. This amounts to an 8.7% increase, which may cause further financial worries for employers.

(Source: adapted from https://www.ndna.org.uk/NDNA/News/Latest_news/2020/Minimum_wages_to_rise_by_inflation_in_April.aspx)

Extract B

What is the true cost of the food delivery service?

The food delivery industry has boomed in recent years. Just Eat, Uber Eats and Deliveroo all offer very similar services – third-party food delivery firms that take up to 30% of the price of restaurant meals and deliver them to customers within a certain radius. The average spend per customer is around £15 with a £5 delivery fee, about five times more expensive than cooking at home and the same price as eating in the restaurant. Cash rich, time poor professionals increasingly turn to food delivery.

Food delivery comes with many layers of packaging. In the UK, there are 200 million meals annually with around 1.4 billion individual pieces of plastic for heat retention and protection when travelling, but does it really have to be plastic? People tend to order more food, often high in fat, sugar and salt, and don't even have to get up from their sofa.

But there are concerns that the delivery firms are exploiting employees who have no alternative. There is an issue of low pay and informal contracts. Delivery drivers are classed as 'independent contractors', and therefore not subject to some employment rights including a guaranteed minimum wage, sick pay, pensions or holiday pay. Drivers are paid either a flat hourly rate, or a fee per delivery. Factors such as delivery distance, speed, how busy it is and whether there are multiple drop-offs are all factored into how much a driver is paid. Deliveroo says its wages amount to around £10 per hour, but drivers say that during 2020 their pay has been as low as £1 per hour. Drivers are not paid extra for petrol or to maintain their vehicles. Many drivers are recent immigrants or students, who do not have property or savings to fall back on.

The government could address this with widening minimum pay legislation to contracted workers, by setting codes of practice, or by setting recommended wage targets. Furthermore, there are health and safety issues for workers. Vehicle safety checks, length of shifts and safety equipment are of concern. However, there are still people who take benefit from working flexibility.

(Source: adapted from https://www.theguardian.com/australia-news/2020/oct/25/home-food-delivery-what-is-the-most-ethical-way-to-order-in and https://digitalcommons.molloy.edu/cgi/viewcontent.cgi?article=1043&context=bus_fac)

Extract C

Integration in the third-party food delivery industry

The Competition and Markets Authority (CMA) is watching carefully to prevent any one firm having complete control of the food delivery industry. Just Eat, the market leader, agreed to merge with successful Dutch firm Takeaway.com in 2020, creating a new European leader by revenues. It also bought Grubhub in the US, with 20 million active users. Just Eat uses an aggressive pricing strategy, undercutting delivery fees below the average cost of other firms in the market, that will force them to merge in order to gain some economies of scale.

Amazon, having failed with its own delivery company Amazon Restaurants in 2018, has bought 16% of Deliveroo. The CMA took over a year to agree to the partial integration, on the argument that Deliveroo would close down without external investment. Amazon has unique expertise in marketing, increasing customer share and, most importantly, efficiency in delivering things. Food delivery is often uneconomical because a single household puts in a single order from a single restaurant at any one time. Tech companies such as Amazon can improve the business: once a meal has been ordered, an app often moves that restaurant to the top of the rankings for that neighbourhood, in the hope of getting a second and third delivery.

So why do restaurants turn to these delivery firms? The sheer volume of customers these delivery firms can hold makes it a difficult deal to turn down. But resentment from small business restaurant owners, angry at being wholly dependent on tech companies, is growing. Most restaurants would prefer that customers come in and pick up their orders themselves because they do not have to pay the 30% commission. Restaurant profit margins are small, and the effects of a 20% fall in the external value of the pound since 2016 on food costs are significant, given that over half of their food and drink is sourced outside the UK.

(Source: adapted from https://www.ft.com/content/c20f6848-3c4b-11ea-a01a-bae547046735 https://www.ft.com/content/edf8a144-a101-4ef8-80e3-7d2f1565d35c and https://www.thisismoney.co.uk/money/markets/article-8138703/Uber-set-sell-takeaway-division-rival-Deliveroo-two-years.html and https://www.ft.com/content/c20f6848-3c4b-11ea-a01a-bae547046735 and https://www.ft.com/content/bed7c4d8-28c1-11ea-9a4f-963f0ec7e134 and https://www.economist.com/1843/2021/01/26/gulp-the-secret-economics-of-food-delivery)

(b) With reference to Extract B, examine whether the demand for delivered food is price inelastic **and** income elastic.

(8)

SECTION B

Read Figures 1 and 2 and the following extracts (A to C) before answering Question 6.

Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

Question 6

The UK online streaming services market

Figure 1: Market share of UK online streaming services

	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022
Amazon Prime Video	37.9%	41.1%	45.0%	27.1%	25.9%
Disney+	16.0%	17.7%	19.3%	14.1%	21.5%
Netflix	15.0%	10.5%	5.0%	9.4%	4.5%
NOW	11.3%	11.2%	5.6%	11.0%	11.1%
AppleTV+	4.0%	5.5%	7.3%	9.2%	9.9%
BritBox	4.0%	3.0%	5.7%	6.0%	5.9%
Others	11.8	11.0%	12.1%	23.2%	21.2%

(Source adapted from: Kantar, Worldpanel Division Geotech 2022)

Figure 2: UK online streaming services – monthly fees

Streaming service provider	**September 2022**
Netflix premium (4 users/ultra HD*)	£15.99
Netflix standard (2 users/HD)	£10.99
Netflix basic (single user/non HD**)	£6.99
Amazon Prime Video	£8.99
Amazon Prime Video – Student price	£4.49
Disney+	£7.99
AppleTV+	£4.99

*This is the highest quality picture currently available

** This is the basic quality picture

(Source adapted from: https://www.radiotimes.com/tv/what-to-watch-tv/best-streaming-service-uk/)

Extract A

How Netflix makes use of behavioural science

In the last few years, companies have been trying to find ways to attract the attention of customers. Various streaming platforms such as Netflix, Amazon, and YouTube use 'nudges' to influence consumer behaviour. The 'next-up' feature on Netflix or 'auto-play' on YouTube has been subject to research that relates it to binge-watching. Binge-watching is the practice of viewing for a prolonged period, multiple episodes of a TV show or several films in rapid succession.

Similarly, the policy of offering a one-month free subscription under the label of 'free trial' requires credit card information to turn the forgetful subscriber into a potential paying one. Following this strategy, Netflix has expanded to 190 countries in just seven years and according to the Wall Street Journal, the company generated total revenue of over $5.2 billion in 2019, which was an increase from 2018 of around $4 billion.

However, 2022 data shows that consumers, increasingly worried about the rising cost of living, are turning their back on Netflix. With a reported cancellation of over 200 000 subscriptions in the first quarter and another two million forecast to leave by the end of the year. Subscribers are rethinking their commitment to the streaming services that grew their numbers sharply during the home-based months of the global health crisis. Netflix subscribers have also quoted a decline in value for money and satisfaction with the quality of the shows as key motives for cancellation.

Disney now see higher satisfaction rankings than Netflix across the quality of shows, amount of original content, number of new-release films, variety of classic films and amount of kids' content. Forecast cancellation rates for Disney+ fell to an all-time low of 3.2%.

(Source adapted from: https://www.novanudge.com/post/sludge-on-demand-how-netflix-makes-use-of-behavioural-science
https://www.theguardian.com/media/2022/apr/20/netflix-shares-fall-losing-subscribers)

Extract B

The economics of price discrimination

Throughout 2022, Netflix, a 100-billion-dollar company, increased prices in the US, Canada, the UK and Ireland (most of which saw similar price increases in 2021, too). In sharp contrast, Netflix recently announced it was reducing its prices in India (standard/2-user 499 rupees a month, equivalent to £5.42) in a bid to compete with Disney+ and Prime.

UK students currently enrolled in a college or university who have a valid student email address can join Prime Student through the Amazon website. This gives them nearly 50% off a standard Prime membership and many other exclusive benefits.

(Source adapted from: https://help.netflix.com/en/node/24926/in)

Extract C

Educational Website and TV Programmes

BBC Bitesize is a learning platform created by the BBC in 1998. The online study resource allows parents to teach their children from home, using ready-made lesson plans and study guides with questions for all ages. The revision sessions are free to watch and they are available for children aged five up to their late teens. The guides are written by teachers and subject experts, so they are reliable and follow the National Curriculum. Last year Bitesize attracted around two million weekly unique browsers with a peak week of 3.3 million in the GCSE exam period.

Oak National Academy is a freely available learning resource website created for pupils aged four to sixteen. Launched in 2020, as a response to the global health crisis, the website includes lesson slides, video lessons, worksheets, and quizzes conforming to the national curriculum in England. Ministers have set aside £43 million to fund the Oak National Academy over the next three years.

(Source adapted from: https://www.bbc.co.uk/bitesize/articles/zmjdhbk
https://www.structural-learning.com/post/oak-academy-a-teachers-guide#:~:text=Oak%20National%20Academy%20is%20a,the%20national%20curriculum%20of%20England)

(c) With reference to the information provided, examine the likely numerical value of the cross elasticity of demand between UK online streaming services.

(8)

SECTION B

Read the following Figures (1 to 2) and Extracts (A to B) before answering Question 6.

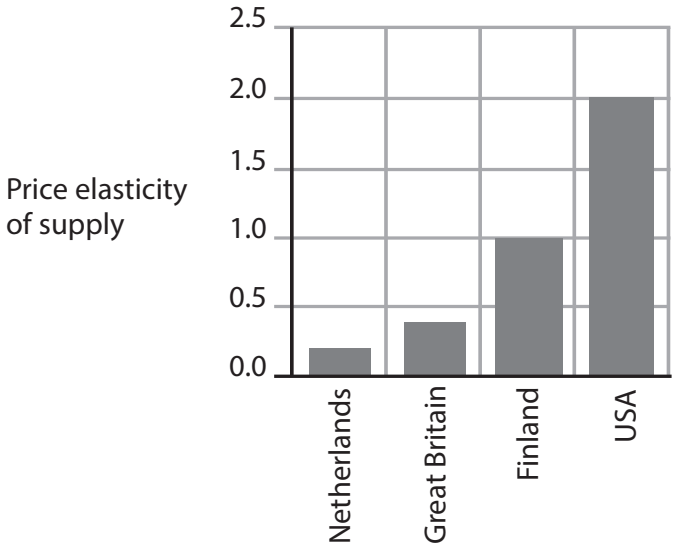
Answer ALL Question 6 (a) to 6 (e) and EITHER Question 6 (f) OR Question 6 (g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

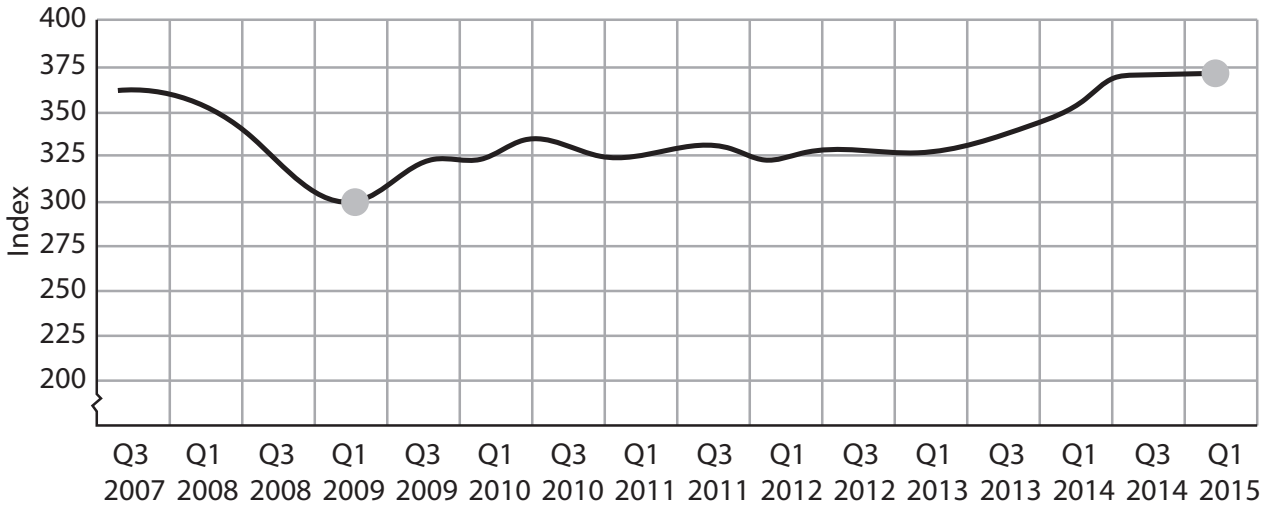
The market for housing

Figure 1 – Estimates of the price elasticity of supply of new housing, selected countries



(Source: adapted from Caldera Sánchez, A. and Å. Johansson (2011), "The Price Responsiveness of Housing Supply in OECD Countries", Figure 3, OECD Economics Department Working Papers, No. 837, OECD Publishing. http://dx.doi.org/10.1787/5kgk9qhrnn33-en)

Figure 2 – Index of UK house prices (1993 = 100)



(Source: http://www.nationwide.co.uk/about/house-price-index/download-data#~)

Extract A

Problems facing UK first time buyers

Over a third of aspiring first time buyers in the UK have given up hope of ever being able to save for a deposit to buy a property, new research has found. A deposit is the minimum amount that must be paid upfront when buying a property, which is a proportion of the price of the property.

The UK Government has a Help to Buy scheme designed to help people buy a home. The government subsidises the mortgage (loan) needed to buy a property, so buyers require a smaller amount saved as a deposit. Under this scheme, first time buyers need as little as a 5% deposit to qualify for a mortgage. This is due to end in the first few months of 2017. The research from mortgage insurer Genworth says this will mean a return to 20% deposits, which would see the average time needed to save for a deposit rise from three years to over 10 years.

"Trying to buy your first home in the current climate is like chasing a runaway train. Even with good salaries that could comfortably support a mortgage, thousands of aspiring first time buyers can only save modest sums, especially those who are already paying rent. This deposit trap is why many feel they are left with the all or nothing choice of borrowing from family or waving goodbye to ever owning a home," said Simon Crone, a vice president at Genworth.

"Help to Buy has significantly improved access to mortgages with deposits that are actually realistic to save. The numbers using the scheme may be modest, but it has made significant inroads in the short-term to boost access at the lower end of the property market," he pointed out.

(Source: adapted from http://www.propertywire.com/news/europe/uk-first-time-buyers-201409309641.html September 2014)

Extract B

Housing and flood defences

A radical new approach to housing and a £2.3 billion of investment in flood defences were announced as part of the UK Government's new National Infrastructure Plan 2014.

One key proposal is for the government to plan, build and sell homes. An initial programme on a government-owned former airfield near Cambridge will see the development of 10 000 homes. This approach will fast track the development by providing certainty and making new homes available more quickly.

The government will make the initial investment but expects that later costs will be met through the sale of land and homes. It will also evaluate the feasibility and economic effects of rolling out this model on a wider scale, to support and accelerate housing supply.

The plan also commits to £2.3 billion of capital investment to over 1400 flood defence projects in a 6-year programme of investment. As a result, over 300 000 homes will be better protected and over £30 billion of economic damages prevented. Major projects that will benefit include £42 million for the Oxford Flood Alleviation Scheme, £80 million for the Humber Estuary and over £17 million for Tonbridge, Yalding and the surrounding communities.

(Source: adapted from https://www.gov.uk/government/news/ambitious-plans-for-housing-flood-defence-and-roads-set-out-in-national-infrastructure-plan-2014)

(b) With reference to Extract A, assess the likely impact of the Help to Buy scheme on the market for rented properties in the UK.

(10)

Sources for use with SECTION B

Read the following figure (1) and extracts (A to C) before answering Question 6.

Question 6

Digital markets

Figure 1: UK sales of selected best-selling video games, 2022

Name of game	Game publisher	Sales (quantity)	Game price
FIFA 23	Electronic Arts (EA)	2 530 510	£59.99
COD: MW II	Activision	1 675 323	£59.99
Mario Kart 8	Nintendo	426 748	£39.99
Gran Turismo 7	Sony	356 630	£69.99
Minecraft	Microsoft	219 679	£14.99

(Source: adapted from https://www.statista.com/statistics/274072/most-popular-games-in-the-united-kingdom-uk-by-unit-sales)

Extract A

Digital markets

Digital markets refer to firms producing and buying information technology services. Examples include digital banking, online retailing, computer games and mobile applications (apps). The emergence of digital markets has brought about increased competition across a wide range of products and services. They have also been beneficial for consumers who now have greater choice and access to higher-quality products at lower prices, for example, fashion clothing and language tuition. But while the digital revolution has enabled greater competition, it also presents some challenges for competition law enforcement.

(Source: adapted from https://pearsonblog.campaignserver.co.uk/digital-markets-reform-of-competition-laws/)

Extract B

Addictive video games

When consumers want to play a new video game, there are three payment options to access the full gaming experience. There is the price for the game (see Figure 1), the subscription fee to play online with friends (e.g. £13.99 a month) and there are many in-game purchases. For example, a Spiderman 'skin' which costs £9.99 enhances the appearance of the player. The high prices do not seem to deter many new buyers, especially in markets such as sports and multi-player action games. 40% of the world's population are online gamers. Young players spend up to 10–16 hours a day on their games due to the addictive nature of the games.

The video games can take up to five years to develop and cost over £150 million to produce with 200 full time employees working on the software. Starting salaries for software developers can be £100 000. However, some simple video games and apps cost as little as £23 000 to develop and take about six months.

All the major firms – EA, Microsoft, Nintendo and Sony – offer subscriptions that give access to new game releases. The US technology company, Microsoft, is one of the dominant firms in the market for subscription services. In October 2023, it merged with the game designer, Activision, which already owns one of the world's most popular video games (see Figure 1). The £65 billion merger is the largest in the history of the video games industry. However, Sony is concerned that the Microsoft-Activision merger may restrict access to popular video games owned by Microsoft and therefore reduce competition.

(Source: adapted from https://www.theguardian.com/technology/2023/apr/26/what-does-uks-ban-on-microsofts-activision-blizzard-takeover-mean-for-gaming?)

Extract C

The growth of automation

Automation is the use of technology to perform tasks previously carried out by humans. Automation has the potential to bring great economic benefits to both consumers and firms, contributing up to £12 trillion to global GDP by 2030. This extra income will also create demand for many new jobs. However, there are also concerns that it could displace many existing workers.

Financial services jobs are most at risk from automation in the shorter term and transport jobs, such as train drivers, in the longer run. For example, the growth of online banking has already led to the closure of many high street bank branches. By the mid-2030s, up to 30% of all jobs could be automated, with slightly more impact on men.

Another form of revenue for Microsoft is the artificial intelligence (AI) program ChatGPT. The growth of AI will require highly skilled workers such as trainers and engineers. Microsoft's annual gross profit for 2023 was £146 billion, a 7.69% increase on 2022.

(Source: adapted from https://www.economist.com/business/2023/03/26/big-tech-and-the-pursuit-of-ai-dominance)

(c) With reference to the information provided, discuss whether the price elasticity of demand for video games is elastic or inelastic.

(12)

SECTION B

Read Figure 1 and the following extracts (A and B) before answering Question 6.

Answer ALL Question 6 (a) to 6 (e), and EITHER Question 6 (f) OR Question 6 (g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

The market for cigarettes

Figure 1: Price elasticity of demand - a comparison between tobacco and e-cigarettes

Price of packet of 20 tobacco cigarettes £7.70–£9.50	Price of e-cigarette kit £9.99–£19.99
Average price per tobacco cigarette 48p	Single cigarette equivalent price of an e-cigarette 7p
Price elasticity of demand for tobacco cigarettes –0.35	Price elasticity of demand for e-cigarettes –1.9

(Source: adapted from https://www.blucigs.co.uk/united-kingdom/kits/all-kits)

Extract A

Government intervention on tobacco

There was a time when smoking was fashionable. Television and magazine advertisements glorified smoking. Everyone from your dad to your doctor smoked in all places – cars, restaurants and even hospitals.

Tobacco is still the single biggest cause of cancer in the world and the leading cause of preventable deaths. Nearly 80% of the 1 billion smokers worldwide live in low- and middle-income countries.

Bans on tobacco advertising, promotion and sponsorship can reduce tobacco consumption. Comprehensive smoking bans covering indoor workplaces, public places and public transport have been introduced in 48 countries.

Tobacco taxes are the most cost-effective way to reduce tobacco use, especially among the young and people in low-income groups. A tax increase that raises tobacco prices by 10% decreases tobacco consumption by 4% in high-income countries and 5% in low- and middle-income countries.

However, some 8 million people are expected to die each year by 2030 – because they have smoked tobacco or have been exposed to passive smoking. The use of alternative products such as electronic cigarettes (e-cigarettes) are gaining in popularity but information about their effects is uncertain. Little research has yet been done about the long-term health effects of e-cigarettes and the nicotine dispensed by e-cigarettes is highly addictive. The illegal tobacco market still counts for 1 in every 10 cigarettes consumed globally. In addition, tobacco companies still spend tens of billions of dollars each year on advertising and promoting tobacco products and sponsoring events. They continuously challenge the regulatory measures governments are taking.

(Source: adapted from http://www.who.int/topics/tobacco/en/ and http://www.who.int/mediacentre/commentaries/reducing-tobacco-use/en/)

Extract B

Free market approach

Are free markets incompatible with good health? If the solution to every problem involves banning advertising, raising prices and restricting availability, you might easily conclude that the free market is the disease and government regulation is the cure. From this perspective, the providers of food, alcohol and tobacco are determined to push the most unhealthy products on the public at the lowest prices.

Contrary to this viewpoint, the profit motive is not unhealthy. Businesses have an obvious incentive to keep their customers alive and customers have a strong incentive to seek out healthier options. Any company that can make a scientifically sound health claim gains a competitive advantage over its rivals. Health sells. In contrast, government regulation can lead to negative health outcomes. Markets can correct themselves long before government failures are even acknowledged. Over a million Britons, almost all of whom are smokers or ex-smokers, use e-cigarettes, as a less hazardous product than cigarettes and yet e-cigarettes face increased regulations and in many countries they are banned.

It is neither consistent nor ethical to prevent smokers from switching to much safer alternatives. Efforts to regulate e-cigarettes are a far greater threat to public health than the products themselves.

We argue that the interests of consumers are nearly always better advanced by the provision of accurate information and free choice than by prohibitions and regulations. The government policy of small but steady tax rises on tobacco and ever-larger warning labels is becoming less effective and leads to unintended consequences.

(Source: adapted from http://www.iea.org.uk/blog/free-market-solutions-in-health-should-be-allowed-to-flourish, Christopher Snowdon, 11th July 2013)

(e) With reference to Figure 1, assess the likely reasons for the difference in price elasticity of demand for tobacco cigarettes and e-cigarettes.

(15)

SECTION B

Read Figure 1 and 2 and the following extracts (A to C) before answering Question 6.

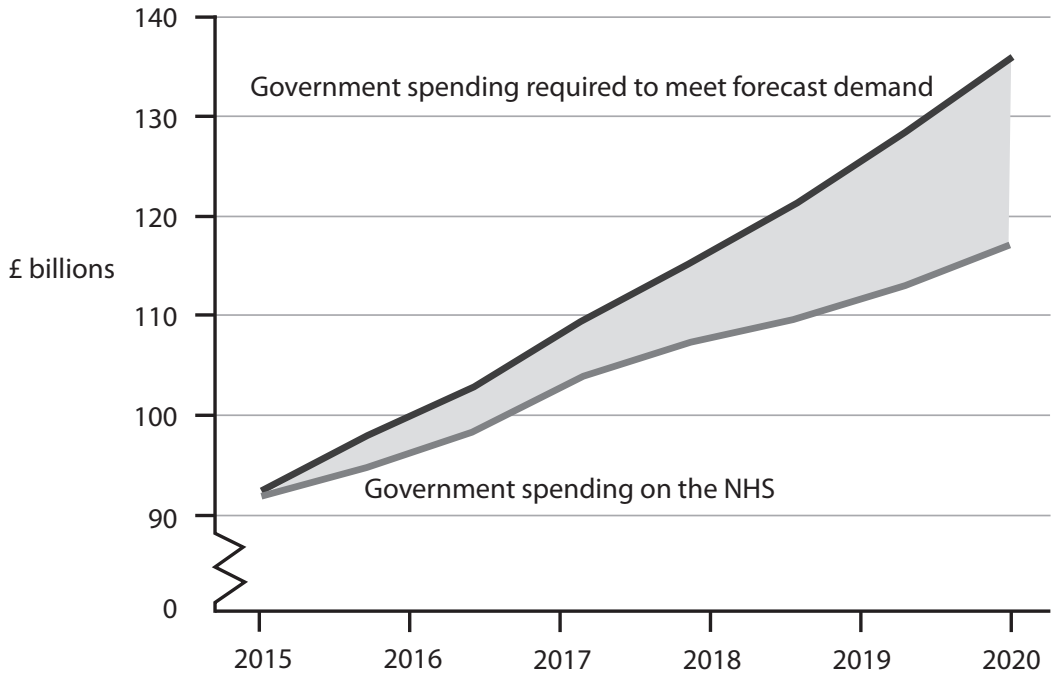
Answer ALL Questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour 5 minutes on this section.

Question 6

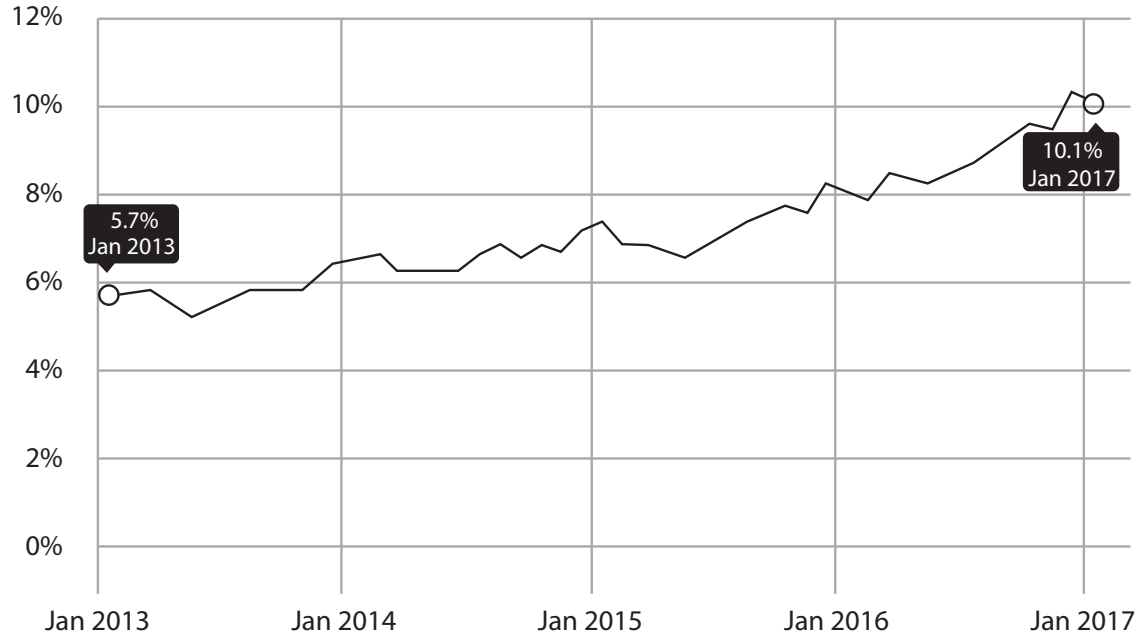
Health provision

Figure 1: National Health Service (NHS) in England: Government spending and projected funding gap, £ billions, 2015 to 2020



(Source: https://www.economist.com/news/britain/21706563-nhs-mess-reformers-believe-new-models-health-care-many-pioneered)

Figure 2: Percentage of NHS patients in England waiting over 18 weeks for non-emergency treatment



(Source: https://www.statista.com/chart/8813/more-and-more-people-made-to-wait-by-the-nhs/)

Extract A

Hospitals already full

National Health Service (NHS) managers' warned that bed occupancy rates are approaching 99% in some parts of the country, compared with recommended levels of 85%. In 2017 the number of patients waiting for non-urgent treatment passed the four million mark, the highest figure for almost a decade.

The chief executive of the NHS suggested that waiting list targets for routine operations such as hip and knee replacements would have to be sacrificed in order to protect other services, including accident and emergency (A&E) and cancer care.

However, the government has insisted waiting time targets must still be met. Recently the Chancellor awarded the NHS £2.8 billion over three years, including £1.6 billion in 2018 - less than the £4 billion which NHS officials had asked for to keep up with an ageing population and new medical technologies.

NHS managers said there was now very little spare capacity in the system, warning of shortages of paramedics, doctors, A&E consultants and nurses.

(Source: adapted from http://www.telegraph.co.uk/news/2017/12/07/hospitals-already-full-bursting-pressures-mount-warn-nhs-chiefs/)

Extract B

How health care is funded

Most countries have a mixed economy of health provision typically funded from taxation, patient fees and private health insurance.

The NHS was launched in the UK in 1948 to ensure direct state provision by the government of health care 'free at the point of use'. The NHS is mainly funded from general taxation. However, some NHS patients pay for some of their medical care, such as prescriptions to buy medicine.

In the ongoing debate about how best to fund the NHS, some people have proposed introducing a £12 charge for visiting a General Practitioner (GP) doctor. Proponents argue that such a charge would deter overuse of GP services by those who do not have genuine health needs. It would also raise additional money for the NHS and create incentives which will stimulate innovation and more choice.

Estimates suggested that a £12 charge on the 450 million visits a year to GPs could have raised enough to cover hospitals' overspend in 2016. Based on exemptions for prescriptions, 90% of patients will not be charged including the elderly, children and low income groups. There would also be administrative costs of collecting the charge and verifying exemptions. These arrangements would significantly reduce the amount a charge would generate, assuming no one paying would be dissuaded from visiting their GP.

The proportion of people in the UK taking out private health insurance (PHI) to pay for private health care has increased to 10.6%, despite significant increases in the prices of treatment in private hospitals. Some economists argue that the government should provide subsidies to encourage people to take out private health insurance. This would reduce the burden on the NHS by taking some people out of the state system. Furthermore it is argued that private health care increases choice for users, encourages competition and drives up standards of care.

A typical PHI policy for a healthy 35-year-old costs about £650 a year but this rises steeply to £2 300 for those aged 70, when claims are far more likely. The level of contribution is based on their risk of requiring health care. PHI also tends to incur high management and administrative costs due to the resources required to assess risk and claims. Also there is the possibility of market failure given asymmetric information.

(Source: adapted from https://www.kingsfund.org.uk/publications/how-health-care-is-funded)

Extract C

Public parks are a public good

Public parks are places which people can use for free to exercise or to relax. Parkrun Limited organises free weekly runs in local parks attracting hundreds of joggers per park to enjoy healthy exercise. The government is proposing to ban local authorities charging Parkrun for the use of public parks to fund the maintenance of public parks. The government considers that it is appropriate for the public to pay a reasonable sum for the private use of a facility such as a tennis court or a football pitch which may be used exclusively. However, the government does not consider it appropriate for a local authority to charge a volunteer community group 'seeking to provide a free weekly event' for the use of a public park. Parkrun share the park with other park users. Although a running course may be marked out there is no restriction on other people using the park.

(Source: adapted from © Crown Copyright Running Free – Government consultation on preserving the free use of public parks, April 2017, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/608372/Parkrun_ConDoc.pdf and http://www.telegraph.co.uk/news/2017/04/14/councils-banned-charging-runners-take-part-regular-saturday/)

(e) Discuss likely reasons why the prices of treatments in private sector hospitals are increasing. Draw a supply and demand diagram to support your answer.

(15)

SECTION B

Read Figures 1, 2, 3 and the following extracts (A to B) before answering Question 6.

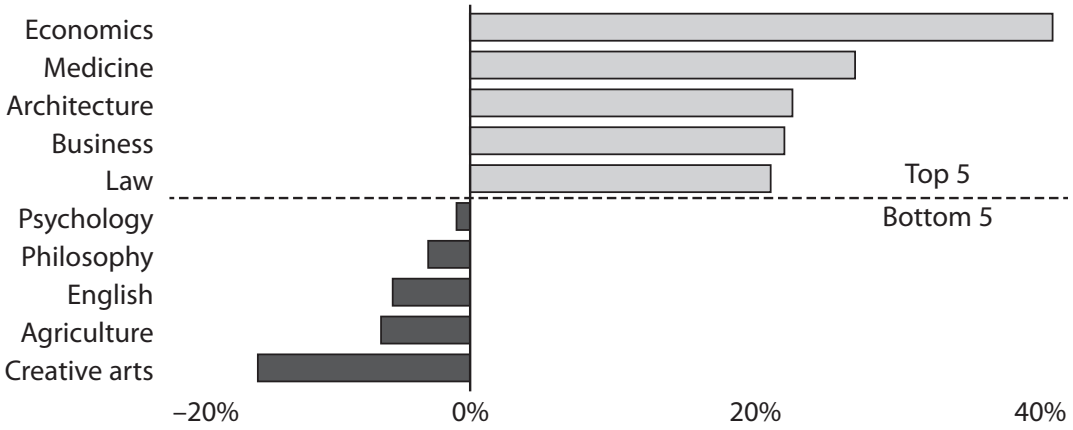
Answer ALL questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

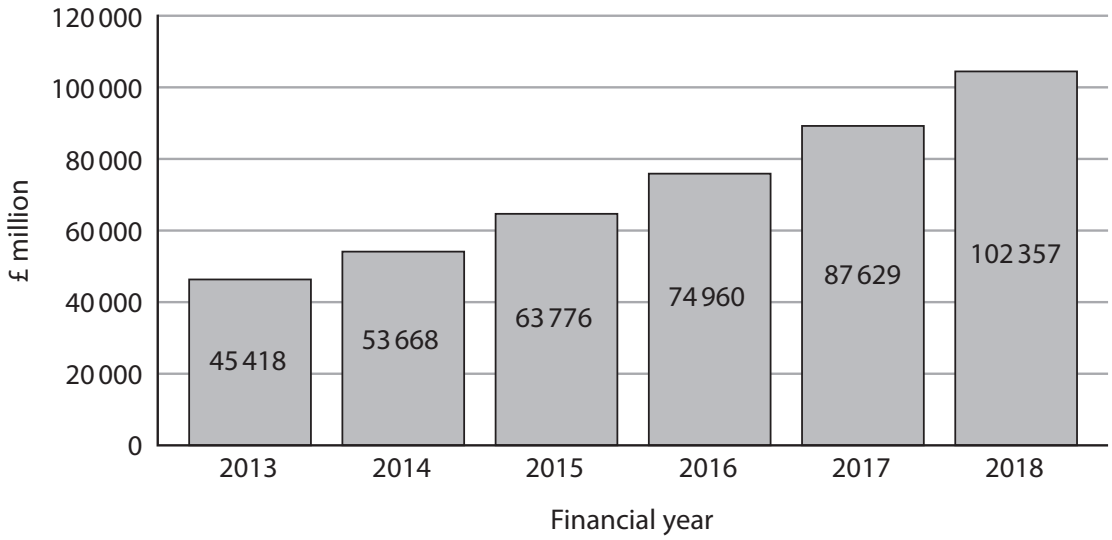
The market for higher education in the UK

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



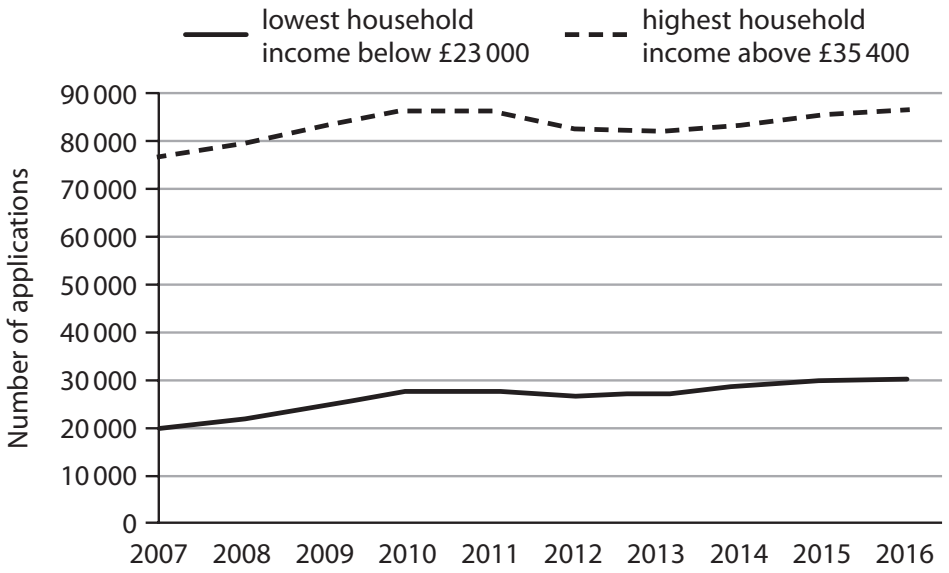
(Source: adapted from https://www.ifs.org.uk/publications/13731
The impact of undergraduate degrees on early-career earnings, Research report, November 2018)

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.

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.

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.

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.

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.

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.

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.

(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.

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.

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.'

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

(e) With reference to Figure 1 and Extract A, discuss the benefits of allowing universities to charge higher tuition fees for some degree courses.

(15)

SECTION B

Read Figures 1 and 2 and the following extracts (A to C) before answering Question 6.

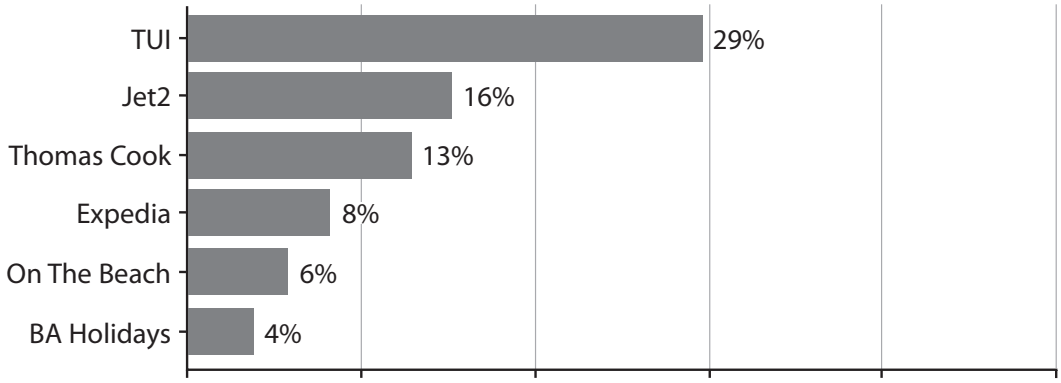
Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

Question 6

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

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**

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 **£1,648** 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.

(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.

(Source adapted from: https://www.thomascookgroup.com/investors/insight_external_assest/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.

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.

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.

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.

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."

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".

(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)

(e) With reference to the information provided, discuss the decision by Jet2 to increase its package holiday prices.

(15)

(Total for Question 6 = 50 marks)

TOTAL FOR SECTION B = 50 MARKS

SECTION B

Read Figures 1 and 2 and the following extracts (A to C) before answering Question 6.

Answer ALL Questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

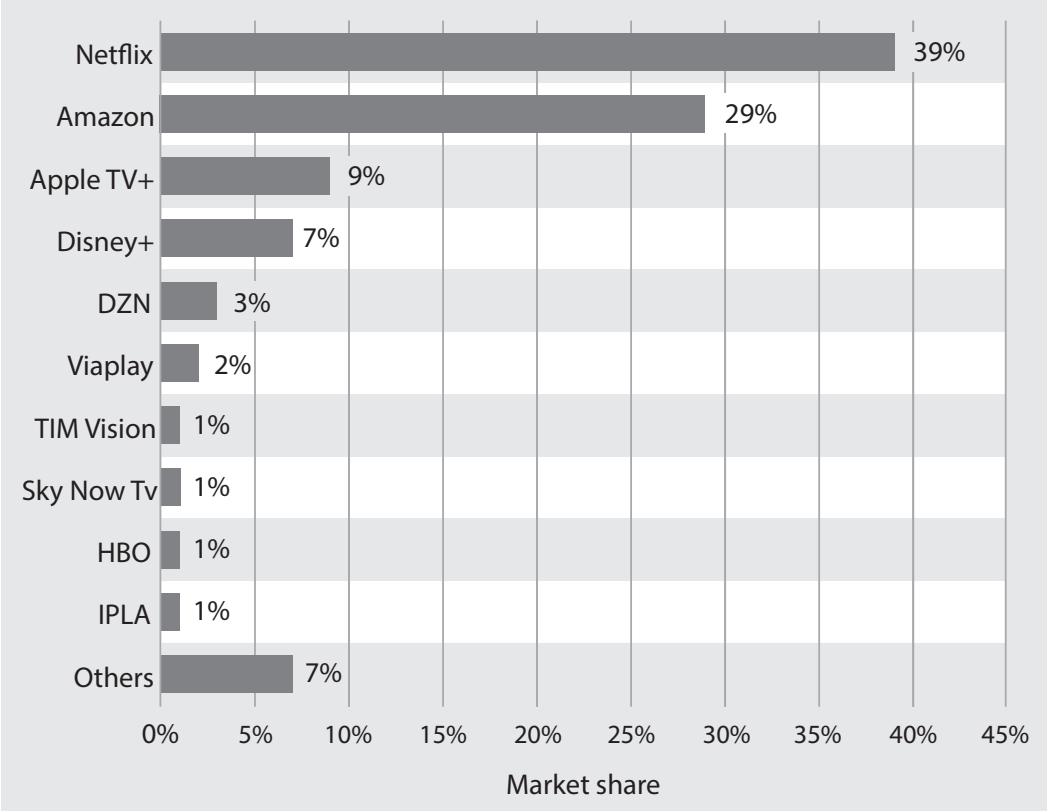
The market for television content

Figure 1: Elasticities of demand for streamed television services, UK, 2021

Price elasticity of demand	–0.6
Income elasticity of demand	1.6

(Source: adapted from https://www.consultancy.uk/news/24986/covid-19-presents-netflix-with-chance-to-hike-prices)

Figure 2: Market shares of streamed content providers, Europe, 2021



(Source: adapted from Statista 2021)

Extract A

The growth of streamed television content

Netflix currently has 13 million UK subscribers, who typically pay £9.99 a month to the US based private sector firm. At this price, up to two users can view the television content at the same time. The demand for individual firms' streamed television content boomed when people were forced to stay at home and has only begun to slow recently as more firms enter the market e.g. Amazon Prime Video.

The launch of Disney+ at the end of 2019, including original content such as the £74 million *Star Wars* TV spin-off *The Mandalorian*, resulted in the service adding more UK subscribers in a year in 2020 than any other streaming platform has ever managed.

However, the costs of providing streaming television content have risen. Consumers now expect original content, for example *Stranger Things* which costs around £10 million an episode to make. Furthermore, advertising in a saturated market is expensive.

In 2021, Netflix put up the price of its most-popular package by £1 a month to £9.99. Fortunately for Netflix, its subscriber demand has proven price inelastic. Just 3% of customers in a survey said they would definitely cancel their subscription after Netflix's latest price rise.

(Source: adapted from 'As UK hits peak, Netflix the streaming giant will have to work harder', The Guardian, Monday 3 January 2022)

Extract B

Is television content a public good?

Public service broadcasting in the UK is made up of a number of parts. First, there are the main UK-wide public service broadcasters (PSBs). There is the publicly funded BBC, and the publicly owned Channel 4 which is funded through advertisements.

The BBC was established in 1922 by a Royal Charter. It is mainly funded through the TV licence fee, which costs £159 a year and is a compulsory charge for those who watch live TV on any device. Live TV and catch-up services are free to view and do not restrict household usage. Without the licence fee very few people would pay due to the free rider problem.

The BBC's Charter sets out its five public purposes:

- To provide impartial news and information
- To support learning for people of all ages
- To show the most creative, highest quality and distinctive televised content
- To provide content for minority groups which would not be profitable for a private firm
- To reflect the UK, its culture and values to the world.

(Source: adapted from https://publications.parliament.uk/pa/cm5801/cmselect/cmcumeds/156/15604, and 'BBC licence fee to be abolished in 2027 and funding frozen', The Guardian, Sunday 16 January 2022)

Extract C

The environmental impact of streaming television content

The carbon footprint produced by watching a month of Netflix programmes is equivalent to driving a car to Saturn. Every activity in the chain required to stream video, from the use of huge datacentres and transmission over Wi-Fi and broadband to watching the content on a device, requires electricity. The majority of this is generated by emitting CO^2. Modern flatscreen televisions use significant amounts of energy.

There's very little a government can do about this in a free market dominated by US firms. The focus of any government intervention could be to encourage alternative forms of entertainment and recreation, support the development of more energy efficient devices, to improve information on the environmental effects or to use regulation to limit viewing hours.

(Source: adapted from 'Streaming's dirty secret: how viewing Netflix top 10 creates vast quantity of CO2', The Guardian, Friday 29 October 2021)

(e) Discuss likely reasons why the market price of streaming television content is increasing. Draw a supply and demand diagram to support your answer.

(15)

SECTION A

Read Figures 1 to 3 and the following extracts (A, B and C) before answering Question 1.

Answer ALL Questions 1(a) to 1(c), and EITHER Question 1(d) OR 1(e).

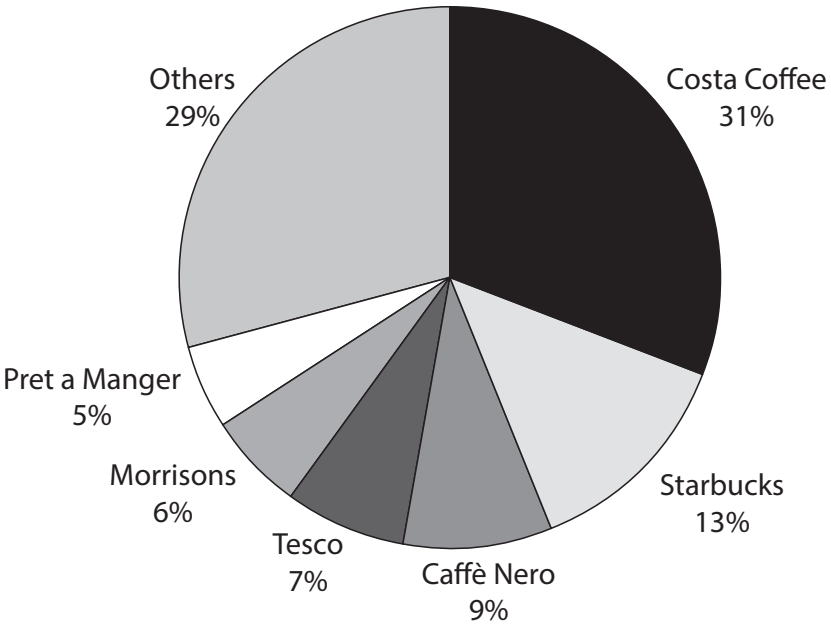
Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

Question 1

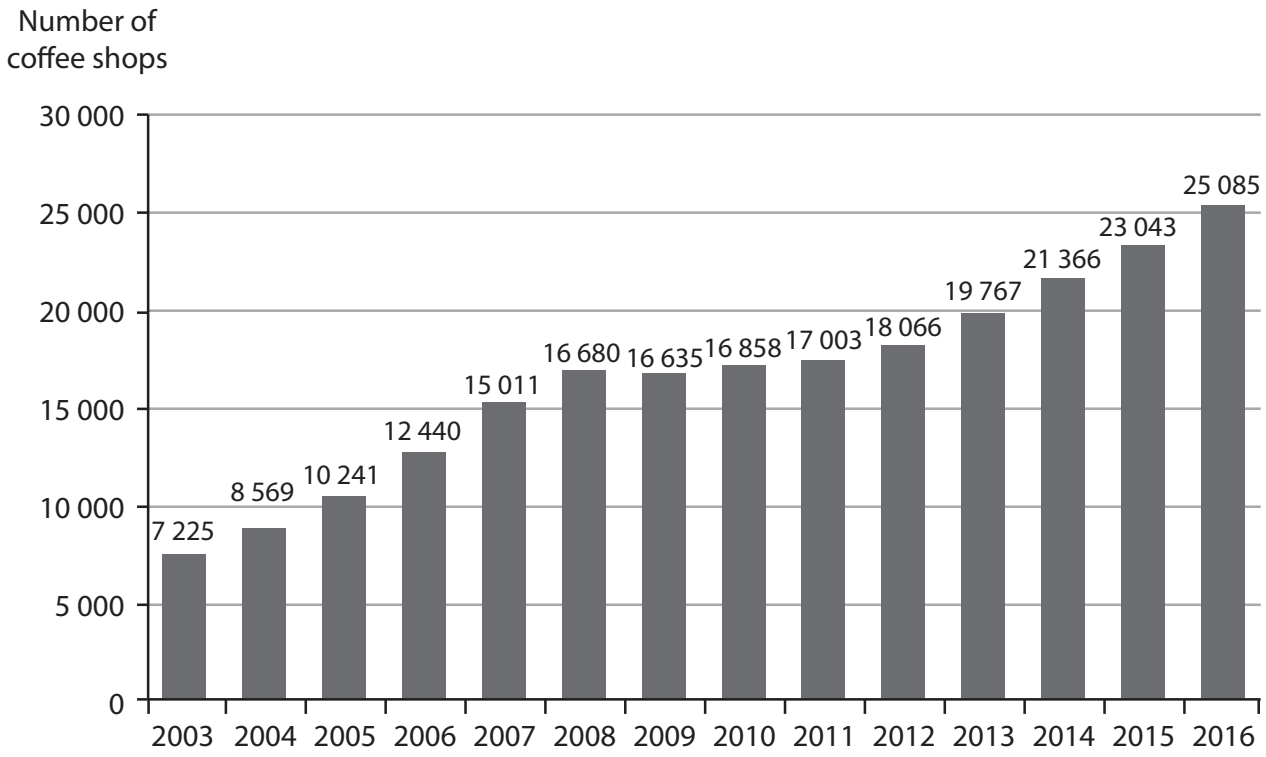
Branded coffee shops

Figure 1: Market share of UK branded coffee shops, 2015, percentages



(Source: http://metro.co.uk/2015/12/14/the-uks-most-popular-coffee-shop-has-been-revealed-5564569/)

Figure 2: Number of Starbucks coffee shops worldwide, 2003–2016



(Source: https://www.statista.com/statistics/266465/number-of-starbucks-stores-worldwide/)

Figure 3: Price comparison in selected London coffee retailers, February 2017

Coffee style	Starbucks	Costa Coffee	Caffè Nero	Greggs	McDonald's
Espresso Double	£2.00	£2.00	£1.70	£1.65	£0.99
Latte Medium	£2.60	£2.50	£2.50	£1.80	£1.79
Latte Large	£2.80	£2.70	£2.80	£2.10	£2.09

(Source: data collected from coffee shops in Holborn, London on 25 February 2017)

Extract A

Starbucks in Britain – a loss-making business?

Coffee shops are among the most profitable parts of the food and drink industry, and few are doing quite as well as Starbucks, a US-based transnational company. Starbucks may be complaining of adverse global market conditions but that did not stop the world's biggest coffee chain from reporting record annual profits in 2016. It made a profit of almost US$4.2 billion for the year, up 16% on 2015. That was mainly the result of a strong performance in its biggest market, America, where revenue rose 11%. The fastest growth was in the China and Asia Pacific region, with revenue up 23%. Howard Schultz, the CEO of Starbucks, said its Chinese coffee shops were the most efficient and profitable. While Starbucks still makes most of its profit in the US, Mr Schultz has said expansion in China will secure its future for "decades to come" and announced plans to more than double the number of shops in China to 5 000 by 2021.

However its British subsidiary, at first glance, appears to be doing less well. It has announced its first ever profit in Britain in 2015 – of just £1 million – despite opening its first coffee shop in the UK in 1998. It now has 849 UK outlets. The main reason why Starbucks has reported persistent losses in the UK is not due to a lack of demand for its coffee, but to minimise its tax bill. It is claimed that some of Starbucks' revenue earned in the UK is transferred to its Dutch subsidiary, which is charged lower rates of tax.

Starbucks is not finding life as easy in Britain as in the USA. It faces competition from home-grown chains such as Costa and Caffè Nero. Accusations of tax avoidance have also damaged Starbucks' sales to the benefit of its competitors. A survey found that a third less people rated Starbucks as their preferred coffee shop than they did before the tax-avoidance allegations were first published.

These issues have forced Starbucks to change its strategy. It has slowed down its expansion plans in the UK and has closed 67 underperforming coffee shops over the past year. It has also tried to repair its reputation by transferring its European headquarters from Amsterdam to London.

(Sources: adapted from *The Economist* 14 February 2015 http://www.economist.com/news/business-and-finance/21643271-tax and Starbucks company report 2016 and http://s21.q4cdn.com/369030626/files/doc_financials/2015/Starbucks-Fiscal-2015_Financial-Highlights.pdf)

Extract B

Tax on disposable coffee cups?

Two and a half billion disposable cups are thrown away every year in the UK, that is, seven million every day. Only one in 400 is recycled. The UK Environment Minister has suggested that a coffee cup tax could work in a similar manner to the plastic bag charge. The 5 pence a bag charge has led to an 85% reduction in the number of bags being given out since October 2015. It is estimated that introducing a tax on disposable coffee cups would cut usage by two billion every year. One environment spokesperson, Kate Parminter, said: "We've seen how dramatically a small charge has affected public behaviour when it comes to the plastic bags and it is clearly time to extend it to coffee cups. Most people purchase a tea or coffee and throw away the cup without even thinking about it, but a charge would increase our awareness of the environmental impact."

In response, another MP welcomed her comments but said he did not believe a tax was the solution. He said: "My initial reaction is charging 5p or 10p for the cup will not work. It will not encourage people to take their own cups in if a coffee goes up from £2.60 to £2.65. I suspect a more technological answer is what we need – either the composition of the disposable cups being changed so they're more easily recyclable, or changing the technology in the recycling."

Disposable coffee cups contain a plastic coating inside the cups which prevent them from becoming soggy, making them difficult to recycle. There are just two specialist facilities in the UK that have the required equipment to separate plastic from paper for recycling. Almost no recycled paper is used in the production of disposable cups, meaning that some 43 000 trees must be cut down annually to keep up with the demand. CO_2 emissions of around 83 000 tonnes are generated every year for their production.

(Sources: adapted from http://www.independent.co.uk/news/uk/politics/disposable-coffee-cups-could-be-taxed-like-plastic-bags-environment-minister-says-a6938126.html 05/09/16 and https://www.cchdaily.co.uk/lib-dems-call-5p-plastic-bag-tax-coffee-cups)

Extract C

German city of Freiburg takes action on cutting the use of disposable coffee cups

The 'Freiburg cup', made from dishwasher-proof plastic, can be reused hundreds of times. Cups are issued with a one-euro deposit, and can be returned to any of the participating coffee shops in the German city. The cups, which are provided to coffee shops by local councils, are washed in the cafés and bakeries that have signed up to the scheme before being reused. 56 coffee retailers have signed up, and 10 000 cups are being used.

One of the main obstacles facing a wider-reaching scheme, however, is the number of café chains in Germany that are unwilling to use unbranded multi-use cups, particularly Starbucks and McDonald's. Starbucks already offers a discounted coffee for customers with a multi-use cup, but only if it is bearing the unmistakable Starbucks logo.

(Source: adapted from http://www.dw.com/en/germanys-love-for-coffee-to-go-leaves-environmental-groups-demanding-action/a-36689719)

Q) 1 (e) With reference to the information provided and your own knowledge, evaluate the microeconomic and macroeconomic effects of increased UK demand for coffee at branded coffee shops.

(25)

(Total for this part = 25 marks)

Continue on separate paper if required.

7 The International Energy Agency has predicted that oil use by cars will peak in 2025 because of the increasing number of drivers switching to electric vehicles.
(Source adapted from: https://www.thetimes.co.uk)

Q) Evaluate the likely microeconomic consequences of consumers shifting from vehicles powered by fuel obtained from oil to electric-powered vehicles.

(25)

(Total for this part = 25 marks)

Continue on separate paper if required.

SUB-TOPIC 1.2.4

SUPPLY

Sub-topic 1.2.4 · 4 questions · 10 marks · lowest tariff first

2 Vanilla bean prices increased to a record $600 a kilogramme in 2018 after a cyclone hit the tropical island of Madagascar, damaging crops. Madagascar supplies 75% to 80% of the world vanilla bean market.

(a) Define the term 'supply.'

(1)

.....

.....

.....

.....

(Total for Question 2(a) = 1 mark)

2 Vanilla bean prices increased to a record $600 a kilogramme in 2018 after a cyclone hit the tropical island of Madagascar, damaging crops. Madagascar supplies 75% to 80% of the world vanilla bean market.

(a) Define the term 'supply.'

(1)

.....

.....

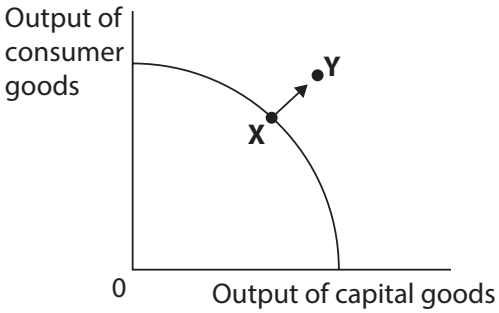
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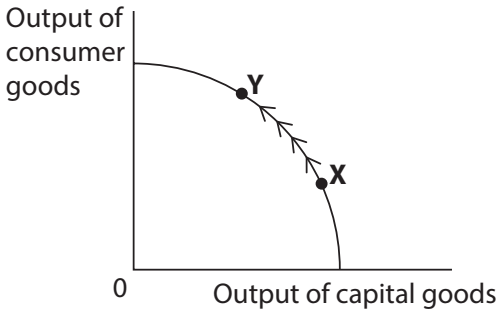
(b) The diagrams below show movements from position X to Y on production possibility frontiers. In which **one** of the diagrams does the movement from X to Y illustrate the most likely impact on Madagascar's economy of a natural disaster such as a cyclone?

(1)

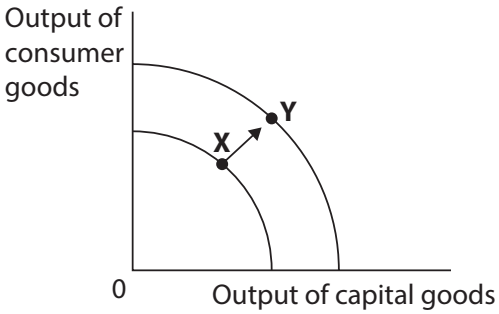
☒ **A**



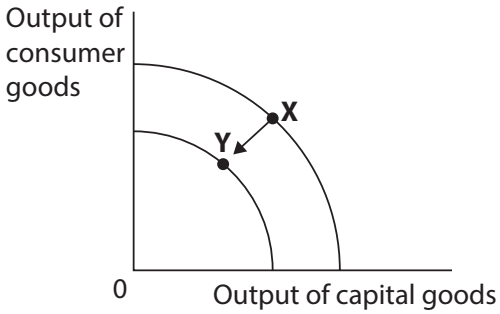
☒ **B**



☒ **C**



☒ **D**



5 In March 2019, 458 054 new car registrations were made, which subsequently fell by 44% in March 2020 due to the impact of the global health crisis. Demand for new vehicles can change quickly and can be caused by a variety of factors.

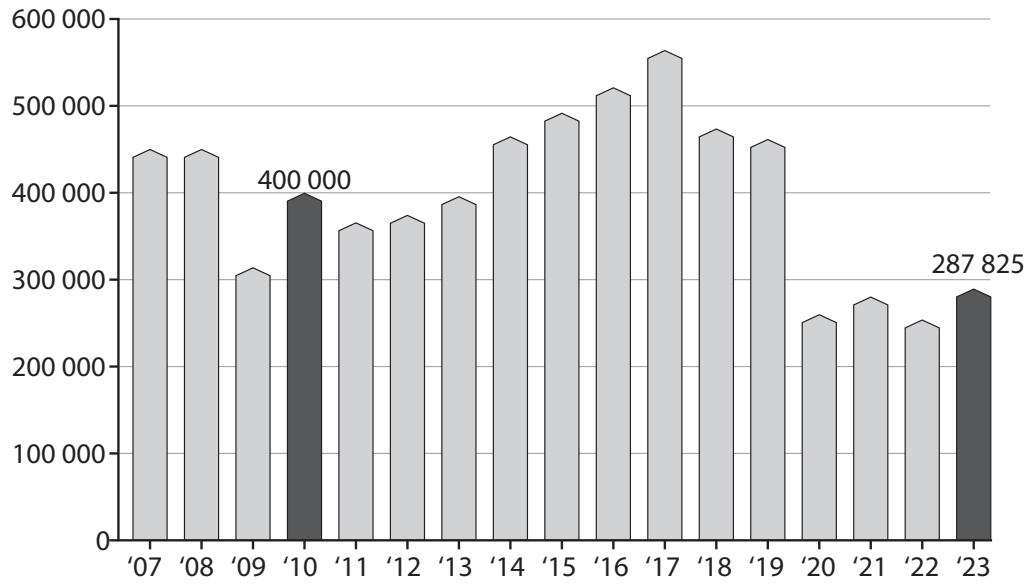
(Source: adapted from https://fleetworld.co.uk/uk-new-car-registrations-slump-44-in-march/)

(a) Which **one** of the following factors may cause a shift in demand for new cars?

(1)

- ☒ **A** Advertising
- ☒ **B** Cost of production
- ☒ **C** Indirect taxes
- ☒ **D** Subsidy to producers

March new car registrations 2007 to 2023



(Source: adapted from https://www.smmt.co.uk/vehicle-data/car-registrations/)

(b) The diagram on the previous page shows new car registrations in March from 2007 to 2023. Using 2010 as the base year, calculate the index number for 2023.

(3)

(Total for Question 5 = 4 marks)

TOTAL FOR SECTION A = 20 MARKS

SECTION B

Read Extracts A and B and Figure 1 before answering Question 6.

Answer ALL Questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

The market for fish

Extract A

Total allowable catches of North Sea cod halved in response to falling stocks

In 2020, new lower limits on the quantity of cod that can be caught by the UK fishing fleet came into force. These limits on the fish catch, called total allowable catches (TACs), were agreed at the annual EU fisheries negotiations.

It was the last December EU meeting attended by the UK before it left the EU. It was agreed that cod catch limits will be cut by 50% in the North Sea, while reduced limits were agreed for cod in the Celtic Sea, Irish Sea and west of Scotland.

However, there were increases for other types of fish, with TACs for haddock in the North Sea rising by 23% and for sole rising by 19%.

UK Fisheries Minister George Eustice said: "This year there has been mounting scientific evidence suggesting that cod is being overfished in many parts of the northeast Atlantic and we have responded to conserve stocks".

These new regulations applied to the UK while it remained part of the Common Fisheries Policy. In the future it will become an independent coastal state and negotiate on fisheries with the EU and other coastal states such as Norway.

(Source adapted from: https://www.independent.co.uk/news/business/news/north-sea-cod-stocks-quota-climate-change-brexit-a9252196.html)

Figure 1

Atlantic over-fishing: share of total allowable catch (TAC) in excess of scientific advice (2019)

Country	**Excess TAC** (%)	**Excess TAC** (tonnes)
Sweden	52.4	17 369
United Kingdom	24.3	106 925
Ireland	21.7	34 052
Denmark	19.7	49 914
Germany	18.0	20 620
The Netherlands	13.5	31 910
Belgium	10.4	3 009
France	9.4	27 230
Spain	6.6	16 689
Portugal	3.8	3 662

(Source adapted from: Statista 2018)

Extract B

The tragedy of the commons

The 'tragedy of the commons' may occur when there are common access resources (CARs). These are natural resources over which no private ownership has been established. Therefore, there are difficulties in excluding people from using or exploiting them. CARs include fisheries and common grazing lands. Oceans are so vast that it is impractical for one fishing company to establish ownership and control. This means that others cannot be prevented from exploiting the ocean. Economists have suggested that with the lack of ownership of these resources, private producers will act in their own self-interest and exploit CARs to maximise profit. This exploitation is unsustainable. In other words, CARs provide an opportunity for individuals to create profit, while creating negative externalities which impact on everybody else. This process is referred to as the 'tragedy of the commons'.

The 'tragedy of the commons' is at the core of a range of problems that are relevant and threatening to natural resources, environments and human health. In the case of overfishing, fishing companies are not made accountable for the state of the ocean. They continue to fish as much as possible to maximise profit. Today, 90% of fish stocks are depleted.

The reason for such a wide range of problems is because there is an environmental cost for everything. The 'tragedy of the commons' is the outcome of the fact that every resource is limited on this planet, coupled with the rising level of demand for these resources. These issues are large-scale and require laws, regulation and international cooperation.

(Source adapted from: http://felixonline.co.uk/articles/2019-12-09-tragedy-commons-drama-planet-not-enjoying/)

6 (a) Explain the likely impact of the new 2020 TACs on the price of cod. Include a supply and demand diagram in your answer.

(5)

SUB-TOPIC 1.2.5

ELASTICITY OF SUPPLY

Sub-topic 1.2.5 · 13 questions · 51 marks · lowest tariff first

5 In March 2020, a substantial increase in the demand for flour resulted in the retail price of flour increasing. Despite the price rises, the supply of flour failed to keep up with the increased demand.

(b) A manufacturer has estimated that the price elasticity of supply of ice cream is +1.5. If the demand for ice cream rises and the price increases by 10%, which **one** of the following is the resulting percentage change in supply?

(1)

☒ **A** 0.15%

☒ **B** 1.5%

☒ **C** 6.67%

☒ **D** 15%

(Total for Question 5(b) = 1 mark)

2 The table below shows price elasticity of supply for housing in the US in 2020.

US State	Price elasticity of supply
New York	+0.5
Texas	+1.8

(Source adapted from: https://bankunderground.co.uk/2020/02/25/the-declining-elasticity-of-us-housing-supply/)

(b) In Texas the price elasticity of supply is +1.8.
Which **one** of the following is the percentage increase in price if the quantity of housing supplied in Texas is increased by 12%?

(1)

☒ **A** 0.15

☒ **B** 1.50

☒ **C** 6.67

☒ **D** 21.60

(Total for Question 2(b) = 1 mark)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 30 minutes on this section.

Use the data to support your answers where relevant. You may annotate and include diagrams in your answers.

1 Between 2016 and 2017 the average price of new build houses in the UK rose by an estimated 5.4%.

Year	Quantity of UK new house builds
2016	134 612
2017	162 880

(Source: http://www.telegraph.co.uk/business/2017/05/25/number-new-homes-built-hits-highest-level-since-financial-crisis/)

(a) With reference to the data provided, calculate the price elasticity of supply for new house builds between 2016 and 2017. You are advised to show your workings.

(2)

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(Total for Question 1(a) = 2 marks)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 30 minutes on this section.

Use the data to support your answers where relevant. You may annotate and include diagrams in your answers.

1 Between 2016 and 2017 the average price of new build houses in the UK rose by an estimated 5.4%.

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2016	134 612
2017	162 880

(Source: http://www.telegraph.co.uk/business/2017/05/25/number-new-homes-built-hits-highest-level-since-financial-crisis/)

(c) Explain **one** factor that is likely to determine the price elasticity of supply of new house builds.

(2)

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(Total for Question 1(c) = 2 marks)

5 In March 2020, a substantial increase in the demand for flour resulted in the retail price of flour increasing. Despite the price rises, the supply of flour failed to keep up with the increased demand.

(a) Explain **one** reason why flour producers might find it difficult to increase quantity supplied in the short run.

(3)

(Total for Question 5(a) = 3 marks)

2 The world's largest producer of natural gas is the USA. In 2021 production fell even though the price increased.

(a) Using the data provided, explain **one** likely factor that may influence the price elasticity of supply of gas.

(3)

(Total for Question 2(a) = 3 marks)

5 In March 2020, a substantial increase in the demand for flour resulted in the retail price of flour increasing. Despite the price rises, the supply of flour failed to keep up with the increased demand.

(a) Explain **one** reason why flour producers might find it difficult to increase quantity supplied in the short run.

(3)

(b) A manufacturer has estimated that the price elasticity of supply of ice cream is +1.5. If the demand for ice cream rises and the price increases by 10%, which **one** of the following is the resulting percentage change in supply?

(1)

☒ **A** 0.15%

☒ **B** 1.5%

☒ **C** 6.67%

☒ **D** 15%

(Total for Question 5 = 4 marks)

TOTAL FOR SECTION A = 20 MARKS

2 The world's largest producer of natural gas is the USA. In 2021 production fell even though the price increased.

(a) Using the data provided, explain **one** likely factor that may influence the price elasticity of supply of gas.

(3)

(b) The table below shows estimates of the price elasticity of supply and price elasticity of demand for gas.

	Natural Gas
Price elasticity of supply	+0.14
Price elasticity of demand	−0.10

(Source: adapted from http://www.usaee.org/usaee2013/submissions/Abs/Ponce_Neumann_Elasticities_gas_supply.pdf, http://www.mackinac.org/1247)

Which **one** of the following can be inferred from the table?

(1)

☒ **A** A 10% increase in the price of gas would cause a more than 10% increase in the supply

☒ **B** Gas is a normal good with income inelastic demand

☒ **C** The demand and supply of gas are both price inelastic

☒ **D** The demand for gas is more responsive to changes in price than supply

(Total for Question 2 = 4 marks)

SECTION B

Read the following Figures (1 to 2) and Extracts (A to B) before answering Question 6.

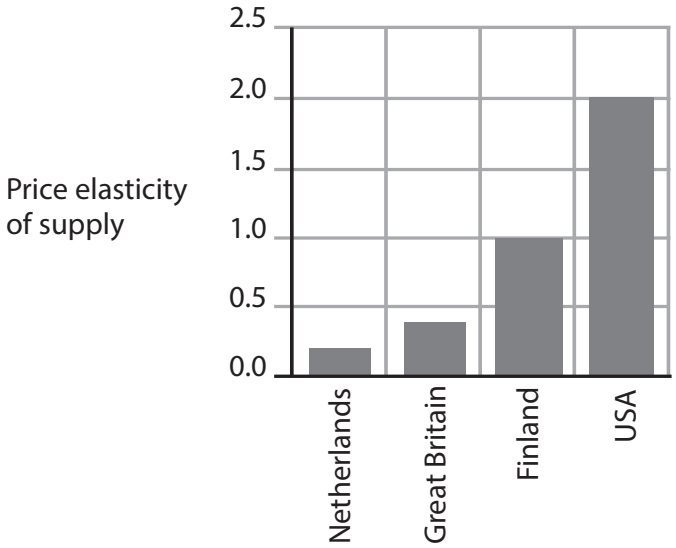
Answer ALL Question 6 (a) to 6 (e) and EITHER Question 6 (f) OR Question 6 (g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

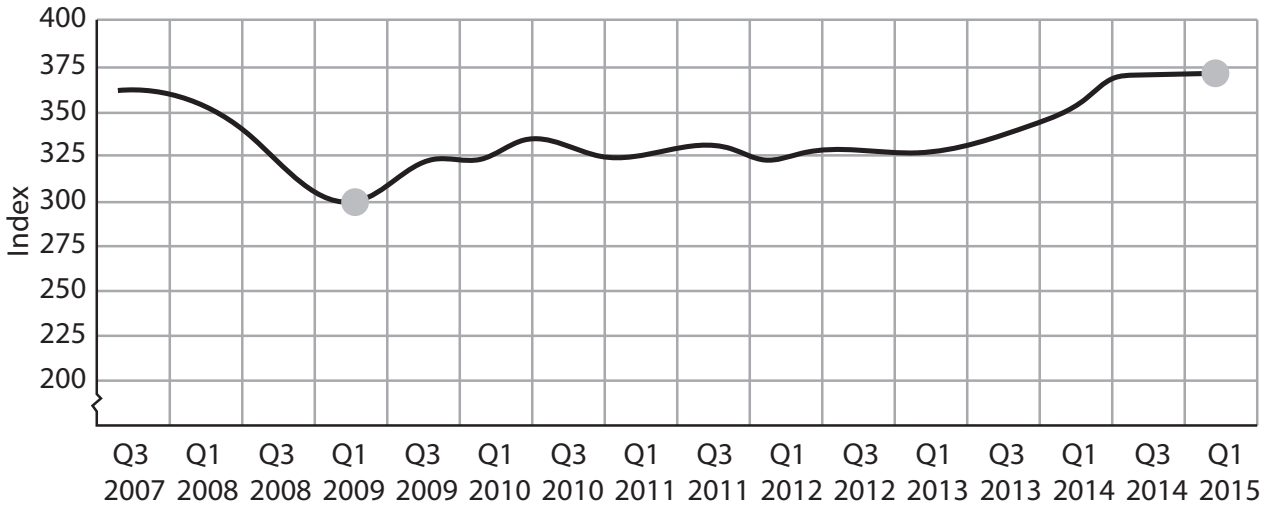
The market for housing

Figure 1 – Estimates of the price elasticity of supply of new housing, selected countries



(Source: adapted from Caldera Sánchez, A. and Å. Johansson (2011), "The Price Responsiveness of Housing Supply in OECD Countries", Figure 3, OECD Economics Department Working Papers, No. 837, OECD Publishing. http://dx.doi.org/10.1787/5kgk9qhrnn33-en)

Figure 2 – Index of UK house prices (1993 = 100)



(Source: http://www.nationwide.co.uk/about/house-price-index/download-data#~)

Extract A

Problems facing UK first time buyers

Over a third of aspiring first time buyers in the UK have given up hope of ever being able to save for a deposit to buy a property, new research has found. A deposit is the minimum amount that must be paid upfront when buying a property, which is a proportion of the price of the property.

The UK Government has a Help to Buy scheme designed to help people buy a home. The government subsidises the mortgage (loan) needed to buy a property, so buyers require a smaller amount saved as a deposit. Under this scheme, first time buyers need as little as a 5% deposit to qualify for a mortgage. This is due to end in the first few months of 2017. The research from mortgage insurer Genworth says this will mean a return to 20% deposits, which would see the average time needed to save for a deposit rise from three years to over 10 years.

"Trying to buy your first home in the current climate is like chasing a runaway train. Even with good salaries that could comfortably support a mortgage, thousands of aspiring first time buyers can only save modest sums, especially those who are already paying rent. This deposit trap is why many feel they are left with the all or nothing choice of borrowing from family or waving goodbye to ever owning a home," said Simon Crone, a vice president at Genworth.

"Help to Buy has significantly improved access to mortgages with deposits that are actually realistic to save. The numbers using the scheme may be modest, but it has made significant inroads in the short-term to boost access at the lower end of the property market," he pointed out.

(Source: adapted from http://www.propertywire.com/news/europe/uk-first-time-buyers-201409309641.html September 2014)

Extract B

Housing and flood defences

A radical new approach to housing and a £2.3 billion of investment in flood defences were announced as part of the UK Government's new National Infrastructure Plan 2014.

One key proposal is for the government to plan, build and sell homes. An initial programme on a government-owned former airfield near Cambridge will see the development of 10 000 homes. This approach will fast track the development by providing certainty and making new homes available more quickly.

The government will make the initial investment but expects that later costs will be met through the sale of land and homes. It will also evaluate the feasibility and economic effects of rolling out this model on a wider scale, to support and accelerate housing supply.

The plan also commits to £2.3 billion of capital investment to over 1400 flood defence projects in a 6-year programme of investment. As a result, over 300 000 homes will be better protected and over £30 billion of economic damages prevented. Major projects that will benefit include £42 million for the Oxford Flood Alleviation Scheme, £80 million for the Humber Estuary and over £17 million for Tonbridge, Yalding and the surrounding communities.

(Source: adapted from https://www.gov.uk/government/news/ambitious-plans-for-housing-flood-defence-and-roads-set-out-in-national-infrastructure-plan-2014)

6 (a) With reference to Figure 1, explain **one** possible reason for the differences in price elasticity of supply of new housing between countries.

(5)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 30 minutes on this section.

Use the data to support your answers where relevant. You may annotate and include diagrams in your answers.

1 Between 2016 and 2017 the average price of new build houses in the UK rose by an estimated 5.4%.

Year	Quantity of UK new house builds
2016	134 612
2017	162 880

(Source: http://www.telegraph.co.uk/business/2017/05/25/number-new-homes-built-hits-highest-level-since-financial-crisis/)

(a) With reference to the data provided, calculate the price elasticity of supply for new house builds between 2016 and 2017. You are advised to show your workings.

(2)

(b) A 2.5% increase in new build house prices in one region of the UK causes a 10% increase in the number of houses built. Ceteris paribus, this suggests that supply of new house builds is:

(1)

- ☐ **A** perfectly price elastic
- ☐ **B** perfectly price inelastic
- ☐ **C** relatively price elastic
- ☐ **D** relatively price inelastic

(c) Explain **one** factor that is likely to determine the price elasticity of supply of new house builds.

(2)

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(Total for Question 1 = 5 marks)

2 In 2022 the UK government provided 130 new licences for North Sea oil and gas exploration, in order to reduce energy prices. However, companies can take 20 years to begin to extract oil. Furthermore, they often have to continue producing oil even when prices fall because the equipment has no other uses.

(Source: adapted from https://www.theguardian.com/environment/2022/dec/12/uk-ministers-face-legal-challenge-over-north-sea-oil-and-gas-licences)

(a) With reference to the data above, explain the likely numerical value of the price elasticity of supply for oil.

(4)

(b) The cross elasticity of demand for petrol cars with respect to the price of diesel cars is estimated to be +0.64.

Which **one** of the following is the most likely impact if the price of diesel cars falls by 10%?

(1)

- ☒ **A** The price of petrol cars falls by 6.4%
- ☒ **B** The price of petrol cars rises by 64%
- ☒ **C** The quantity demanded of petrol cars falls by 6.4%
- ☒ **D** The quantity demanded of petrol cars rises by 64%

(Total for Question 2 = 5 marks)

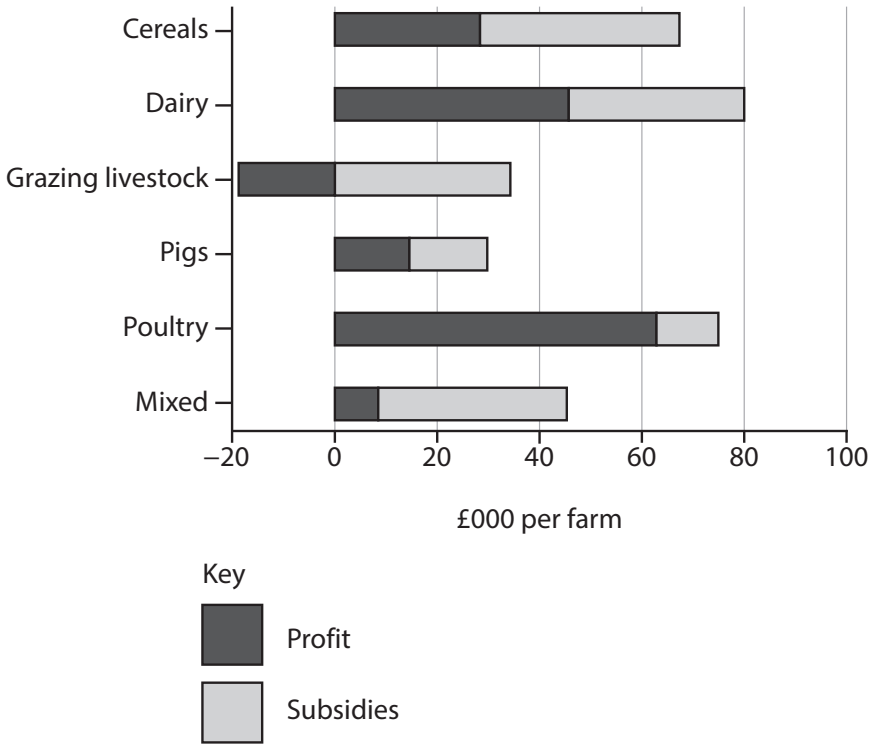
Sources for use with SECTION B

Read the following figures (1 and 2) and extracts (A and B) before answering Question 6.

The market for meat and the growth of vegetarianism

Figure 1

The impact of subsidies on farmer income, in England, 2018–2019 (£000 per farm)



(Source: adapted from www.FT.com)

Figure 2

Potential impact of indirect tax rises on meat prices per kg, 2023–2030

Type of Meat	Before indirect tax increases	After indirect tax increases
Beef/Veal	£24.24	£29.50
Chicken	£7.60	£8.63

(Source: adapted from Tax beef, pork and chicken to help climate and health, EU urged – CGTN)

Extract A

The case for cutting out meat

Around a third of Britons are reducing the amount of meat they eat or are cutting it out altogether. Are these consumers right to be cutting out meat? For a start, there are the greenhouse gases released as a result of producing food. The evidence is clear that switching to a plant-based diet would lower emissions. A UK study found that eating a diet high in meat costs 7.2 kg carbon dioxide emissions per day, compared with 3.8 kg for vegetarians. It would also free up land for other uses. Nearly 80% of the world's farmland is dedicated to rearing animals; a plant-based diet would cut the use of land for agriculture by 76%. The land currently used by grazing livestock could be used for "rewilding", allowing the environment and animal species destroyed by meat farming to recover.

Our health and wealth would be better too. A study published in 2016 modelled what would happen to our health and the global economy if we all switched to vegetarian diets. The economic benefits of switching to plant-based diets could be as much as £700 billion to £1 trillion per year in terms of savings on healthcare costs and lost working days due to ill health.

Some economists recommend an increased indirect tax on animal products so that their prices reflect the cost of externalities.

This could impact on European farmers, if adopted by the European Union. The tax could bring £35 billion to the EU, with around £15 billion of that going directly to farmers. The rest would be used to bring down VAT on fruit and vegetables, and fund other policies to encourage healthy-eating diets both in and outside the EU.

(Source: adapted from https://moneyweek.com/499842/the-economic-consequences-of-veganism December-28-2018)

Extract B

Businesses benefitting from meat-substitute products

There is one group for whom the trend towards meat-substitute products is definitely a good thing: processed food manufacturers and retailers.

Finest British beef burgers are priced at £6.61 per kg. The 'fake burger' (which is made mostly of pea protein) is priced at £21.81 per kg even though the ingredients used to make them, such as mushrooms, peas and palm oil, are cheaper ingredients than meat. Despite high prices, demand continues to rise for these products. This might benefit shareholders, but is it doing any real good for the rest of us?

A large food producer bought meat-substitute product maker Vegetarian Butcher in December 2018 and is moving towards a range with more meat-substitute products. In 2017, Nestlé bought Sweet Earth, a California-based maker of vegetarian foods, and it is launching its own meat-substitute 'Incredible Burger'. It expects its meat-substitute revenues to reach $1 billion by 2029.

As subsidies are being cut in every area of farming, consumers ought to be willing to pay higher prices for all food products. If farmers are to stay in business, they need to find additional sources of revenue such as oyster mushrooms, goji berries and basil.

(Source: adapted from http://www.financialtimes.com/the-veganism-boom-does-more-for-food-company-profits-than-the-planet February-22-2019)

(c) With reference to the last paragraph of Extract B, explain **two** factors which are likely to influence price elasticity of supply.

(6)

SECTION B

Read Figure 1 and the following extracts (A to C) before answering Question 6.

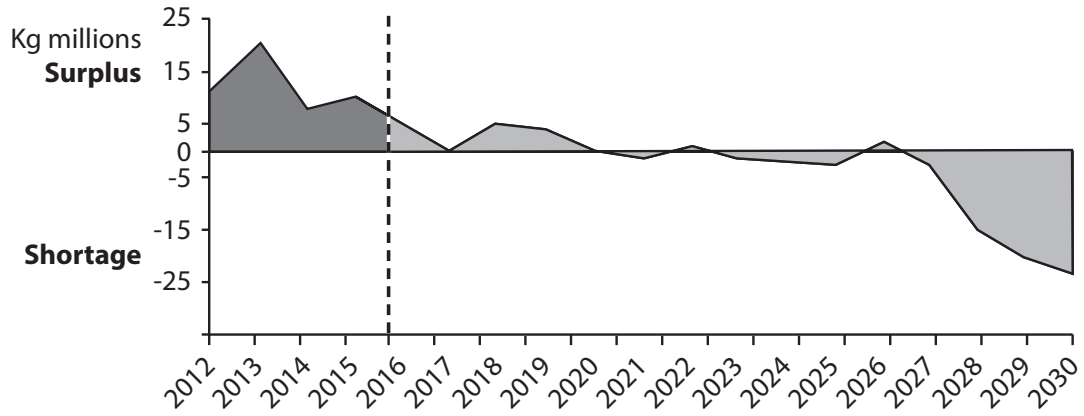
Answer ALL Questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour 5 minutes on this section.

Question 6

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.

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.

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.

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.

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.

(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.

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.

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.

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.

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

(b) With reference to Extract A and your own knowledge, assess whether the supply of uranium is likely to be price elastic or price inelastic.

(10)

SUB-TOPIC 1.2.6

PRICE DETERMINATION

Sub-topic 1.2.6 · 19 questions · 73 marks · lowest tariff first

4 The excess supply of carbon steel has recently caused its global price to fall below $530 per tonne.

(Source: adapted from http://www.meps.co.uk/allproducts%20steel%20price.htm)

Steel production leads to high levels of carbon emissions.

(b) Which **one** of the following is likely to result in an increase in carbon emissions?

(1)

- ☒ **A** Introducing a tradable pollution permits scheme
- ☒ **B** Shutting down steel factories
- ☒ **C** Subsidising the steel industry to install cleaner technology
- ☒ **D** Reducing indirect taxes on steel products

(Total for Question 4(b) = 1 mark)

5 Universities UK raised concerns about the proposal to reduce the maximum tuition fees (fee cap) for undergraduate courses in England from £9 000 to £6 000. It stated "This unfunded proposal to reduce the fee cap would damage the quality of experience our universities could deliver to students and remove opportunities for those seeking to benefit from a university education".

(Source: adapted from tuition fees 2015 Times letter Universities UK http://www.universitiesuk.ac.uk/highereducation/Pages/UUKboardFeesLetter.aspx#.VjoQRbfhDIU)

(b) Which **one** of the following statements is correct?

(1)

- ☒ **A** The marginal social benefits exceed the marginal private benefits from university education
- ☒ **B** University education is an inferior good
- ☒ **C** University education is a public good
- ☒ **D** The social optimum equilibrium quantity is less than the market equilibrium quantity for university education

(Total for Question 5(b) = 1 mark)

4 (a) During the period from October to December 2022, production of coffee beans in the Philippines increased by 2.7% from the same quarter in 2021.

Which **one** of the following is most likely to cause a shift to the right of the supply curve?

(1)

- ☒ **A** A decrease in the demand for coffee
- ☒ **B** A subsidy to coffee bean producers
- ☒ **C** A tax on coffee bean production
- ☒ **D** The cost of production rises

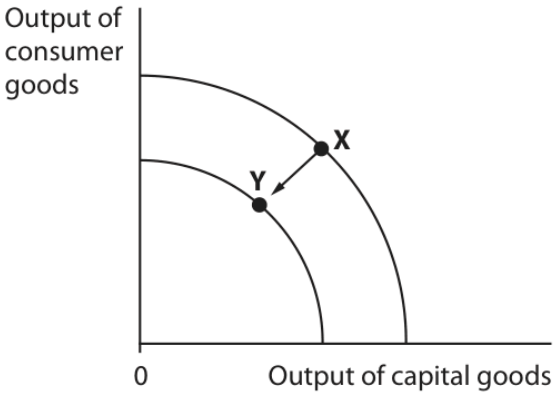
(Total for Question 4(a) = 1 mark)

2 In August 2017 Hurricane Harvey caused the closure of nearly a quarter of the oil production capacity in the United States.

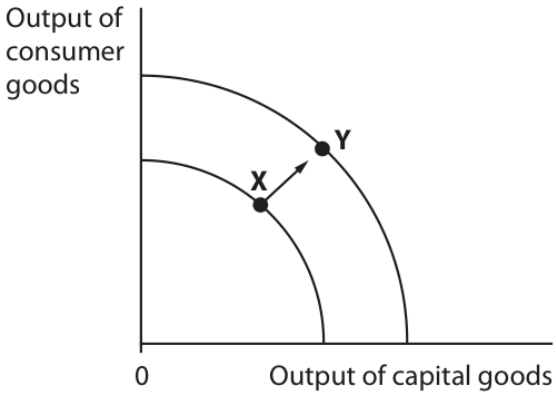
(b) The diagrams show movements from position X to Y on production possibility frontiers. In which **one** of the diagrams does the movement from X to Y illustrate the most likely impact on the US economy of a natural disaster such as Hurricane Harvey?

(1)

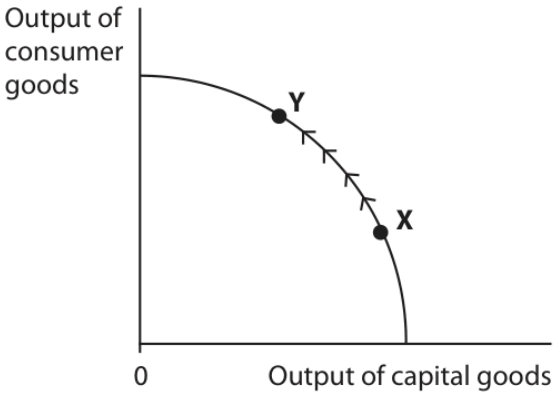
☒ **A**



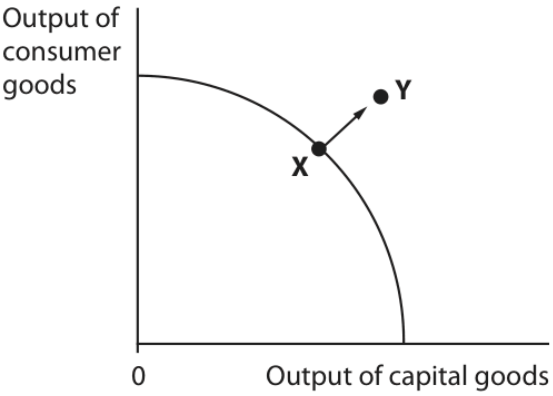
☒ **B**



☒ **C**



☒ **D**



(Total for Question 2(b) = 1 mark)

2 Vanilla bean prices increased to a record $600 a kilogramme in 2018 after a cyclone hit the tropical island of Madagascar, damaging crops. Madagascar supplies 75% to 80% of the world vanilla bean market.

(c) Annotate the diagram below to show the effect of the cyclone on the price of vanilla beans.

(2)

(Total for Question 2(c) = 2 marks)

4 The excess supply of carbon steel has recently caused its global price to fall below $530 per tonne.

(Source: adapted from http://www.meps.co.uk/allproducts%20steel%20price.htm)

(a) Explain how the price mechanism responds to excess supply in a free market.

(3)

(Total for Question 4(a) = 3 marks)

5 Universities UK raised concerns about the proposal to reduce the maximum tuition fees (fee cap) for undergraduate courses in England from £9 000 to £6 000. It stated "This unfunded proposal to reduce the fee cap would damage the quality of experience our universities could deliver to students and remove opportunities for those seeking to benefit from a university education".

(Source: adapted from tuition fees 2015 Times letter Universities UK http://www.universitiesuk.ac.uk/highereducation/Pages/UUKboardFeesLetter.aspx#.VjoQRbfhDIU)

(a) Explain why reducing the tuition fee cap may result in excess demand for university places.

(3)

(Total for Question 5(a) = 3 marks)

4 During 2021 the UK experienced severe shortages of crisps, petrol and many other items.

(Source: adapted from https://www.independent.co.uk/news/business/news/uk-shortages-covid-brexit-supply-chain-b1968458.html)

(a) Explain **one** reason why it is rational for a firm to raise prices when there is excess demand.

(3)

(Total for Question 4(a) = 3 marks)

4 (a) During the period from October to December 2022, production of coffee beans in the Philippines increased by 2.7% from the same quarter in 2021.

Which **one** of the following is most likely to cause a shift to the right of the supply curve?

(1)

- ☒ **A** A decrease in the demand for coffee
- ☒ **B** A subsidy to coffee bean producers
- ☒ **C** A tax on coffee bean production
- ☒ **D** The cost of production rises

(b) Explain how the operation of market forces will eliminate an excess supply of coffee.

(3)

(Total for Question 4 = 4 marks)

4 The excess supply of carbon steel has recently caused its global price to fall below $530 per tonne.

(Source: adapted from http://www.meps.co.uk/allproducts%20steel%20price.htm)

(a) Explain how the price mechanism responds to excess supply in a free market.

(3)

Steel production leads to high levels of carbon emissions.

(b) Which **one** of the following is likely to result in an increase in carbon emissions?

(1)

- ☒ **A** Introducing a tradable pollution permits scheme
- ☒ **B** Shutting down steel factories
- ☒ **C** Subsidising the steel industry to install cleaner technology
- ☒ **D** Reducing indirect taxes on steel products

(Total for Question 4 = 4 marks)

5 Universities UK raised concerns about the proposal to reduce the maximum tuition fees (fee cap) for undergraduate courses in England from £9 000 to £6 000. It stated "This unfunded proposal to reduce the fee cap would damage the quality of experience our universities could deliver to students and remove opportunities for those seeking to benefit from a university education".

(Source: adapted from tuition fees 2015 Times letter Universities UK http://www.universitiesuk.ac.uk/highereducation/Pages/UUKboardFeesLetter.aspx#.VjoQRbfhDIU)

(a) Explain why reducing the tuition fee cap may result in excess demand for university places.

(3)

(b) Which **one** of the following statements is correct?

(1)

- ☒ **A** The marginal social benefits exceed the marginal private benefits from university education
- ☒ **B** University education is an inferior good
- ☒ **C** University education is a public good
- ☒ **D** The social optimum equilibrium quantity is less than the market equilibrium quantity for university education

(Total for Question 5 = 4 marks)

TOTAL FOR SECTION A = 20 MARKS

4 During 2021 the UK experienced severe shortages of crisps, petrol and many other items.

(Source: adapted from https://www.independent.co.uk/news/business/news/uk-shortages-covid-brexit-supply-chain-b1968458.html)

(a) Explain **one** reason why it is rational for a firm to raise prices when there is excess demand.

(3)

Esso, Tesco and Sainsbury's all charge £ 1.48 for a litre of petrol.

(b) Which **one** of the following is the most likely cross price elasticity of demand for close substitutes?

(1)

- ☒ **A** – 2.1
- ☒ **B** – 0.1
- ☒ **C** + 0.1
- ☒ **D** + 2.1

(Total for Question 4 = 4 marks)

2 Vanilla bean prices increased to a record $600 a kilogramme in 2018 after a cyclone hit the tropical island of Madagascar, damaging crops. Madagascar supplies 75% to 80% of the world vanilla bean market.

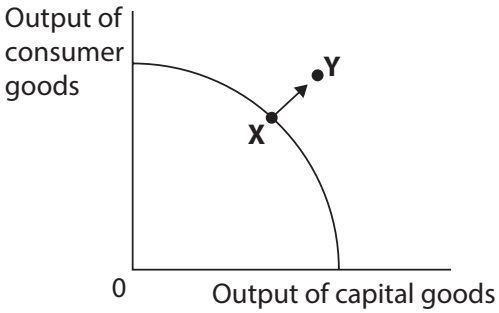
(a) Define the term 'supply.'

(1)

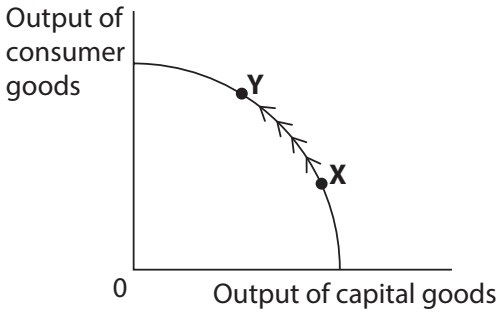
(b) The diagrams below show movements from position X to Y on production possibility frontiers. In which **one** of the diagrams does the movement from X to Y illustrate the most likely impact on Madagascar's economy of a natural disaster such as a cyclone?

(1)

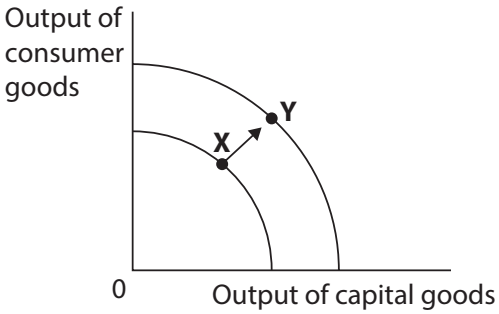
☒ **A**



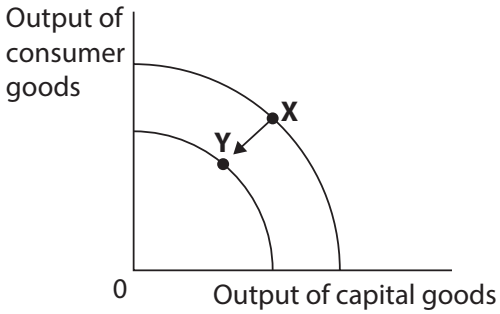
☒ **B**



☒ **C**

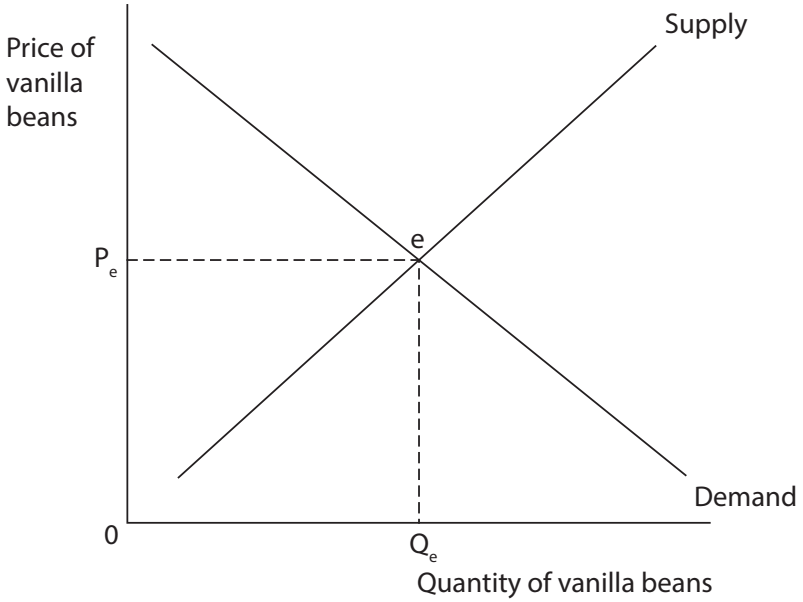


☒ **D**



(c) Annotate the diagram below to show the effect of the cyclone on the price of vanilla beans.

(2)



(Total for Question 2 = 4 marks)

4 (a) During the period from October to December 2022, production of coffee beans in the Philippines increased by 2.7% from the same quarter in 2021.

Which **one** of the following is most likely to cause a shift to the right of the supply curve?

(1)

- ☒ **A** A decrease in the demand for coffee
- ☒ **B** A subsidy to coffee bean producers
- ☒ **C** A tax on coffee bean production
- ☒ **D** The cost of production rises

(b) Explain how the operation of market forces will eliminate an excess supply of coffee.

(3)

(Total for Question 4 = 4 marks)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 30 minutes on this section.

Use the data to support your answers where relevant. You may annotate and include diagrams in your answers.

1 The table shows market data for e-cigarette kits. The original equilibrium price is £23.

Price £	Quantity demanded per month (000)	Quantity supplied per month (000)	New quantity demanded per month (000)	New quantity supplied per month (000)
25	5	9		
24	6	8		
23	7	7		
22	8	6		
21	9	5		

As a result of a successful advertising campaign, demand increased by 3 000 e-cigarette kits at all prices. At the same time production costs fell leading to an increase in supply of 1000 e-cigarette kits at all prices.

(a) Calculate the new equilibrium price and quantity following the successful advertising campaign and the fall in production costs. Use the last two columns for your working.

(4)

(b) Research conducted in New Zealand in 2014 estimated the cross elasticity of demand for e-cigarettes to be 0.16 in response to changes in the price of tobacco. This implies that a 5% increase in the price of tobacco will cause the percentage change in demand for e-cigarettes to be:

(1)

- ☒ **A** -31.25
- ☒ **B** -0.16
- ☒ **C** 0.8
- ☒ **D** 31.25

(Total for Question 1 = 5 marks)

SECTION B

Read Figure 1 and the following extracts (A to C) before answering Question 6.

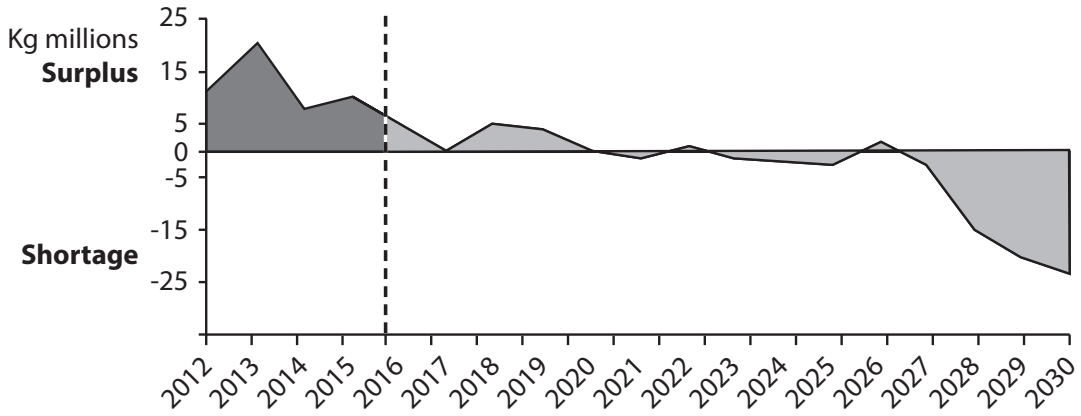
Answer ALL Questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour 5 minutes on this section.

Question 6

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.

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.

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.

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.

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.

(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.

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.

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.

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.

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

6 (a) With reference to Figure 1 and Extract A, explain why the price of uranium has 'fallen to a 13-year low' (Extract A, lines 2 and 3) in 2016. Include a supply and demand diagram in your answer.

(5)

2 In August 2017 Hurricane Harvey caused the closure of nearly a quarter of the oil production capacity in the United States.

(a) Draw a supply and demand diagram to show the likely microeconomic effects of the hurricane on the US oil market.

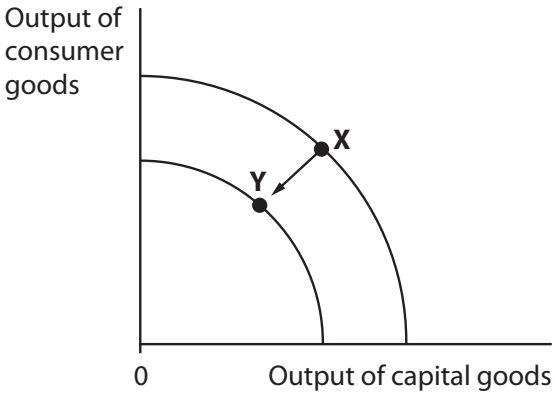
(4)



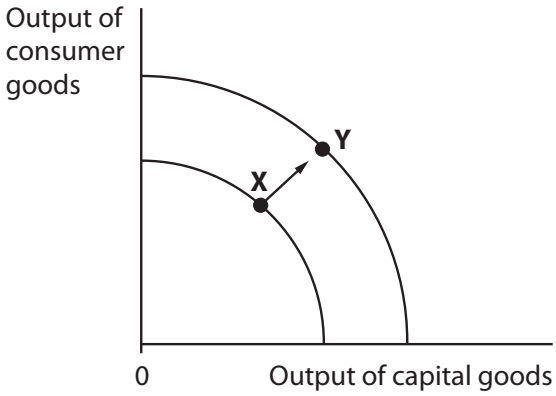
(b) The diagrams show movements from position X to Y on production possibility frontiers. In which **one** of the diagrams does the movement from X to Y illustrate the most likely impact on the US economy of a natural disaster such as Hurricane Harvey?

(1)

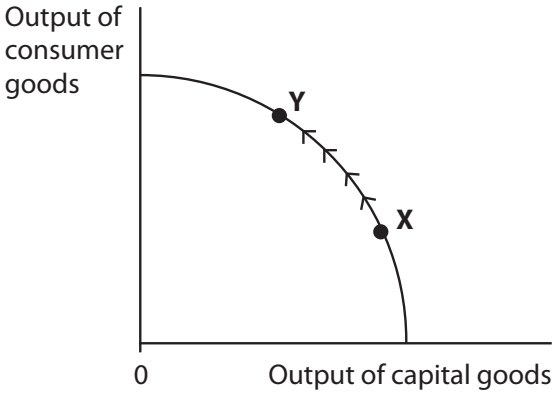
☒ **A**



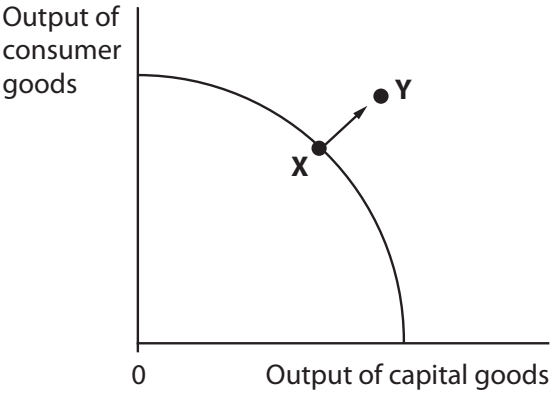
☒ **B**



☒ **C**



☒ **D**



(Total for Question 2 = 5 marks)

SECTION B

Read the following extracts (A to D) before answering Question 6.

Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

Question 6

The electronics industry

Extract A

Rising prices of electronics devices

Computer chips act as the "brain" in all electronic devices. Makers of electronic devices face significant increases in the price of computer chips as they try to source enough components, including games consoles, computers and smartphones. The price of some computer chips has jumped from $0.20 each to more than $1. The prices of electronic devices have risen for a range of reasons, including higher material costs and the growing popularity of home entertainment.

(Source: adapted from https://www.ft.com/content/8c718a74-cd95-4b2d-ac0e-de0682e4e3cd)

Extract B

Labour shortages in the electronics industry

Every year, highly skilled and experienced employees in the electronics industry retire. The current tight labour market has made an already difficult problem of hiring suitable engineering and computing graduates worse, especially since the nature of the industry is becoming increasingly technical. As production becomes more automated, electronics jobs are more likely to require problem solving and analysis than just assembling skills. However, artificial intelligence and other new technologies can help fill some of the skills gap. In addition, by giving hazardous, repetitive, grimy work to robots, human beings can focus on more creative, analytic tasks.

(Source: adapted from https://www.ericsson.com/en/blog/2021/12/manufacturing-problems-that-keep-ceos-awake-at-night)

Extract C

Serious concerns over merger

The Competition and Markets Authority (CMA) has said the takeover of the Cambridge-based computer chip designer Arm by its US rival Nvidia raises serious competition concerns. It has launched an in-depth investigation into the £29.5 billion deal. The CMA said the merger could reduce choice for firms reliant on computer chips, pushing up prices of products including cars, games consoles and mobile phones. In addition, severe global shortages of computer chips has disrupted the manufacture of a range of electronic goods pushing up costs for firms.

Despite this, large electronics firms benefit from economies of scale and are able to finance high-risk innovation and global advertising.

(Source adapted from: https://www.theguardian.com/business/2021/aug/20/watchdog-expresses-concerns-over-nvidias-takeover-of-uk-chip-designer-arm)

Extract D

The growing problem of electronic waste

Electronic waste is the fastest growing element of the world's household waste problem. The problem in the UK is particularly bad. The country produces 24.9 kg a person a year – nearly 10 kg more than the EU average. In 2018, 1.2 million tonnes of electrical devices were sold in the UK, and 500 000 tonnes made it to recycling centres. Some appliances are more likely to be recycled than others. The recycling rate for big appliances, such as fridges and cookers, is about 80%. Of small appliances, barely one in five makes it to the recycling centre. As items such as toasters, hairdryers and headphones fit into household bins, they are not often taken to a recycling centre. This causes many problems, such as hazardous substances contaminating soil, water pollution and other external costs.

Policy makers have a long list of options to combat this problem including stricter regulation, environmental education, taxation and financial incentives. In some countries, for example, household rubbish is weighed and recycling initiatives are subsidised.

(Source adapted from: https://www.ft.com/content/26e1aa74-2261-11ea-92da-f0c92e957a96)

6 (a) With reference to Extract A, explain the likely reasons for the change in price of electronic devices. Include a supply and demand diagram in your answer.

(5)

SECTION B

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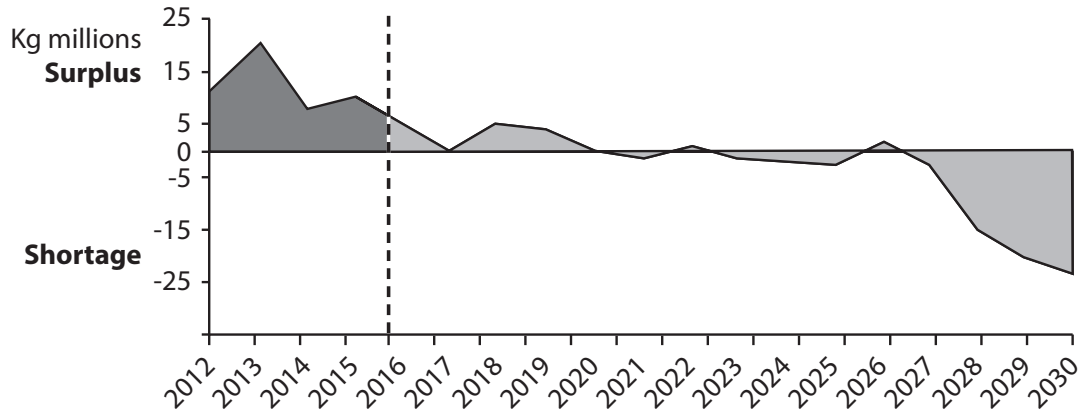
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Extract C

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.

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

The UK Government is considering introducing a maximum price for energy.

(e) Discuss the likely microeconomic effects of this decision on energy producers **and** consumers. Include a supply and demand diagram in your answer.

(15)

SUB-TOPIC 1.2.7

PRICE MECHANISM

Sub-topic 1.2.7 · 9 questions · 31 marks · lowest tariff first

3 In the UK charges for dental treatment vary. For example, the following charges can be made for a tooth filling:

- National Health Service (NHS) dental treatment £50.50
- Private dental treatment £95–£700

A dentist can choose to offer NHS treatment, private treatment or both.

(a) Using the data above, which **one** of the following is a function of the price mechanism in the market for private dental care?

(1)

- ☒ **A** Acting as a signal to dentists when deciding whether to provide private dental treatment
- ☒ **B** Eliminating a shortage of private dentists by allowing the price of private treatment to fall
- ☒ **C** Encouraging government intervention to set dental care targets
- ☒ **D** Incentivising private dentists to offer only NHS treatment

(Total for Question 3(a) = 1 mark)

3 In the UK charges for dental treatment vary. For example, the following charges can be made for a tooth filling:

- National Health Service (NHS) dental treatment £50.50
- Private dental treatment £95–£700

A dentist can choose to offer NHS treatment, private treatment or both.

(c) Define the term 'asymmetric information'.

(1)

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(Total for Question 3(c) = 1 mark)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 25 minutes on this section.

Use the data to support your answers where relevant. You may annotate and include diagrams in your answers.

1 (a) Define the term 'free market economy'.

(1)

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(Total for Question 1(a) = 1 mark)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 25 minutes on this section.

Use the data to support your answers where relevant. You may annotate and include diagrams in your answers.

(b) Which **one** of the following is the best example of the rationing function of the price mechanism?

(1)

☒ **A** An increase in demand, leading to a rise in price, will encourage new firms to enter the market

☒ **B** Changes in price provide information to both producers and consumers

☒ **C** If a product is scarce, a rise in price is likely to make the shortage worse

☒ **D** When there is a shortage of a product, the price will rise and discourage some consumers from buying the product

(Total for Question 1(b) = 1 mark)

3 In the UK charges for dental treatment vary. For example, the following charges can be made for a tooth filling:

- National Health Service (NHS) dental treatment £50.50
- Private dental treatment £95–£700

A dentist can choose to offer NHS treatment, private treatment or both.

(b) Explain **one** possible reason why the state provides NHS dental treatment.

(2)

(Total for Question 3(b) = 2 marks)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 25 minutes on this section.

Use the data to support your answers where relevant. You may annotate and include diagrams in your answers.

(c) Explain **one** advantage of a free market economy compared to a command economy.

(2)

(Total for Question 1(c) = 2 marks)

3 In the UK charges for dental treatment vary. For example, the following charges can be made for a tooth filling:

- National Health Service (NHS) dental treatment £50.50
- Private dental treatment £95–£700

A dentist can choose to offer NHS treatment, private treatment or both.

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(1)

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- ☒ **C** Encouraging government intervention to set dental care targets
- ☒ **D** Incentivising private dentists to offer only NHS treatment

(b) Explain **one** possible reason why the state provides NHS dental treatment.

(2)

(c) Define the term 'asymmetric information'.

(1)

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(Total for Question 3 = 4 marks)

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

You are advised to spend 25 minutes on this section.

Use the data to support your answers where relevant. You may annotate and include diagrams in your answers.

1 (a) Define the term 'free market economy'.

(1)

.....

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.....

.....

(b) Which **one** of the following is the best example of the rationing function of the price mechanism?

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☒ **C** If a product is scarce, a rise in price is likely to make the shortage worse

☒ **D** When there is a shortage of a product, the price will rise and discourage some consumers from buying the product

(c) Explain **one** advantage of a free market economy compared to a command economy.

(2)

(Total for Question 1 = 4 marks)

SECTION B

Read the following Figures (1 to 2) and Extracts (A to B) before answering Question 6.

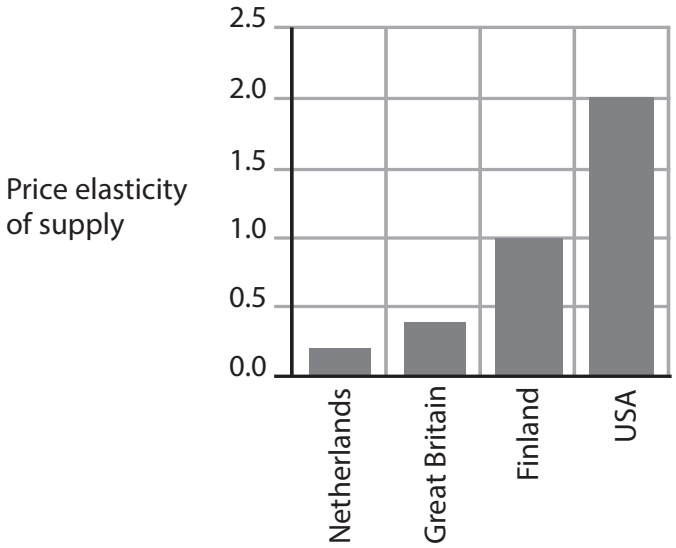
Answer ALL Question 6 (a) to 6 (e) and EITHER Question 6 (f) OR Question 6 (g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

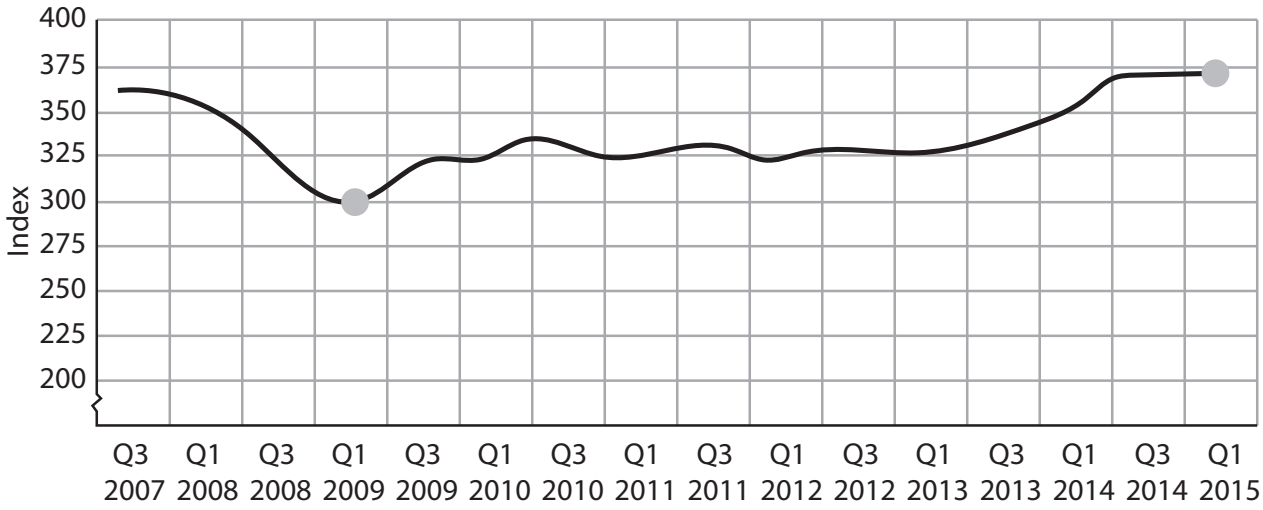
The market for housing

Figure 1 – Estimates of the price elasticity of supply of new housing, selected countries



(Source: adapted from Caldera Sánchez, A. and Å. Johansson (2011), "The Price Responsiveness of Housing Supply in OECD Countries", Figure 3, OECD Economics Department Working Papers, No. 837, OECD Publishing. http://dx.doi.org/10.1787/5kgk9qhrnn33-en)

Figure 2 – Index of UK house prices (1993 = 100)



(Source: http://www.nationwide.co.uk/about/house-price-index/download-data#~)

Extract A

Problems facing UK first time buyers

Over a third of aspiring first time buyers in the UK have given up hope of ever being able to save for a deposit to buy a property, new research has found. A deposit is the minimum amount that must be paid upfront when buying a property, which is a proportion of the price of the property.

The UK Government has a Help to Buy scheme designed to help people buy a home. The government subsidises the mortgage (loan) needed to buy a property, so buyers require a smaller amount saved as a deposit. Under this scheme, first time buyers need as little as a 5% deposit to qualify for a mortgage. This is due to end in the first few months of 2017. The research from mortgage insurer Genworth says this will mean a return to 20% deposits, which would see the average time needed to save for a deposit rise from three years to over 10 years.

"Trying to buy your first home in the current climate is like chasing a runaway train. Even with good salaries that could comfortably support a mortgage, thousands of aspiring first time buyers can only save modest sums, especially those who are already paying rent. This deposit trap is why many feel they are left with the all or nothing choice of borrowing from family or waving goodbye to ever owning a home," said Simon Crone, a vice president at Genworth.

"Help to Buy has significantly improved access to mortgages with deposits that are actually realistic to save. The numbers using the scheme may be modest, but it has made significant inroads in the short-term to boost access at the lower end of the property market," he pointed out.

(Source: adapted from http://www.propertywire.com/news/europe/uk-first-time-buyers-201409309641.html September 2014)

Extract B

Housing and flood defences

A radical new approach to housing and a £2.3 billion of investment in flood defences were announced as part of the UK Government's new National Infrastructure Plan 2014.

One key proposal is for the government to plan, build and sell homes. An initial programme on a government-owned former airfield near Cambridge will see the development of 10 000 homes. This approach will fast track the development by providing certainty and making new homes available more quickly.

The government will make the initial investment but expects that later costs will be met through the sale of land and homes. It will also evaluate the feasibility and economic effects of rolling out this model on a wider scale, to support and accelerate housing supply.

The plan also commits to £2.3 billion of capital investment to over 1400 flood defence projects in a 6-year programme of investment. As a result, over 300 000 homes will be better protected and over £30 billion of economic damages prevented. Major projects that will benefit include £42 million for the Oxford Flood Alleviation Scheme, £80 million for the Humber Estuary and over £17 million for Tonbridge, Yalding and the surrounding communities.

(Source: adapted from https://www.gov.uk/government/news/ambitious-plans-for-housing-flood-defence-and-roads-set-out-in-national-infrastructure-plan-2014)

(e) With reference to Figures 1 and 2 and your own knowledge, discuss the functions of the price mechanism in allocating housing.

(15)

SUB-TOPIC 1.2.8

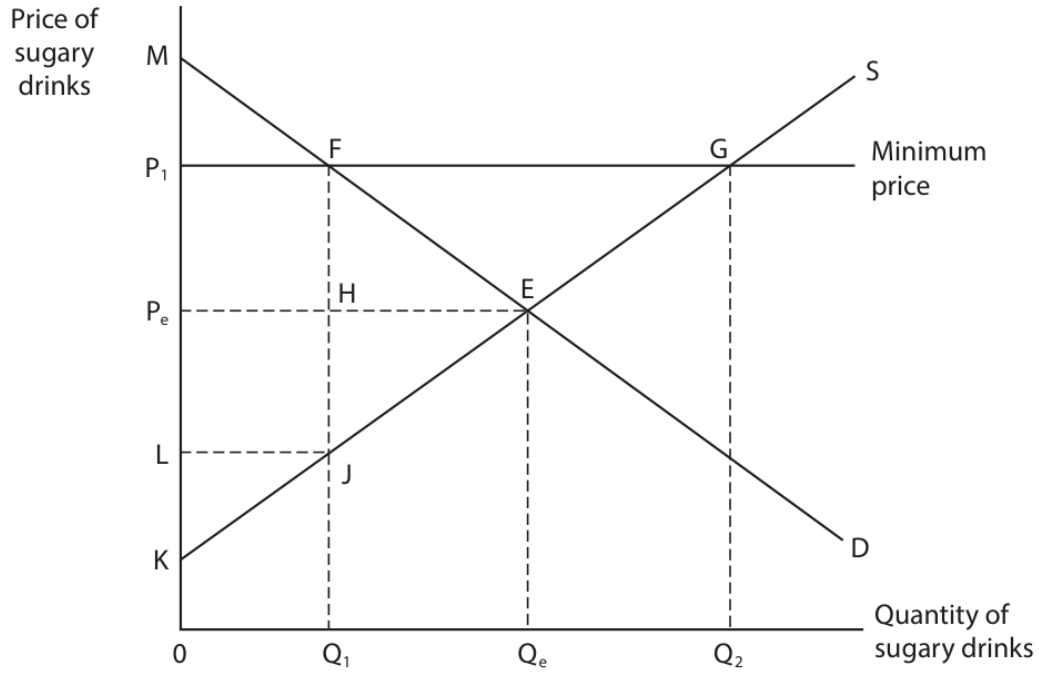
CONSUMER AND PRODUCER SURPLUS

Sub-topic 1.2.8 · 7 questions · 22 marks · lowest tariff first

4 An annual season ticket for a train journey between London and Reading is planned to increase from £5 044 to £5 664 in 2023.

(Source adapted from: https://commonslibrary.parliament.uk/how-much-could-rail-fares-increase-by-in-2023-and-why)

The diagram below shows the demand and supply for sugary drinks.



(c) Which **one** of the following areas represents the *change* in producer surplus when a minimum price is imposed?

(1)

- ☒ **A** FEP_eP_1
- ☒ **B** FMP_1
- ☒ **C** GEP_eP_1
- ☒ **D** GKP_1

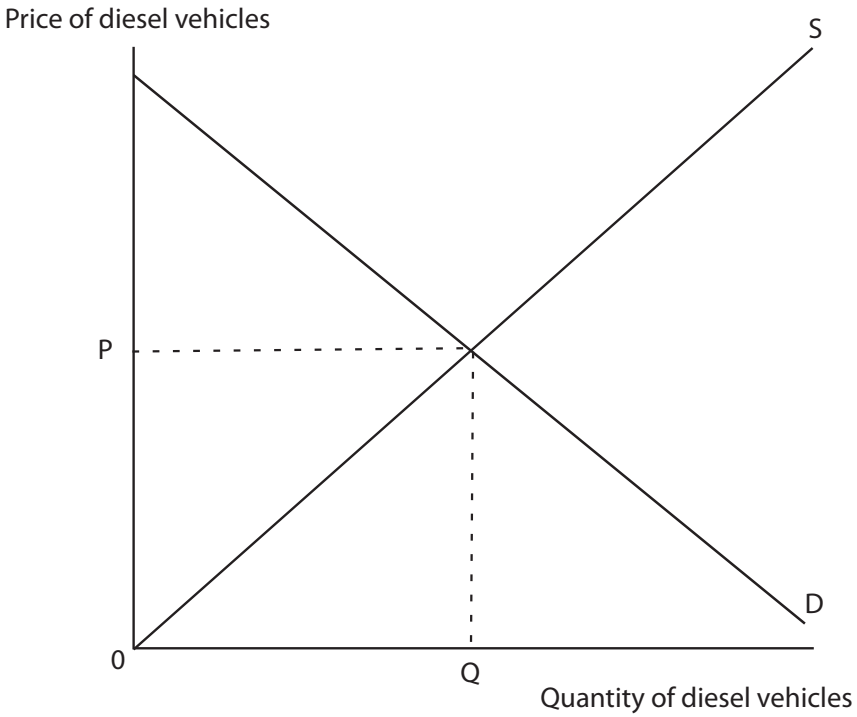
(Total for Question 4(c) = 1 mark)

2 The consensus that diesel emissions are bad for health has led to many cities planning to ban diesel vehicles from their centres. The mayors of Paris, Mexico City, Madrid and Athens have said they intend to ban these vehicles by 2025.

(Source: adapted from http://www.autoexpress.co.uk/car-news/consumer-news/98747/diesel-ban-clean-air-zone-expansion-could-see-diesel-cars-charged-to)

(a) Annotate the diagram to show the change in consumer surplus in the market for diesel vehicles, following the change in demand caused by the proposed 2025 ban in some city centres.

(2)



4 An annual season ticket for a train journey between London and Reading is planned to increase from £5 044 to £5 664 in 2023.

(Source adapted from: https://commonslibrary.parliament.uk/how-much-could-rail-fares-increase-by-in-2023-and-why)

(a) With reference to the information provided, calculate the percentage change in the price of an annual season ticket.

(2)

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(Total for Question 4(a) = 2 marks)

4 An annual season ticket for a train journey between London and Reading is planned to increase from £5 044 to £5 664 in 2023.

(Source adapted from: https://commonslibrary.parliament.uk/how-much-could-rail-fares-increase-by-in-2023-and-why)

(b) Explain the likely impact of the increase in price of a season ticket on consumer surplus.

(2)

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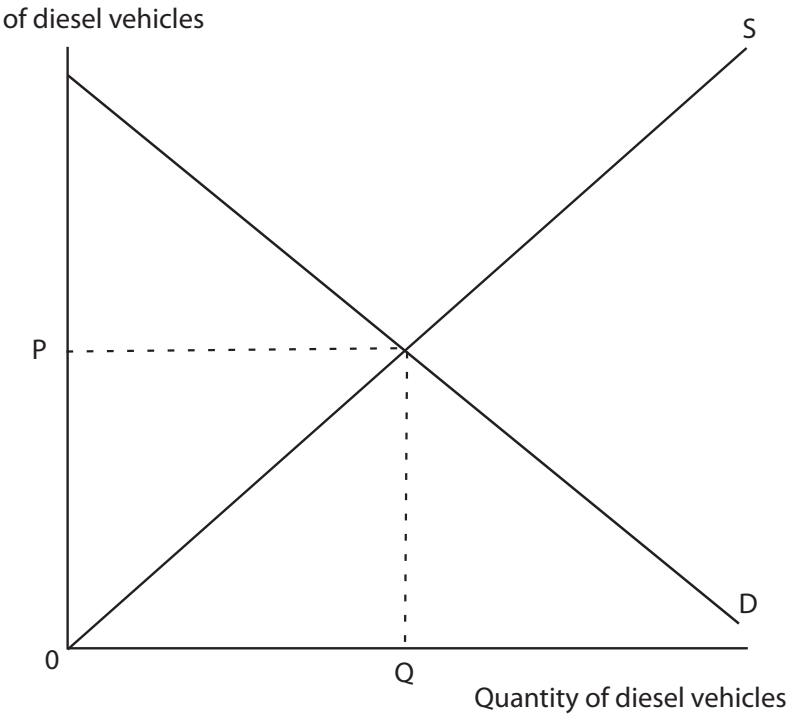
(Total for Question 4(b) = 2 marks)

2 The consensus that diesel emissions are bad for health has led to many cities planning to ban diesel vehicles from their centres. The mayors of Paris, Mexico City, Madrid and Athens have said they intend to ban these vehicles by 2025.

(Source: adapted from http://www.autoexpress.co.uk/car-news/consumer-news/98747/diesel-ban-clean-air-zone-expansion-could-see-diesel-cars-charged-to)

(a) Annotate the diagram to show the change in consumer surplus in the market for diesel vehicles, following the change in demand caused by the proposed 2025 ban in some city centres.

(2)



(b) A ban on diesel vehicles in city centres will reduce the demand for diesel fuel. This is because:

(1)

- ☒ **A** consumers are irrational
- ☒ **B** consumers expect the price of diesel to rise
- ☒ **C** the goods are complements
- ☒ **D** the goods are substitutes

(c) Define the term 'demand'.

(1)

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(Total for Question 2 = 4 marks)

4 An annual season ticket for a train journey between London and Reading is planned to increase from £5 044 to £5 664 in 2023.

(Source adapted from: https://commonslibrary.parliament.uk/how-much-could-rail-fares-increase-by-in-2023-and-why)

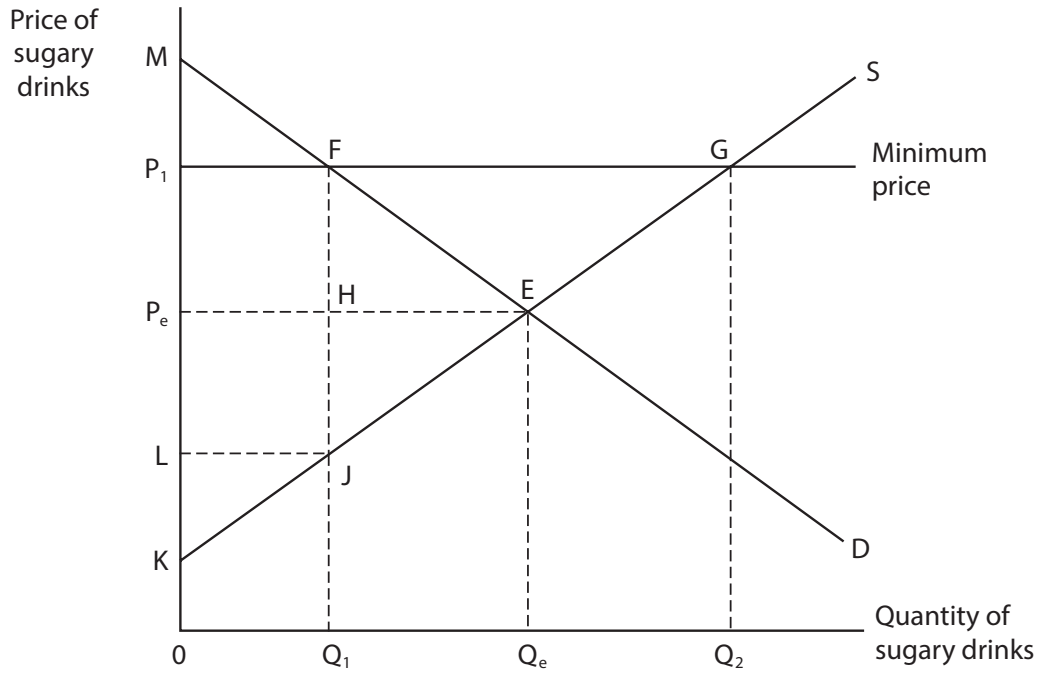
(a) With reference to the information provided, calculate the percentage change in the price of an annual season ticket.

(2)

(b) Explain the likely impact of the increase in price of a season ticket on consumer surplus.

(2)

The diagram below shows the demand and supply for sugary drinks.



(c) Which **one** of the following areas represents the *change* in producer surplus when a minimum price is imposed?

(1)

- ☒ **A** FEP_eP_1
- ☒ **B** FMP_1
- ☒ **C** GEP_eP_1
- ☒ **D** GKP_1

(Total for Question 4 = 5 marks)

SECTION B

Read the following Figures (1 to 2) and Extracts (A to B) before answering Question 6.

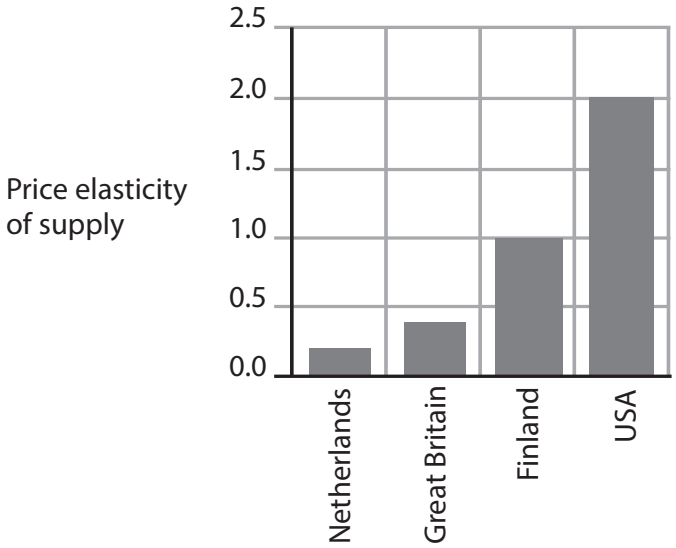
Answer ALL Question 6 (a) to 6 (e) and EITHER Question 6 (f) OR Question 6 (g).

You are advised to spend 1 hour and 5 minutes on this section.

Question 6

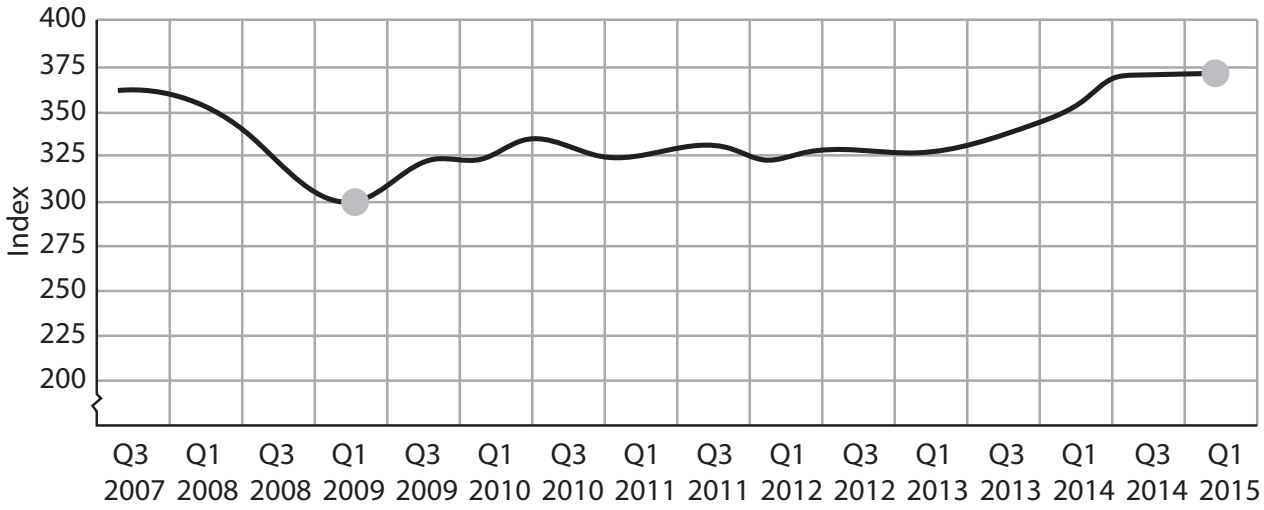
The market for housing

Figure 1 – Estimates of the price elasticity of supply of new housing, selected countries



(Source: adapted from Caldera Sánchez, A. and Å. Johansson (2011), "The Price Responsiveness of Housing Supply in OECD Countries", Figure 3, OECD Economics Department Working Papers, No. 837, OECD Publishing. http://dx.doi.org/10.1787/5kgk9qhrnn33-en)

Figure 2 – Index of UK house prices (1993 = 100)



(Source: http://www.nationwide.co.uk/about/house-price-index/download-data#~)

Extract A

Problems facing UK first time buyers

Over a third of aspiring first time buyers in the UK have given up hope of ever being able to save for a deposit to buy a property, new research has found. A deposit is the minimum amount that must be paid upfront when buying a property, which is a proportion of the price of the property.

The UK Government has a Help to Buy scheme designed to help people buy a home. The government subsidises the mortgage (loan) needed to buy a property, so buyers require a smaller amount saved as a deposit. Under this scheme, first time buyers need as little as a 5% deposit to qualify for a mortgage. This is due to end in the first few months of 2017. The research from mortgage insurer Genworth says this will mean a return to 20% deposits, which would see the average time needed to save for a deposit rise from three years to over 10 years.

"Trying to buy your first home in the current climate is like chasing a runaway train. Even with good salaries that could comfortably support a mortgage, thousands of aspiring first time buyers can only save modest sums, especially those who are already paying rent. This deposit trap is why many feel they are left with the all or nothing choice of borrowing from family or waving goodbye to ever owning a home," said Simon Crone, a vice president at Genworth.

"Help to Buy has significantly improved access to mortgages with deposits that are actually realistic to save. The numbers using the scheme may be modest, but it has made significant inroads in the short-term to boost access at the lower end of the property market," he pointed out.

(Source: adapted from http://www.propertywire.com/news/europe/uk-first-time-buyers-201409309641.html September 2014)

Extract B

Housing and flood defences

A radical new approach to housing and a £2.3 billion of investment in flood defences were announced as part of the UK Government's new National Infrastructure Plan 2014.

One key proposal is for the government to plan, build and sell homes. An initial programme on a government-owned former airfield near Cambridge will see the development of 10 000 homes. This approach will fast track the development by providing certainty and making new homes available more quickly.

The government will make the initial investment but expects that later costs will be met through the sale of land and homes. It will also evaluate the feasibility and economic effects of rolling out this model on a wider scale, to support and accelerate housing supply.

The plan also commits to £2.3 billion of capital investment to over 1400 flood defence projects in a 6-year programme of investment. As a result, over 300 000 homes will be better protected and over £30 billion of economic damages prevented. Major projects that will benefit include £42 million for the Oxford Flood Alleviation Scheme, £80 million for the Humber Estuary and over £17 million for Tonbridge, Yalding and the surrounding communities.

(Source: adapted from https://www.gov.uk/government/news/ambitious-plans-for-housing-flood-defence-and-roads-set-out-in-national-infrastructure-plan-2014)

(c) Explain the likely impact on producer surplus of an increase in the demand for housing. Use a diagram to illustrate your answer.

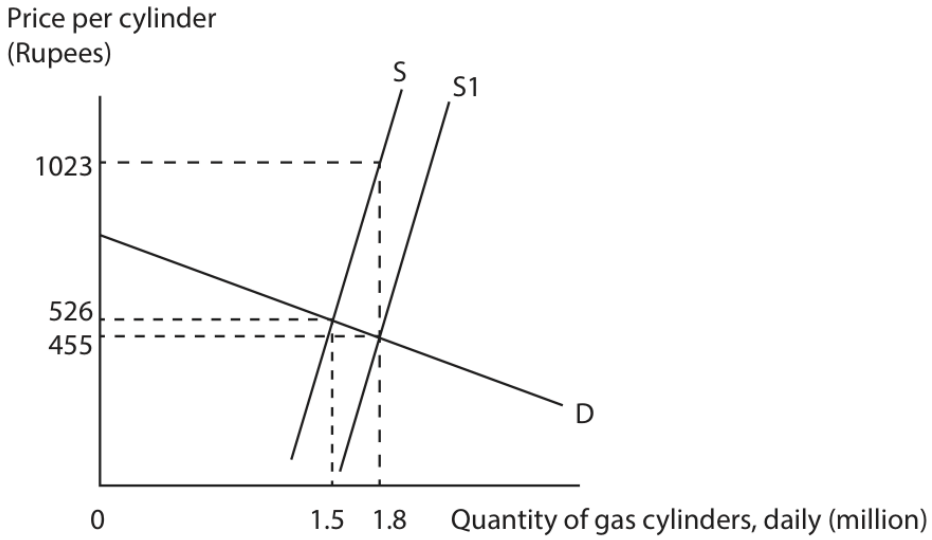
(6)

SUB-TOPIC 1.2.9

INDIRECT TAXES AND SUBSIDIES

Sub-topic 1.2.9 · 10 questions · 30 marks · lowest tariff first

3 The Indian government has introduced a subsidy on domestic cooking gas cylinders in the city of Mumbai. The diagram below shows the effect following the introduction of the subsidy.



(Source: https://www.iocl.com/products/indanegas.aspx and http://indianexpress.com/article/business/business-others/lpg-subsidy-fixed-at-rs-568-price-to-change-after-march/)

(b) Calculate the percentage share of the total subsidy received by:

(i) consumers

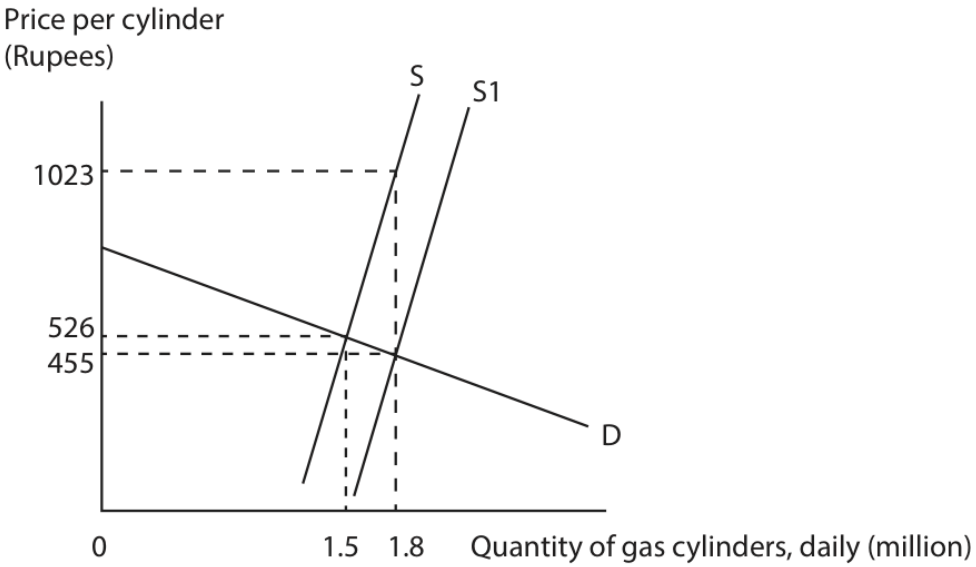
(1)

(ii) producers

(1)

(Total for Question 3(b) = 1 mark)

3 The Indian government has introduced a subsidy on domestic cooking gas cylinders in the city of Mumbai. The diagram below shows the effect following the introduction of the subsidy.



(Source: https://www.iocl.com/products/indanegas.aspx and http://indianexpress.com/article/business/business-others/lpg-subsidy-fixed-at-rs-568-price-to-change-after-march/)

(c) One effect of the subsidy is to increase:

(1)

- ☒ **A** consumer surplus
- ☒ **B** market failure
- ☒ **C** public good provision
- ☒ **D** tax revenue

(Total for Question 3(c) = 1 mark)

2 Between 2010 and 2015 the average price of tea in the UK increased from £7.20 per kilo to £8.48 per kilo. Over the same period the quantity of tea purchased fell from 97 million kilos to 76 million kilos.

(Source: http://www.theguardian.com/lifeandstyle/shortcuts/2015/aug/05/brew-do-you-think-you-are-why-tea-needs-to-copy-coffee-in-order-to-survive)

(a) Assume that the change in the quantity of tea purchased was only caused by the change in the price of tea. Calculate the price elasticity of demand for tea in response to the rise in its price. You are advised to show your working.

(2)

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(Total for Question 2(a) = 2 marks)

2 Between 2010 and 2015 the average price of tea in the UK increased from £7.20 per kilo to £8.48 per kilo. Over the same period the quantity of tea purchased fell from 97 million kilos to 76 million kilos.

(Source: http://www.theguardian.com/lifeandstyle/shortcuts/2015/aug/05/brew-do-you-think-you-are-why-tea-needs-to-copy-coffee-in-order-to-survive)

(b) Calculate the change in total sales revenue for UK tea retailers between 2010 and 2015. You are advised to show your working.

(2)

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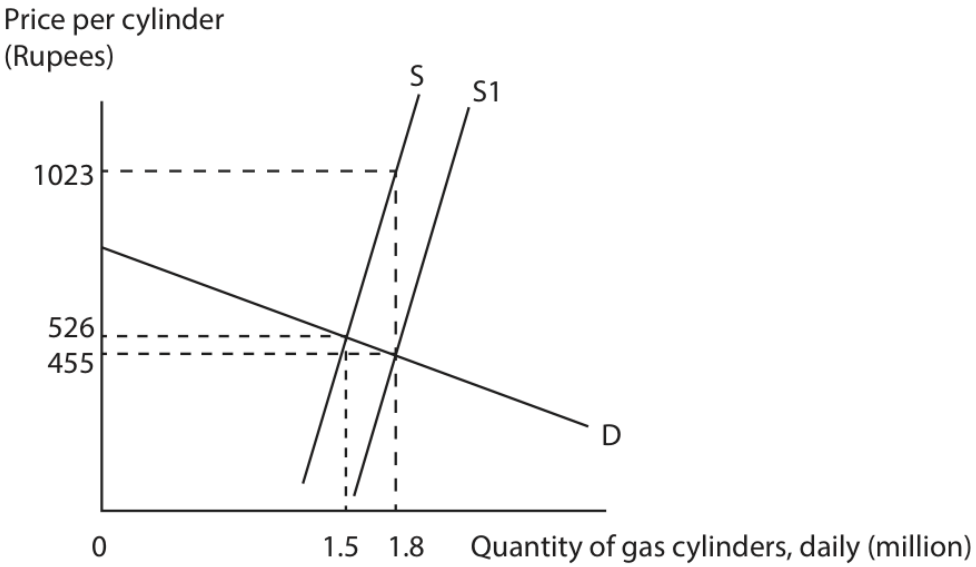
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(Total for Question 2(b) = 2 marks)

3 The Indian government has introduced a subsidy on domestic cooking gas cylinders in the city of Mumbai. The diagram below shows the effect following the introduction of the subsidy.



(Source: https://www.iocl.com/products/indanegas.aspx and http://indianexpress.com/article/business/business-others/lpg-subsidy-fixed-at-rs-568-price-to-change-after-march/)

(a) Calculate the total domestic cooking gas subsidy paid daily by the Indian government. You are advised to show your working.

(2)

(Total for Question 3(a) = 2 marks)

2 The number of individual weekly ticket sales from UK National Lottery games operated by Camelot was 73 million in the financial year 2015–2016.

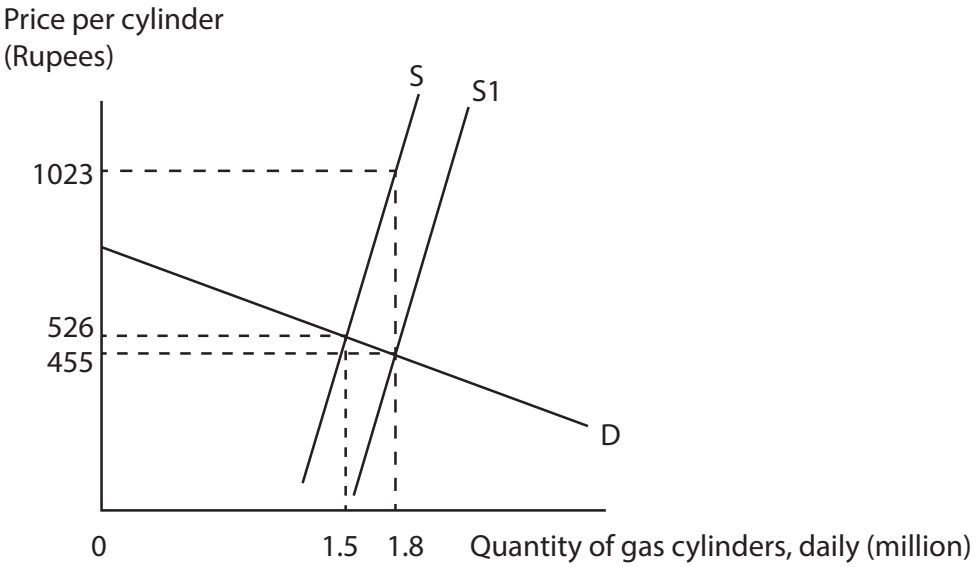
The sale price of each lottery ticket was £2. This figure included 24 pence of tax revenue on each ticket sold.

(a) Calculate the weekly revenue received by Camelot after paying the tax to the government. You are advised to show your working.

(2)

(Total for Question 2(a) = 2 marks)

3 The Indian government has introduced a subsidy on domestic cooking gas cylinders in the city of Mumbai. The diagram below shows the effect following the introduction of the subsidy.



(Source: https://www.iocl.com/products/indanegas.aspx and http://indianexpress.com/article/business/business-others/lpg-subsidy-fixed-at-rs-568-price-to-change-after-march/)

(a) Calculate the total domestic cooking gas subsidy paid daily by the Indian government. You are advised to show your working.

(2)

(b) Calculate the percentage share of the total subsidy received by:

(i) consumers

(1)

(ii) producers

(1)

(c) One effect of the subsidy is to increase:

(1)

- ☒ **A** consumer surplus
- ☒ **B** market failure
- ☒ **C** public good provision
- ☒ **D** tax revenue

(Total for Question 3 = 5 marks)

2 The number of individual weekly ticket sales from UK National Lottery games operated by Camelot was 73 million in the financial year 2015–2016.

The sale price of each lottery ticket was £2. This figure included 24 pence of tax revenue on each ticket sold.

(a) Calculate the weekly revenue received by Camelot after paying the tax to the government. You are advised to show your working.

(2)

Research conducted for HMRC estimated the cross elasticity of demand for using gaming machines to be 1.28 in response to changes in the price of national lottery tickets.

(Source: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/322845/report313.pdf)

In October 2013 Camelot increased the price of a national lottery ticket from £1 to £2.

(b) Explain the likely impact of the price increase of national lottery tickets on the demand for using gaming machines.

(2)

In 2016 a coastal flood defence scheme was completed at Broomhill Sands in Kent, protecting people, homes and businesses. A £30 million grant from the National Lottery paid for the scheme.

(Source: https://www.gov.uk/government/news/30-million-project-set-to-reduce-flood-risk-in-kent)

(c) The most likely reason for this grant is to ensure the:

(1)

- ☒ **A** exclusivity of Broomhill Sands
- ☒ **B** provision of a private good
- ☒ **C** provision of a public good
- ☒ **D** rivalry of Broomhill Sands

(Total for Question 2 = 5 marks)

SECTION B

Read Figures 1, 2 and 3 and the following extracts (A and B) before answering Question 6.

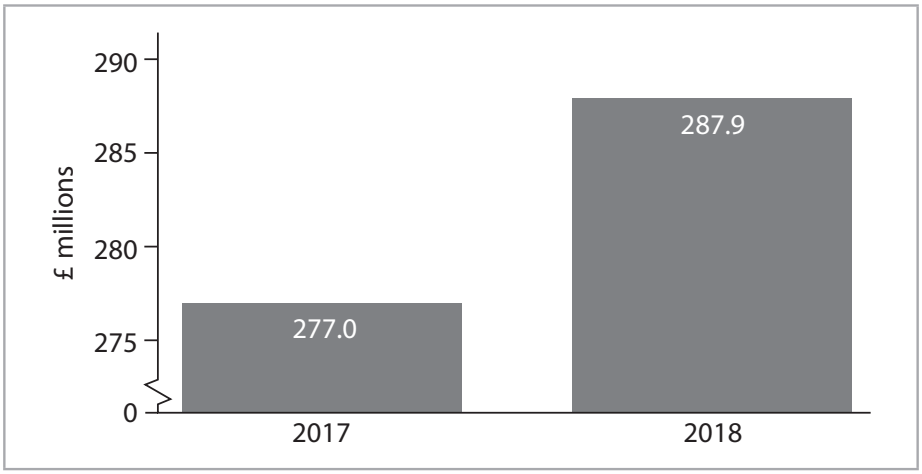
Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

Question 6

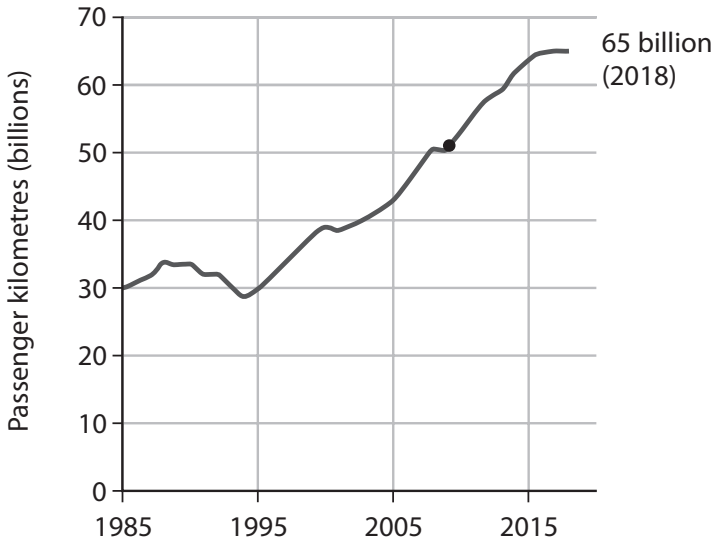
The UK Rail Industry

Figure 1: UK government subsidy to Northern, a train operating company in Northern England



(Source adapted from: https://www.theyworkforyou.com/wrans/?id=2018-10-18.181280.h)

Figure 2: Rail passenger kilometres travelled per year in the UK, billions



(Source adapted from: fullfact.org)

Figure 3: Price of a single off-peak train journey, Edinburgh to Leeds Saturday 22nd December 2018 19:00 hours

Adult	Young Persons (16–25) Railcard
£105.30	£69.50

(Source: https://www.lner.co.uk/buy-tickets/booking-engine)

Extract A

The case for nationalisation

Privatisation has not made the rail industry cheaper to operate, despite the promise from one government source that it would see private companies bringing: "more competition, greater efficiency and a wider choice of services".

One reason, suggest the critics, is fragmentation. Instead of pushing British Rail into the private sector as a single supplier the government chose to break it into three components of track, train operators and rolling stock i.e. the trains and carriages. This has encouraged each part of the rail industry to prioritise its own profits rather than collaborating to improve the system.

Privatisation, meanwhile, never really worked. The rail network of 2 500 stations and 32 000 km of tracks was renationalised in 2001. This has encouraged the government's transport secretary, a supporter of private sector involvement, to argue that the state Network Rail monopoly should be removed so that companies can bid to build new rail lines to upgrade the railway.

The privately-owned train operators are now the subject of fierce criticism, due to overcrowding and cancelled services. Private companies are supposed to compete to win a bid to be the train operator for a region for a short number of years. However in recent years the number of private companies bidding or renewing their contract as rail operators has fallen. In May 2018 the government rescued the East Coast line by renationalising it. The line had been run by the private rail operator Virgin Rail, which was suffering lower passenger numbers and revenue than forecast.

Some argue that there is a simple solution: reunite track and train in the only feasible manner, nationalisation.

(Source adapted from: https://www.ft.com/content/d82848ca-f7ba-11e7-88f7-5465a6ce1a00)

Extract B

Southern Rail boss paid £495 000

The Chief Executive of Southern Rail, the private-sector train operator that has become associated with delays, losses, cancellations and strikes, was paid £495 000 last year. This increased calls for nationalisation and a maximum wage for executives at companies with government contracts. In contrast the average base pay for a train driver in the UK is £47 705, although they can earn up to £63 000.

Nearly a third of Southern Rail trains were late in 2016 as it tried to deal with a labour dispute that involved extensive strike action. The rail trade unions are opposed to planned changes to the role of train guards, which they claim will put passenger safety at risk.

(Source adapted from: Rob Davies, The Guardian 10 April 2017
https://www.theguardian.com/business/2017/apr/10/southern-rail-boss-double-pay-rise)

6 (a) Refer to Figure 1. Explain the likely effect of the change in subsidy levels between 2017 and 2018 on rail fares.

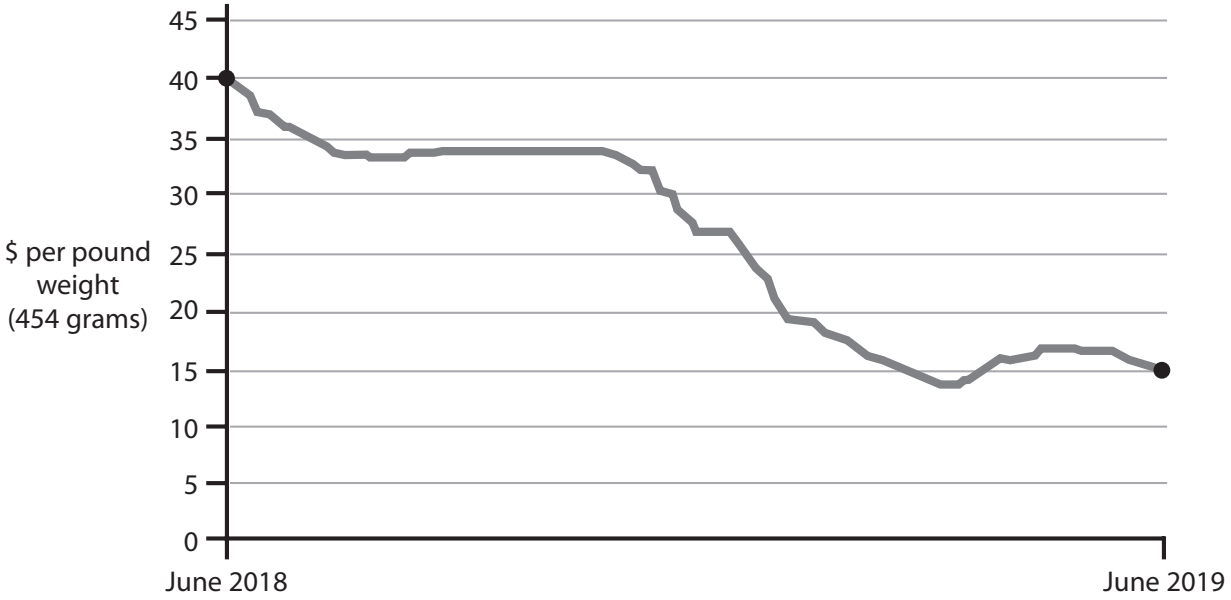
Include a supply and demand diagram in your answer.

(5)

2 Cobalt is a key metal used in the batteries of electric cars. China is the world's largest producer of electric cars but has recently cut subsidies to its manufacturers.

The Democratic Republic of the Congo (DRC) produces more than 60% of the world's supply of cobalt, from its small-scale mines. Many new small mines opened in 2018 as a result of improved expectations of profit.

The following graph shows the price of cobalt between June 2018 and June 2019.



(a) With reference to the information provided, draw a supply and demand diagram to show why the price of cobalt fell between June 2018 and June 2019.

(4)



(b) Between June 2018 and June 2019 the price of cobalt fell by:

(1)

- ☒ **A** 25%
- ☒ **B** 37.5%
- ☒ **C** 62.5%
- ☒ **D** 166.7%

(Total for Question 2 = 5 marks)

SUB-TOPIC 1.2.10

ALTERNATIVE VIEWS OF CONSUMER BEHAVIOUR

Sub-topic 1.2.10 · 5 questions · 20 marks · lowest tariff first

3 The average fee charged by high-street estate agents to homeowners for selling property is 1.3% of the final sale price.

(Source: http://www.which.co.uk/money/mortgages-and-property/home-movers/guides/selling-a-house/estate-agent-fees-and-contracts)

In August 2016 the Office for National Statistics reported that the average house price in London was £489 000, whereas in the North East of England it was £127 000.

(b) The ratio of the average house price in London to the average house price in the North East of England is:

(1)

- ☒ **A** 0.26
- ☒ **B** 3.62
- ☒ **C** 3.85
- ☒ **D** 7.40

(Total for Question 3(b) = 1 mark)

3 The average fee charged by high-street estate agents to homeowners for selling property is 1.3% of the final sale price.

(Source: http://www.which.co.uk/money/mortgages-and-property/home-movers/guides/selling-a-house/estate-agent-fees-and-contracts)

(a) Assume the selling fee is 1.3%. Calculate the payment received by an estate agent on a property sold for £489 000. You are advised to show your working.

(2)

(Total for Question 3(a) = 2 marks)

3 The average fee charged by high-street estate agents to homeowners for selling property is 1.3% of the final sale price.

(Source: http://www.which.co.uk/money/mortgages-and-property/home-movers/guides/selling-a-house/estate-agent-fees-and-contracts)

In August 2016 the Office for National Statistics reported that the average house price in London was £489 000, whereas in the North East of England it was £127 000.

(c) Explain **one** likely reason for the difference in average house prices between London and the North East of England.

(2)

(Total for Question 3(c) = 2 marks)

3 The average fee charged by high-street estate agents to homeowners for selling property is 1.3% of the final sale price.

(Source: http://www.which.co.uk/money/mortgages-and-property/home-movers/guides/selling-a-house/estate-agent-fees-and-contracts)

(a) Assume the selling fee is 1.3%. Calculate the payment received by an estate agent on a property sold for £489 000. You are advised to show your working.

(2)

In August 2016 the Office for National Statistics reported that the average house price in London was £489 000, whereas in the North East of England it was £127 000.

(b) The ratio of the average house price in London to the average house price in the North East of England is:

(1)

- ☒ **A** 0.26
- ☒ **B** 3.62
- ☒ **C** 3.85
- ☒ **D** 7.40

(c) Explain **one** likely reason for the difference in average house prices between London and the North East of England.

(2)

(Total for Question 3 = 5 marks)

SECTION B

Read Figure 1 and the following extracts (A, B and C) before answering Question 6.

Answer ALL Questions 6(a) to 6(e) and EITHER Question 6(f) OR Question 6(g).

You are advised to spend 1 hour 5 minutes on this section.

Question 6

The market for plastic in the UK

Figure 1: Trend in the purchase of single-use plastic bags in millions, UK, 2014 to 2021

2014	2015	2016	2017	2018	2019	2020	2021
7 500	2 120	1 750	1 130	1 040	627	496	197

Extract A

10p charge continues to reduce use of plastic carrier bags

The 5p charge on single-use carrier bags was introduced in supermarkets in 2015. The charge was increased to 10p in 2021 and extended to all businesses.

The UK Environment Minister said that the plastic bag charge has ended the irrational purchase of billions of single-use carrier bags, thereby protecting our landscapes and ensuring millions of pounds are redistributed to worthy causes. This was needed as without this legislation, the market is not able to effectively manage the situation. Consumers are now in the habit of bringing reusable carrier bags when shopping.

In addition to single-use carrier bag charges, major retailers have offered bottle deposit return schemes and refillable food and cleaning product options. These provide incentives to consumers to reuse their plastic containers.

However, retailers have suggested that most customers do not wish to pay more for cleaning products in reusable packaging. With the average household income falling by 4.3% in 2023, sales of refillable cleaning products are expected to fall from 200 000 to 130 000 this year.

(Source adapted from: https://www.circularonline.co.uk/news/)

Extract B

Plastic packaging tax

Food manufacturers have criticised the implementation of a new UK environmental tax, warning it will force them to increase prices for consumers.

The 2018 tax was designed to provide incentives to businesses to use recycled plastic in packaging. Businesses manufacturing or importing 10 tonnes or more a year of plastic packaging that contains less than 30% recycled plastic are taxed at £200 a tonne. Plastic packaging containing more than this will be exempt from the tax.

Helene Roberts, Chief Executive of Robinson Packaging, said increased prices for the consumer would be an unintended consequence of the tax. "It will just create inflationary pressures within the supply chain and firms may need to pass this on." A wide range of businesses are affected by the new tax, including retailers importing items such as bin liners, drink bottles and carrier bags. Food manufacturers are particularly impacted as the industry uses 40% of packaging in the UK.

(Source adapted from: https://www.ft.com)

Extract C

Single-use cups

An estimated 2.5 billion single-use cups are used in the UK every year by consumers buying coffee from chains and cafes, creating approximately 25 000 tonnes of waste. Research has found that while a 25p charge on single-use cups increases the use of reusable coffee cups in coffee shops, a discount on reusable coffee cups has no impact at all on their use.

A 25p charge on single-use cups increases the use of reusable coffee cups by 3.4%. Environmental messaging in cafes, for example posters about litter, increases the use of reusable coffee cups by 2.3%. The availability of reusable cups leads to an increase of 2.5% whereas the distribution of free reusable cups leads to a further increase of 4.3%.

"While the increases for individual measures were modest, the greatest behavioural change was when the measures were combined," said Wouter Poortinga of Cardiff University.

(Source adapted from: https://www.theguardian.com/environment/2017/mar/30/)

(b) With reference to Extract A and your own knowledge, assess the view that it is irrational to buy plastic carrier bags when shopping.

(10)

MARK SCHEMES

official mark schemes

Question Number	Answer	Mark
4(a)	**Knowledge 1, Application 2** **Knowledge/understanding** 1 mark for definition of diminishing marginal utility e.g. as decline in the additional satisfaction a person derives from consuming an additional unit of that product. **Application** 2 marks for linked application (1+1), e.g. • this is the premise on which 'All you can eat buffet' operates as they know each additional plate of food (1) provides less utility than the one before (1) • most people will eat only until their marginal utility matches the price they paid (1) OR people eat until they are satiated (1) otherwise if you kept eating you would reach the point of being sick or dissatisfied (dis-utility). (1)	**(3)**

Question Number	Answer	Mark
4(b)	A	**(1)**

Question Number	Answer	Mark
5(a)	D	**(1)**

Question Number	Answer	Mark
2 (a)	**Knowledge 1** **Knowledge/understanding** 1 mark for e.g. • The year with which all other values in a series are compared • Benchmark year	**(1)**

Question Number	Answer	Mark
2(b)	**Application 2** **Knowledge/Understanding** 2011 = (15 257/14 878) x 100 = 102.5 (1) 2012 = (13 261/14 878) x 100 = 89.1 (1) Accept 102-103; 89-89.2	**(2)**

Question Number	Answer	Mark
2(c)	**Application 1** B	**(1)**

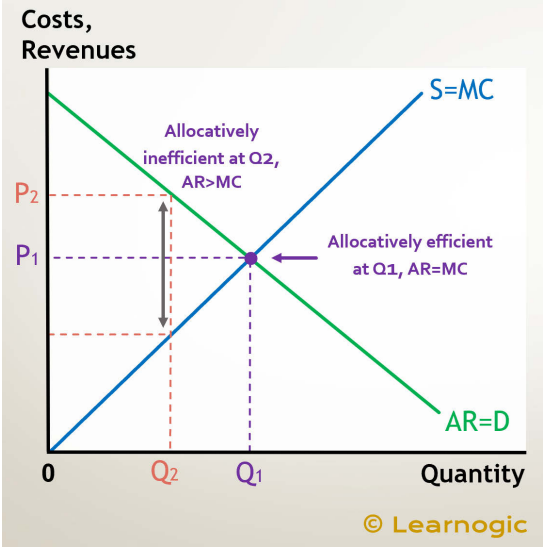
Question Number	Answer	Mark
6(d)	**Knowledge 2, Application 2** • 1 mark for identifying the formula e.g. (new-original)/original*100 (1 mark) • 1 mark for locating the data 373 (Q1 2015) minus 300 (Q1 2009) • 1 mark for performing calculation • 1 mark for substituting figures correctly e.g. (373 – 300)/300 * 100= 24%. Accept 23 – 25% NB If the answer given is 24% or 24 award 4 marks. Do not award inaccurate answers such as minus 24% as 4 marks but credit any accurate working.	**(4)**

Question Number	Answer	Mark
6(d)	**Knowledge 2, Application 2** £12 * 450 million (1) = £5.4 billion (1) £5.4 billion * 90% = £4.86 billion (1) £5.4 billion - £4.86 billion (1) = £0.54 billion £5.4 billion * 10% (1) = £540 million (1) **NB Award 4 marks for a correct answer of £540 million/£0.54 billion. Award up to 3 marks for correct working but overall correct answer missing.**	**(4)**

Question Number	Answer	Mark
6(c)	**Knowledge 2, Application 2, Analysis 2** **Knowledge/understanding** • Identification of one external and one private benefit: tax revenue (external); higher earnings (private) (1+1) **Application** 2 marks for, e.g. • 'the government will benefit greatly from additional tax revenues' (1) • 'the rest will be in the form of their extra spending power' (1) **Analysis** Linked development of why the education specifically benefits producers e.g. higher productivity enable firms to achieve lower costs and, therefore, lower prices (1+1) **Award up to 3 marks for each benefit**	**(6)**

Question Number	Answer	Mark
6(d)	**Knowledge 2, Application 2** Formula for percentage calculation (new-old)/old x 100. (1) (102357 – 45418)/45418 x 100 (1+1) = Accept any figure between 125 and 126 **NB Award 4 marks for a correct answer of 125%. Award up to 3 marks for correct working.**	**(4)**

Question Number	Answer	Mark
6(a)	**Knowledge 1, Application 1, Analysis 3** **Knowledge/Understanding:** (up to 1 mark) • Real price of gas and electricity refers to their price adjusted to remove the effects of inflation (1) • Increase in demand (1) • Decrease in supply. (1) • The lack of competition (1) **Application:** (up to 1 mark) e.g. • Figure 1 indicates the real price of gas and electricity has increased since 2004: electricity from 70 to 119 or rises 70% (accept approximations) (1) • Gas from 58 to 121 or rises by 108% (accept approximations) (1) **Analysis:** up to 3 marks for linked development of one reason e.g. • Rise in price (1) due to non price determinant of demand e.g. income, economic growth, population growth (1) explained using contraction in demand or extension in supply or other extended analysis of market forces (1) • Rise in price (1) due to non price determinant of supply e.g. increase in cost of production, finite resources (1) explained using contraction in demand or extension in supply or other extended analysis of market forces (1) • Energy firms have sought to increase profits (1) tacit collusion (1) provide more dividends and higher share prices for shareholders (1) directors salaries linked to profits (1) • Energy firms able to exploit consumers not behaving rationally due to: influence of other consumers (1) habitual behaviour (1) computation difficulties (1)	**(5)**

Question Number	Answer	Mark
6(a)	**Knowledge 1, Application 2, Analysis 2** **Knowledge and Analysis:** (up to 3 marks) • Allocative efficiency is when the goods and services produced are those that consumers most desire • Occurs when the marginal utility to consumers of consuming a good or service equals the marginal cost of producing it • It is likely to improve • Achieved where price/AR equals MC • More optimal distribution of resources is achieved • Maximisation of consumer welfare • Increased competition in market • Increased concentration in some digital markets may worsen allocative efficiency • Reward a relevant diagram e.g.  **Application:** up to 2 marks for e.g. • Consumers now have greater choice • Access to higher quality products • Lower prices • E.g. fashion clothing, language tuition, digital banking, online retailing, computer games, mobile apps • Time saved by online banking compared to going to a branch	**(5)**

Question Number	Answer	Mark
1(b)	**Knowledge 2, Application 2, Analysis 2, Evaluation 2** **Knowledge/ implicit understanding:** (1+1) marks for **two** reasons and explanation e.g. • HCWs are inferior goods if demand rises when incomes fall • HCWs at £5 are a very small percentage of consumer income so they might be seen as essential or basic goods • Other factors affect demand apart from income, for e.g. availability and price of substitutes (automatic car washes [might be normal/luxury good] or car washing equipment), working patterns **Application:** (2 marks for any relevant point, or two points 1 +1). Points might include: • Incomes are not keeping up with inflation so real incomes are falling • HCWs at £5 are a very small percentage of consumer income so they might be seen as essential or basic goods. • Increased demand when people have lower incomes – high level of utility at small expense, Extract A paragraph 2 • Extract B: there is a decrease in the availability of automatic car washes as independent petrol retailers go out of business. • Increased number of sites and rents have fallen (Extract A paragraph 3) **Analysis** (1 + 1)**:** • Linked development of the two points made • Maybe shown by diagrammatic analysis **Evaluation:** (2 marks for any relevant point, two points 1 +1). Points might include: • Subjective happiness is yielded from an HCW, implying that it is rational to use an HCW/it is not rational as washing the car at home is cheaper when incomes fall • Incomes have not been falling over the whole period, so it is more likely that as incomes rise people are buying a HCW as a YED is low (small percentage of income) • Regional or demographic changes in incomes	**(8)**

Question Number	Indicative content	Mark
6(b)	**Knowledge 2, Application 2, Analysis 2** • Application – price of e-cigarettes per nicotine cheaper • Data on PED suggests some rational response to price change e.g. 10% rise causes 4% fall in demand (Extract A) Reasons rational • Smokers computationally aware of financial gains of switching • Smokers informed of private health gains (Extract B Paragraph 2) • Reducing health external costs e.g. passive smoking(Extract A L15) • Smokers aware that regulations will increasingly make it difficult for them to gain utility of nicotine consumption through tobacco smoking **NB Reasons for/against being rational may be presented as either KAA or EV**	**(6)**

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–2	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no link between causes and consequences.
Level 2	3–4	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response or the answer may lack balance.
Level 3	5–6	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are applied appropriately to the broad elements of the question.

Question Number	Indicative content	Mark
6(b) continued	**Evaluation 4** Reasons against being rational • Smokers lack information and computational skills to accurately assess full costs and benefits of switching. May underestimate long-term gains of switching (bounded rationality) • Information overload • Both products contain nicotine which is addictive and habit forming. • If e-cigarettes were not available they may quit smoking altogether • Switch may be only short-term (impulse buying) • E-cigarettes complements tobacco smoking resulting in an overall increase in nicotine consumption • PED for tobacco remains lower than e-cigarettes so a price rise in the latter may result in a switch back • Peer pressure (herd mentality) pushing smokers to make the switch	**(4)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–2	Identification of generic evaluative comments without supporting evidence/ reference to context. No evidence of a logical chain of reasoning.
Level 2	3–4	Evaluative comments supported by chains of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.

Question Number	Answer	Mark
6(b)	**Knowledge 2, Application 2, Analysis 2** • The statement is concerning because people from poorer backgrounds are less likely to apply to university in the first place (Extract A, Figure 3), so when they do go and drop out we are failing to maximise the use of scarce resources • Universities are trying to increase accessibility but failing to keep poorer students. This means that graduates are increasingly likely to be from wealthier families and poorer student are leaving because of concern over high levels of debt • Would this happen if England had low or no tuition fees like Germany? • Candidates may draw a PPF showing the country operating within the frontier because as a nation we are not making the most of our labour force • Opportunity cost. Government and universities spending money/resources that could have been spent elsewhere	**(6)**

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	**1–2**	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no link between causes and consequences.
Level 2	**3–4**	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response or the answer may lack balance.
Level 3	**5–6**	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are applied appropriately to the broad elements of the question.

Question Number	Answer	Mark
6(b) continued	**Evaluation 4** • Extract A refers to the fact that 'Students from all backgrounds are more likely to go to university than ever before' • Poorer students are continuing to attend university and various schemes exist to support them • Questioning the extent of the effect over time. How significant is this? Are tuition fees a significant contributor to drop-out rates? • Judgement should focus on how important this effect is NB KAA can be treated as Evaluation and vice versa	**(4)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	**1–2**	Identification of generic evaluative comments without supporting evidence/ reference to context. No evidence of a logical chain of reasoning.
Level 2	**3–4**	Evaluative comments supported by chains of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.

Question Number	Indicative content	Mark
6(b)	**Knowledge 2, Application 2, Analysis 2** Reasons why fishing as much as possible is rational • This is completely rational from the perspective of a fishing company, which has revenues clearly linked to size of catch. • Shows an understanding of profit maximising behaviour. 'Private producers will act in their own self-interest and exploit common access resources to maximise profit.' • Figure 1 shows Sweden fishing at an excess of 52.4% in excess of TAC. • Using techniques to increase the size of the catch will help to minimise costs • 'Common access resources provide an opportunity for individuals to create profit, while spreading negative externalities to everyone else.' **NB KAA can be treated as Evaluation and vice versa**	**(6)**

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–2	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no link between causes and consequences.
Level 2	3–4	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response or the answer may lack balance.
Level 3	5–6	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are applied appropriately to the broad elements of the question.

Question Number	Indicative content	Mark
6(b) continued	**Evaluation 4** Reasons why fishing as much as possible is irrational: • 'Exploitation is unsustainable and will lead to the depletion of resources; this is known as the tragedy of the commons.' • Short run profits means that stocks are rapidly depleted so in the long run there are no resources for them to fish e.g. individual firms find that dwindling fish stocks mean their own revenue base is contracting. '90% of fish stocks are depleted.' • It may be rational for firms to behave this way but also it is harmful to society of which those firms are a part e.g. negative externalities impact society as a whole	**(4)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–2	Identification of generic evaluative comments without supporting evidence/ reference to context. No evidence of a logical chain of reasoning.
Level 2	3–4	Evaluative comments supported by chains of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.

Question Number	Indicative content	Mark
6(b)	**Knowledge 2, Application 2, Analysis 2** • Understanding of rational behaviour e.g. utility maximisation • Consumers prioritising low prices (e.g. 'free trials') and better service • Consumers cancelling subscriptions due to decline in • 'value for money and satisfaction with the quality of shows' • Consumers cancelling subscriptions due to cost of living concerns • Reported 200,000 cancelled subscriptions in the first quarter and another 2 million forecast to leave • Subscribers switching to Disney who has higher customer satisfaction rankings e.g. more original content and new release films. • Subscribers joining new streaming services during the global health crisis when less alternative forms of entertainment were available e.g. closed cinemas and restaurants **NB: For Level 3 candidates must refer to Netflix subscribers** **NB: Netflix subscribers acting irrationally may be seen as KAA and then rational behaviour as EV**	**(6)**

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–2	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no link between causes and consequences.
Level 2	3–4	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response or the answer may lack balance.
Level 3	5–6	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated.

		Economic ideas are applied appropriately to the broad elements of the question.

	Indicative content	Mark
6(b) continued	**Evaluation 4** e.g. • Irrational behaviour by Netflix subscribers • Purchasing additional packages with similar services/little differentiation • Computational weakness - consumers failing to understand correct price plans and not understanding price changes • Habitual behaviour - regular direct debit that is paid regardless of usage, multiple subscriptions that aren't used, unaware of need to cancel after short term trial period • 'Forgetful subscribers' • Influencing by nudges e.g. 'next-up' and 'auto-play' • features • Binge watching • Lack of information - may be on the wrong price plan	**(4)**

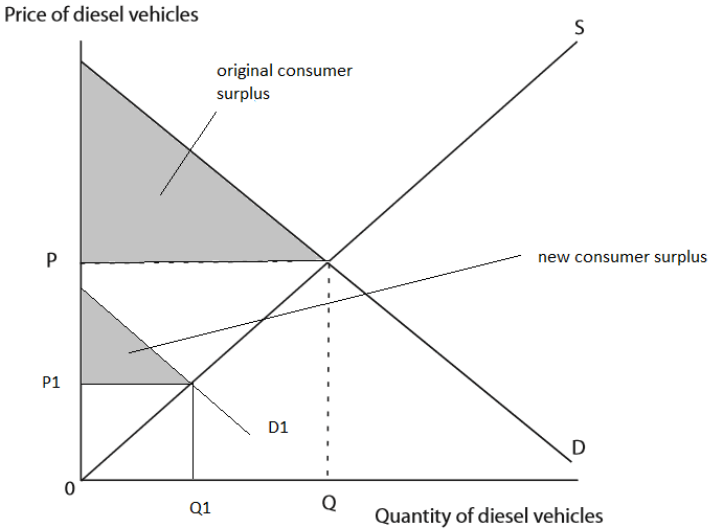
Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–2	Identification of generic evaluative comments without supporting evidence/ reference to context. No evidence of a logical chain of reasoning.
Level 2	3–4	Evaluative comments supported by relevant reasoning and appropriate reference to context. Evaluation recognises different viewpoints and/or is critical of the evidence.

Question Number	Indicative content	Mark
6(b)	**Knowledge 2, Application 2, Analysis 2** • Shows or demonstrates understanding of rational behaviour as economic agents maximising utility and or profits. • Reasons why meat-substitute consumption may be rational. • Reference to a plant-based diet lowering emissions (Extract A). • Reference to health. 8.1 million deaths could be avoided if we went plant based. • Reference to $700bn-$1trn per year in terms of savings on healthcare costs and lost working days'. **NB KAA can be treated as Evaluation and vice versa**	**(6)**

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–2	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no link between causes and consequences.
Level 2	3–4	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response or the answer may lack balance.
Level 3	5–6	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are applied appropriately to the broad elements of the question.

Question Number	Indicative content	Mark
6(b) continued	**Evaluation 4** Reasons why switching to meat-free diets is not rational: • Meat-substitutes a trend/ fad against poor dietary habits. Herd behaviour and the 'marketing greenwash to beat all others'. • Large companies exploiting the shift towards non-meat products e.g. Nestle, Unilever, Kelloggs. • Recognition that processed meat substitute products will 'do more for food company profits than for the planet or your health.'.	**(4)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–2	Identification of generic evaluative comments without supporting evidence/ reference to context. No evidence of a logical chain of reasoning.
Level 2	3–4	Evaluative comments supported by chains of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.

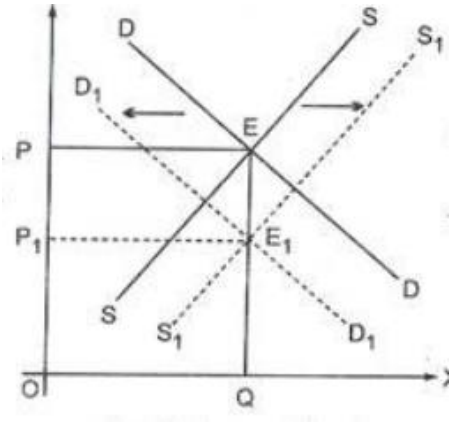
Question Number	Answer	Mark
2 (a)	**Application 2** Identify demand shifts left (1) Annotate or identify reduced consumer surplus (1)  **NB If the candidate shows an incorrect shift, but the new consumer surplus is correct, award 1 mark**	**(2)**

Question Number	Answer	Mark
2(b)	**Knowledge 1** **The only correct answer is C** ***A*** *is not correct because irrational behaviour would suggest an increase in demand.* ***B*** *is not correct because if consumers expected price of diesel to rise they would increase demand for diesel.* ***D*** *is not correct because they are not rival products.*	**(1)**

Question Number	Answer	Mark
2(c)	**Knowledge 1** **Knowledge** 1 mark for definition, e.g. Amount consumers are willing and able to buy (1) Amount consumers buy at a particular price/period of time (1)	**(1)**

Question Number	Answer	Mark
5(a)	**The only correct answer is A** **B** *is not correct because a rise in costs would lead to a left shift of the supply curve* ***C*** *is not correct because an introduction of indirect taxes would shift the supply curve to the left* ***D*** *is not correct because a subsidy on producers will cause a right shift of the supply curve*	**(1)**

Question Number	Answer	Mark
5(b)	**Knowledge 1 Application 2** **Knowledge/ Understanding** 1 mark for understanding of a base year, within the calculation of an index number (understanding my be implicit) **Application** 400000-28725/ 400000 X 100 = 28.04 **NB award 3 marks for the correct answer of 71.96** **NB award maximum of 2 marks if final step not completed and answer given as 28.04**	**(3)**

Question Number	Answer	Mark
2(a)	**Knowledge 2, Application 2** **Knowledge** • Supply and demand diagram annotated to show: a right shift in the supply curve (1) and a left shift in the demand curve (1) **Application** • New lower price (1) • New equilibrium price at D1 and S1 as illustrated below, for example (1)  	**(4)**

Question Number	Answer	Mark
2(b)	**Knowledge 1** **The only correct answer is C** ***A*** *is not correct because they have mistakenly only calculated the change in price as a percentage change* ***B*** *is not correct because they have mistakenly calculated -the new price divided by the original price initially* ***D*** *is not correct because they have mistakenly calculated the change in price by the new price.*	**(1)**

Question Number	Answer	Mark
4(a)	**Knowledge 1, Application 2** **Knowledge/understanding** 1 mark for definition of diminishing marginal utility e.g. as decline in the additional satisfaction a person derives from consuming an additional unit of that product. **Application** 2 marks for linked application (1+1), e.g. • this is the premise on which 'All you can eat buffet' operates as they know each additional plate of food (1) provides less utility than the one before (1) • most people will eat only until their marginal utility matches the price they paid (1) OR people eat until they are satiated (1) otherwise if you kept eating you would reach the point of being sick or dissatisfied (dis-utility). (1)	**(3)**

Question Number	Answer	Mark
4(b)	A	**(1)**

Question Number	Answer	Mark
5(a)	D	**(1)**

Question Number	Answer	Mark
5(b)	**Knowledge 1, Application 2** **Knowledge** 1 mark for identifying that a price fall would result in a fall in total revenue OR definition of total revenue. **Application** 2 marks for linked application (1+1), e.g. • the percentage rise in quantity demanded is lower than the percentage fall in price (1) as demand is price inelastic OR less than 1/-1(1) • diagram showing inelastic demand (1) showing increased revenue is less than lost revenue (1) or numerical example of revenue changes (1+1).	**(3)**

Question Number	Answer	Mark
2 (a)	**Application 2** **Application** PED = %△Qd/%△P price rise = 5/60 x 100 = 8.3% (1) **or** -5.4%/+8.3% (1) PED = (-)0.65 Award 2 marks for (-)0.65 **NB if answer given is between (-)0.7 and (-)0.6 award 2 marks.**	**(2)**

Question Number	Answer	Mark
2(b)	**The only correct answer is A** ***B*** *is not correct because 'population' is a non price determinant of demand not PED determinant* ***C*** *is not correct because 'cost' is a non price determinant of supply not PED determinant* ***D*** *is not correct because 'expected rise in the price' is a non price determinant of demand not PED determinant*	**(1)**

Question Number	Answer	Mark
2(c)	**Knowledge 1** **Knowledge/understanding** 1 mark for definition: 'all other things being equal' (1) OR All other factors remain unchanged (1)	**(1)**

Question Number	Answer	Mark
3(c)	**Knowledge 1** **Knowledge/understanding** 1 mark for definition, e.g. • Where one party in a transaction has more or superior information compared to another (1) • Providers know more than consumers or vice versa (1)	**(1)**

Question Number	Answer	Mark
4(a)	**The only correct answer is B** ***A*** *is not correct because as a quantitative skill this describes the range rather than median so acts as a distractor* ***C*** *is not correct because as a quantitative skill this describes the mode rather than median so acts as a distractor* ***D*** *is not correct because as a quantitative skill this describes the mean rather than median so acts as a distractor*	**(1)**

Question Number	Answer	Mark
4(b)	**Knowledge 1, Application 1, Analysis 1** **Knowledge/understanding** 1 mark for correct definition of inferior good e.g. as incomes rise demand falls or YED formula = %△Qd/%△Y Or as incomes falls more demand for inferior goods **Application** 1 mark for, e.g. 1 mark for calculating percentage change in income = 1.5/24.2 =+6.2% 1 mark for calculating YED = -3%/+6.2% = -0.48 (accept range -0.48 to -0.5) **Analysis** 1 mark for linked development e.g. bus travel is an inferior good as YED is negative (1). Or explanation of the inverse relationship (1).	**(3)**

Question Number	Answer	Mark
5(a)	**Knowledge 1** **Knowledge/understanding** 1 mark for definition, e.g. • Measure of the welfare (utility) that people gain from consuming goods and services • Difference between the total amount that consumers are willing and able to pay and the total amount that they actually pay. • Diagram showing area under the demand curve and above the market equilibrium price.	**(1)**

Question Number	Answer	Mark
3(a)	**Application 1** **The only correct answer is D** ***A*** *is not correct because a negative figure would indicate they are complements* ***B*** *is not correct because a figure less than one indicates a distant relationship* ***C*** *is not correct because whilst positive is a substitute a figure less than one does not indicate a close relationship.*	**(1)**

Question Number	Answer	Mark
3(b)	**Knowledge 1, Application 2** **Knowledge/Understanding** 1 mark for identifying revenue as price x quantity (this understanding may be implicit) **Application** 1 mark for calculating percentage change in quantity (-)1.5% or actual change 18.8135 million tickets (allow 18.8 million) 1 mark for correct answer £143.547 million (allow 143.5 to 143.6) **NB Award 3 marks for correct answer £143.547 million (allow 143.5 to 143.6)** **NB Maximum of 2 marks if correct answer is not given**	**(3)**

Question Number	Answer	Mark
4(c)	**Knowledge 1** **Knowledge** 1 mark for definition, e.g. an indirect tax is imposed on producers (suppliers) by the government (1) tax on good or service which is added to their price (1) tax on consumer expenditure (1)	**(1)**

Question Number	Answer	Mark
5(a)	**Application 1** **The only correct answer is C** ***A*** *is not correct because they may multiplied 8.75 by -0.1* ***B*** *is not correct because they have mistakenly taken 2017 as the original year in the percentage change calculation* ***D*** *is not correct because the percentage change in quantity demanded has not been multiplied by -0.1.*	**(1)**

Question Number	Answer	Mark
5(b)	**Knowledge 1, Application 1, Analysis 1** **Knowledge/Understanding** 1 mark for recognition of the effect of a change in income on the demand **Application** 1 mark for application to Freddo, e.g. • YED is negative (1) • Freddos is an inferior good (1) • YED is inelastic **Analysis** 1 mark for linked development, e.g. • Sales revenues fall as incomes rise or • Sales revenue rise when incomes fall • Company should plan to produce less when the economy does well or • Company should plan to produce more when economy/incomes are not growing	**(3)**

Question Number	Answer	Mark
2(a)	**The only correct answer is D** ***A*** *is not correct because the concept explored is PED not YED* ***B*** *is not correct because as unemployment falls fewer people will use buses* ***C*** *is not correct because XED is concerned with the relationship between complements or substitutes*	**(1)**

Question Number	Answer	Mark
2(b)	**Knowledge 1, Application 1 and Analysis 1** **Knowledge/understanding** 1 mark for reason Possible answers include: • Recognition that the lower the PED the less price sensitive the product is (1) quantity demanded does not change significantly with price (1) **Application** • If, for example, a product with a PED of -0.1 had a 10% price rise, sales volume would fall by 1% (ceteris paribus) (1); so the 10% higher price per unit would far outweigh the 1% reduction in units sold (1) **Analysis** • The lower a product's price elasticity, the easier it is to boost revenue by increasing the price (1) if the firm raises its price it will increase the value of its sales (1)	**(3)**

Question Number	Answer	Mark
2(a)	**Knowledge 1, Application 1 and Analysis 1** **Knowledge/understanding** 1 mark for factor e.g. • Supply of gas is price inelastic (1) • Lack of storage/stockpile (1) • Lack of spare capacity (1) • Inflexible resources (1) • Time period (1) • Alternative substitute source of gas available (1) **Application** • Gas prices have risen (1) • Supply of gas has fallen in 2021 (1) **Analysis** 1 mark for linked development e.g. less availability means gas suppliers are unable to respond to changes in the market price (1) in the long-run firms can respond (1)	**(3)**

Question Number	Answer	Mark
2(b)	**The only correct answer is C** ***A*** *is not correct because a 10% increase in the price of gas would cause a much smaller increase in supply* ***B*** *is not correct because there is not enough information to say* ***D*** *is not correct because the supply of gas is more responsive to changes in price than the demand*	**(1)**

Question Number	Answer	Mark
4(a)	**Knowledge 1, Application 1 and Analysis 1** **Knowledge/understanding** 1 mark for reason Possible answers include: • Firms will aim to maximise profits (1) • Helps to ration demand (1) **Application** • For reference to the stem e.g. 'shortages of crisps, petrol and other items' (1) • 'businesses increase prices' (1) • **Analysis** Consumers bid-up prices (1) **NB Diagram showcasing excess demand can earn either 1 application and/ or 1 analysis mark**	**(3)**

Question Number	Answer	Mark
4(b)	**The only correct answer is D** ***A*** *is not correct because a negative figure would indicate they are complements* ***B*** *is not correct because a figure less than one indicates a distant relationship* ***C*** *is not correct because whilst positive is a substitute a figure less than one does not indicate a close relationship*	**(1)**

Question Number	Answer	Mark
5(a)	**Knowledge 1, Application 1** In June 2023, Tesla further reduced the price of its Model 3 saloon by £4200 from £42990. In a fiercely competitive market it has been forecast this will lead to a 15% increase in demand by June 2024 Initial cost £42,990 Reduction in price £4,200 New price £38,790 **Knowledge** %change in QD/%change in price = PED (1) or %change in price = difference/original x100 Change in price = 9.77% (or 9.76) (1) **Application** 15/-9.77 = - 1.54 Allow 1.5 to 1.54 range Award full (2) marks (K+APP) if within this range, allow positive or negative PED for 2 marks	**(2)**

Question Number	Answer	Mark
5(b)	**Knowledge 1** **Knowledge/ Understanding** 1 mark for definition e.g. 'All other things being equal'	**(1)**

Question Number	Answer	Mark
5(c)	**Knowledge 1** **The only correct answer is A** B is incorrect as population size will increase the market size and, most likely, overall demand but would shift not affecting PED C is incorrect as this is a determinant of supply and not PED D is incorrect as unsold vehicles / spare stock/ capacity would affect PES and not PED	**(1)**

Question Number	Answer	Mark
1(a)	**The only correct answer is A** ***B*** *is not correct because savings are money, which is not a capital good* ***C*** *is not correct because shares in a company are another form of saving* ***D*** *is not correct because oil reserves are an example of natural resources or 'land'.*	**(1)**

Question Number	Answer	Mark
1(b)	**Knowledge 1 Application 1 Analysis 1** **Knowledge** 1 mark for defining either renewable or non-renewable resources **Application** 1 mark for a relevant example e.g. coal, oil, natural gas are non-renewable **Analysis** 1 mark for linked development of the distinction e.g. non-renewable are scarce/ finite	**(3)**

Question Number	Answer	Mark
2(a)	Knowledge 1, Application 2 **Knowledge/Understanding** 1 mark for identifying formula for PED (this understanding may be implicit) **Application** 1 mark for calculating percentage change in quantity demanded (-4%). -0.2 = x/+20 1 mark for 4% of 2.5m is 100000 sausage rolls Award 3 marks for correct answer of 2.4m	**(3)**

	0.05/ 1.2 = 4% change in price 20% price change PED -0.2 -0.2 = x /+20 0.2 = -4/+20 NB Maximum of 2 marks if correct answer is not given	

Question Number	Answer	Mark
2 (b)	**The only correct answer is C** ***A*** *is incorrect as is perfectly inelastic and would mean the coefficient would be 0* ***B*** *is not correct as the coefficient would be greater than 1* ***D*** *is not correct because the coefficient would be 1 with the same proportionate change in quantity demanded as price*	**(1)**

Question Number	Answer	Mark
3(a)	**Knowledge 1** **Knowledge/understanding** 1 mark for definition, e.g. • A **free market** is a system of buying and selling goods and services without government intervention.	**(1)**

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>1(a)</td><td>
Application 2, Knowledge 2

Application:
Accurate insertion of data in both columns in table (either fully or as far as the new equilibrium).
(1+1 marks)

<table>
<tr><th>Price £</th><th>Quantity demanded per month (000)</th><th>Quantity supplied per month (000)</th><th>New Quantity demanded per month (000)</th><th>New Quantity supplied per month (000)</th></tr>
<tr><td>25</td><td>5</td><td>9</td><td>8</td><td>10</td></tr>
<tr><td>24</td><td>6</td><td>8</td><td>9</td><td>9</td></tr>
<tr><td>23</td><td>7</td><td>7</td><td>10</td><td>8</td></tr>
<tr><td>22</td><td>8</td><td>6</td><td>11</td><td>7</td></tr>
<tr><td>21</td><td>9</td><td>5</td><td>12</td><td>6</td></tr>
</table>

Knowledge/understanding:
Calculation of new equilibrium price of £24 (1) and quantity of 9 000 (1)

NB do not award for quantity of 9

Award full marks for £24 and 9 000
</td><td>(4)</td></tr>
</table>

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>1(b)</td><td>C</td><td>(1)</td></tr>
</table>

Question Number	Answer	Mark
2(a)	**Application 2** **Application:** 1 mark for applying the formula and 1 mark for the correct answer -21.65% ÷ 17.78% (1) = -1.2 (1) Correct calculations of both percentages accept (-) 0.217 and (-) 0.178 = 1 mark **NB if the answer given is -1.2 or 1.2, award 2 marks**	**(2)**

Question Number	Answer	Mark
2(b)	**Knowledge 1, Analysis 1** **Knowledge/understanding:** 1 mark for original **and** new sales revenue Original sales revenue: £7.20 × 97 million = £698.4 million New sales revenue: £8.48 × 76 million = £644.5 million **Analysis:** 1 mark for the change in revenue: -£53.9 million (accept close approximation, for example a fall of £54 million) **NB if the answer given is -53.9m/53.9m award 2 marks (this may be stated as -7.7% or 7.7%)** **NB If million is missing from the answer award up to 1 mark**	**(2)**

Question Number	Answer	Mark
2(c)	B	**(1)**

Question Number	Answer	Mark
3(a)	**Application 2** **Application:** 568 × 1.8 million (1) Accept 1022 million or 1022.4 million for 2 marks. Accept 1,022,400,000 **NB If million is missing from the answer award up to 1 mark**	**(2)**

Question Number	Answer	Mark
3(b)	**Application 2** **Application:** 1 mark for the percentage of subsidy for consumers: **71 ÷ 568 X 100 = 12.5%** (1) 1 mark for the percentage of subsidy received by producers: **497 ÷ 568 X 100 = 87.5%** (1) Award 1 mark if the answers are transposed **NB** if no correct calculations, award up to 1 mark for: correct annotation of diagram depicting consumer and producer subsidy areas OR the actual consumer subsidy per unit (71 rupees) and producer subsidy per unit (497 rupees) OR consumer subsidy (127.8 million rupees) and Producer subsidy (894.6 million rupees)	**(2)**

Question Number	Answer	Mark
2(a)	**Application 2** **Application:** 1 mark for appropriate calculation e.g. £2 ×73 million = £146 million (1) **OR** £0.24 ×73 million = £17.52 million (1) **OR** £1.76 ×73 million (1) **OR** correct answer with no millions (1) Answer = **£128.48 million** (accept between £128 million and £129 million) **Award 2 marks for correct answer (128m)**	**(2)**

Question Number	Answer	Mark
2(b)	**Knowledge 1, Analysis 1** **Knowledge:** 1 mark for e.g. • The demand for use of gaming machines is likely to increase (1) • It is a substitute for national lottery tickets (1) • Substitutes have a positive cross elasticity of demand (1) **Analysis:** 1 mark for e.g. • Increase by 128% in response to a 100% increase in the price of national lottery tickets (1) • 1.28 cross elasticity of demand indicates they are **close** substitutes (1)	**(2)**

Question Number	Answer	Mark
2(c)	**The only correct answer is C** ***A*** *is not correct because the flood defence scheme is non-exclusive* ***B*** *is not a private good because flood defence scheme is non-exclusive so you are unable to charge private individuals that benefit from the scheme* ***D*** *is not correct because it is a distractor in lacking meaning but also indicating that the candidate is confusing rivalry with the non-rivalrous nature of public goods*	**(1)**

Question Number	Answer	Mark
3 (a)	**Application 2** **Application 2:** 1 mark for appropriate calculation /formula e.g. $\frac{1.3 \times £489\,000}{100}$ (1) **OR** 489 000 ×0.013 (1) Answer = **£6 357** **Award 2 marks for correct answer (6 360)**	**(2)**

Question Number	Answer	Mark
3(b)	**The only correct answer is C** ***A*** *is not correct because the candidate has mistakenly done the average house price in North East of England to the average house price in London* ***B*** *is not correct because the candidate has made a computational error* ***D*** *is not correct because the candidate has made a computational error*	**(1)**

Question Number	Answer	Mark
5(a)	**The only correct answer is A** ***B*** *is not correct because the candidate has divided by the new year rather than the original year* ***C*** *is not correct because the candidate has looked at the difference in quantity sold between 2014 and 2015 rather than answering the question between 2011 and 2015* ***D*** *is not correct because the candidate has looked at the decrease in the quantity of PC's not the percentage decrease*	**(1)**

Question Number	Answer	Mark
5(b)	**Knowledge 1, Analysis 1** **Knowledge:** 1 mark for likely reason in the decrease in sales of PCs e.g. • Development of substitutes such as Tablets or iPads or iPhones (1) • Fall in global real incomes (1) • Fall in price of substitutes (1) **Analysis:** 1 mark for linked development e.g. • Tablets are more convenient to carry round (1) • New technology in other personal devices so becoming more powerful in their functions (1) • Fall in global incomes means that consumers are less likely to buy normal goods such as PCs (1)	**(2)**

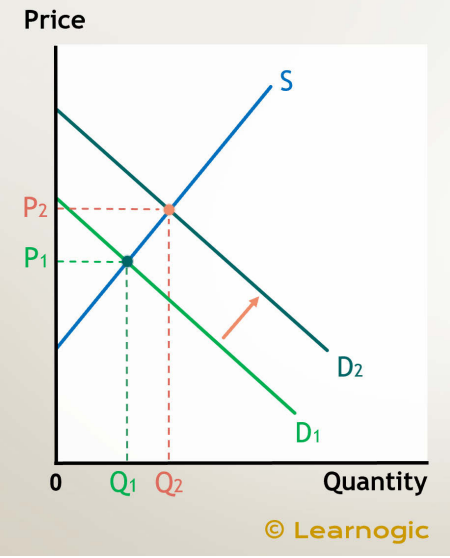
Question Number	Answer	Mark
5(c)	**Application 2** **Application 2** 1 mark for appropriate calculation /formula e.g. the sum of 5 largest figures = 190 239 (1) $\frac{190\ 239\ \text{(million)}}{276\ 700\ \text{(million)}} \times 100$ Answer = **68.8%** (Accept between 68% and 69%) **Award 2 marks for correct answer (68.8)**	**(2)**

Question Number	Answer	Mark
1(a)	**Application 2** Price elasticity of supply calculation % change in quantity supplied (28 268/134 612 x 100) = 21% (accept range 20.9 to 21) (1) PES = 21/5.4 (1) = 3.9 **Award 2 marks for 3.9** **(Accept a range between 3.8 and 4)**	**(2)**

Question Number	Answer	Mark
1(b)	**Application 1** **The only correct answer is C** **A** is not correct because the PES does not equal to infinity **B** is not correct because the PES does not equal zero **D** is not correct because the PES is not less than one	**(1)**

Question Number	Answer	Mark
1(c)	**Knowledge 1, Analysis 1** Identification of a factor determining PES (1) e.g • levels of spare capacity • stocks of finished goods and components available e.g. bricks • time period and production speed • level of factor mobility/flexibility • availability of bricklayers, electricians etc • availability of land • planning permission/regulations • availability of technology/machinery to build Explain as to the impact on price elasticity of supply (1) e.g. • limited availability of land/builders (1) so supply will be inelastic (1)	**(2)**

Question Number	Answer	Mark
1(a)	**Analysis 1** **The only correct answer is D** ***A*** *is not correct because fixed costs are not related directly with output in the short-term* ***B*** *is not correct there is no information available on income changes* ***C*** *is not correct because there is no information available on price changes*	**(1)**

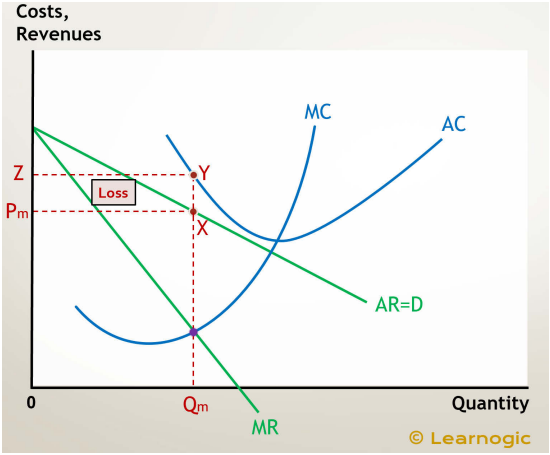
Question Number	Answer	Mark
1(b)	**Knowledge 2, Application 2** **Knowledge** - Correctly labelled original demand and supply (1) annotated to show the demand curve shifted to the right (1) **Application** **As a result of demand shifting right:** – Price increase (1) – Output increase (1) – Original and new equilibrium points identified (1+1) ALLOW horizontal supply Award a maximum of three marks if supply also shifts Diagram e.g.  	**(4)**

Question Number	Answer	Mark
2(a)	**Application 2** **Application:** 1 mark for likely understanding e.g. • 5% x -1.37 (1) **OR** • 5 % x 1.37 (1) Answer = - **6.85%** **Award 2 marks for correct answer (accept any in the range of 6.8 to 7 or -6.8 to -7)**	**(2)**

Question Number	Answer	Mark
2(b)	**Application 2** **Application:** 1 mark for likely understanding e.g. • 5% x 0.63 (1) **OR** • 5% x -0.63 (1) **OR** Answer = **3.15%** **Award 2 marks for correct answer (accept any in the range of 3 to 3.2)**	**(2)**

Question Number	Answer	Mark
2(c)	**Knowledge 1** **The only correct answer is D** ***A*** *is not correct because demand is price-elastic and XED is positive (substitute)* ***B*** *is not correct because demand is price-elastic and XED is less than +1* ***C*** *is not correct because XED is positive (substitute)*	**(1)**

Question Number	Answer	Mark
3(a)	**Application 1** **The only correct answer is D** ***A*** *is not correct because -3.4 suggests an inferior good* ***B*** *is not correct because -0.74 suggests and inferior good* ***C*** *is not correct because +0.74 suggests a normal good which is a necessity*	**(1)**

Question Number	Answer	Mark
3(b)	**Knowledge 2, Application 2**  Identification of profit maximising equilibrium where: ○ Downward sloping AR and MR (1) ○ AC above AR (1) ○ MC=MR (1) ○ Area of loss (1)	**(4)**

Question Number	Answer	Mark
1(a)	**Knowledge 2 Application 1 Analysis 1** **Knowledge/Analysis: Up to 3 marks for one reason e.g.** • Price elasticity of demand measures the responsiveness of demand to a proportionate change in price/formula (1) • Closeness of substitutes (1) young people have greater availability of substitutes – bus, walk, cycle/closer substitutes/adults bus dependent (1) • Proportion of income spent (1) greater proportion for younger people spent on bus travel (1) • Degree of necessity (1) adults getting to work may be more important than students getting to classes on time (1) **Application: 1 mark for reference to data e.g.** • Adult PED is -0.4, student PED is -0.7 (1) • Calculation e.g. 10% increase in price leads to a 7% decrease in demand for student tickets (1) • PED for young people is relatively less price inelastic (1) • PED for adults is relatively more price inelastic (1)	**(4)**

	N.B. Could be illustrated using a demand curve and may be awarded as application or analysis	

Question Number	Answer	Mark
1(b)	**The only correct answer is B** ***A*** *is not correct because 0.4/4.8 is an incorrect use of the formula* ***C*** *is not correct because the wrong PED has been selected,* *4.8x0.7* ***D*** *is not correct because 4.8/0.4 is an incorrect use of the formula*	**(1)**

Question Number	Answer	Mark
2(a)	**Knowledge 2, Application 1, Analysis 1** **Knowledge and Analysis (3)** • The PES of oil is likely to be between 0 and 1 (1) • PES is likely to be relatively inelastic (1) • Change in price has little/no impact (less than proportionate effect) on supply of oil (1) • Diagram to show an inelastic supply (1) • Time lags (1) • Less inelastic for existing producers. Plants can be mothballed etc. (1) **Application (1)** 1 mark for e.g. • As oil companies may take years to develop oil fields when prices are high (1) • Companies can take 20 years to begin to extract oil (1) • They often have to continue producing oil even when prices fall (1) • UK government provided to 130 new licences	**(4)**

Question Number	Answer	Mark
2(b)	**The only correct answer is C** ***A*** *is not correct as XED shows the change in the demand for petrol cars in response to the change in price of diesel cars* ***B*** *is not correct as XED shows the change in the demand for petrol cars in response to the change in price of diesel cars* ***D*** *is not correct as the this would only occur if the prices of diesel cars fell by 100%*	**(1)**

	• magnitude/time	

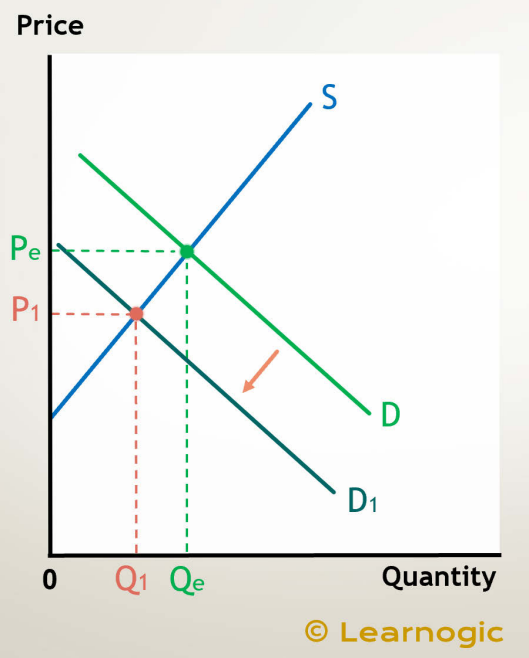
Question Number	Answer	Mark
6(d)	**Knowledge 2, Application 2** 2 marks for each correct answer, e.g. • High-income countries = -4% / +10% (1) =- 0.4 (2) or 0.4 (2) • Low-middle-income countries = -5% / +10% (1) = -0.5 (2) or 0.5 (2) **NB Award 1 mark for a correct formula as an alternative for substituting correct figures on up to one occasion.**	**(4)**

Question Number	Answer	Mark
6(c)	**Knowledge 2, Application 2 Analysis 2** **Knowledge and Analysis (1+1)x2** • Excludability (1) e.g. private ownership enables individuals to charge for the use of an asset (1) • Private ownership of resources (1) e.g. land, labour, capital and enterprise may be exploited by private individuals or firms (1) • Rivalry (1) e.g. private owners of resources can choose to buy and sell resources in order to generate profit (1) • Private ownership in a free market economy may lead to wage disparities or other inequalities (1+1) **Application (1+1)** 1 mark for use of Extract B e.g. 'private producers will act in their own self-interest' individuals 'maximise profit' 1 mark for use of own knowledge e.g. private ownership of a resource means someone is accountable for it (1) If someone owns something then they legally stop other people from using it (1)	**(6)**

Question Number	Answer	Mark
6(d)	**Knowledge 2, Application 2** 1 mark for e.g. Identifies the correct formula (1) e.g. the formula for XED is %ΔQD Good A/%ΔP Good B -8 = x/2% (1) -8 x 2% = -16% (1) (decrease in quantity demanded of bags of chips) 950 000 x 16% = 152 000 (1) 950 000 – 152 000 (1) = **798 000** **If correct answer is given award all 4 marks. Award up to 3 marks for correct working but overall correct answer missing.**	**(4)**

Question Number	Answer	Mark
6(d)	**Knowledge 2, Application 2** **Knowledge/understanding** 2 marks for e.g. A substitute good is one which has rivals in consumption / 'competitive demand' / A good that can be replaced by another to satisfy a want(1) A complementary good is one which is consumed with another good or service/ A good where the demand increase of one good causes an increase in demand of a related good/ service (1) **Application** 2 marks for, e.g. Netflix and Disney+ are substitute goods (1) Flatscreen televisions are consumed with streamed television services (1)	**(4)**

Question Number	Indicative content	Mark
6(c)	**Knowledge 2, Application 2** **Knowledge 2** Reference to value for reusable cleaning products to be + / coefficient higher than (0 or positive) (1) Reference to type of good (normal/ luxury) (1) **Application 2** • Reference to extract – consumers demand will be income elastic as incomes are falling (1) • Retailers have suggested that most customers do not wish to pay more for cleaning products in reusable packaging (1) With the average household income falling by 4.3% in 2023, sales of refillable cleaning products are expected to fall from 200 000 to 130 000 this year (1) • Could calculate YED using the information given • 70 000/ 200000 = 0.35 x 100 = 35% (1) • YED = -35/-4.3 = 8.14 (1 APP + 1APP) **If correct YED coefficient of between 8.1-8.14 given only with no explanation - award 2 APP, 2 marks maximum**	**(4)**

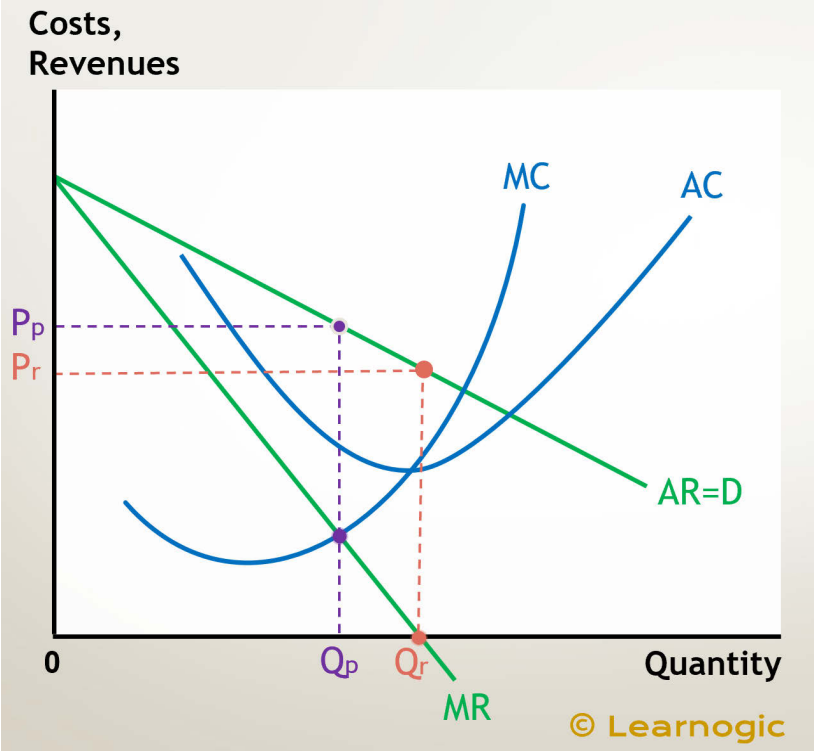
Question Number	Answer	Mark
6(a)	**Knowledge 1, Application 2, Analysis 2** **Knowledge** 1 mark for definition of revenue or may identify clearly in diagram (1) **Application** 1 mark for using source data or linking ban to reduced consumption (1) and 1 mark for diagrammatic link to change in revenue (1), e.g. • "can reduce tobacco consumption" (1) leading to decreased revenue as shown in diagram (1) **Analysis** Diagram showing demand shifts left or becomes less price inelastic (1) and new equilibrium (1)  	**(5)**

Question Number	Answer	Mark
6(a)	**Knowledge 1, Application 2, Analysis 2** **Knowledge** 1 mark for understanding/formula of price elasticity of demand i.e. the responsiveness of quantity demanded to a change in price **Application** 2 marks for using data e.g. • reference to fees e.g. £9 250 (1) or PED e.g. -0.5 (1) • 825% increase in fees (2) **Analysis** PED is inelastic (1) so government and universities know that students are prepared to accept higher fees (1) Students are not price sensitive (1) so the level of fees is perhaps less important than other issues e.g. fairness of fees for different courses (1)	**(5)**

Question Number	Answer	Mark
6(a)	**Knowledge 1, Application 2, Analysis 2** **Knowledge** 1 mark for understanding the positive relationship between price increases and total revenue when PED is inelastic **Application** 2 marks for using data e.g. • price elasticity of demand for market is -0.6 (1) • Netflix's subscriber base 'has proven highly inelastic' (1) □ 3% of customers in a survey said they would cancel their subscription after Netflix's latest price rise (1) **Analysis** PED is highly inelastic (1) so firms are able to increase prices for streamed television services without a fall in total revenue (1) 10% rise in price causes a 6% fall in quantity demanded (1) this may be shown using a diagram (1+1)	**(5)**

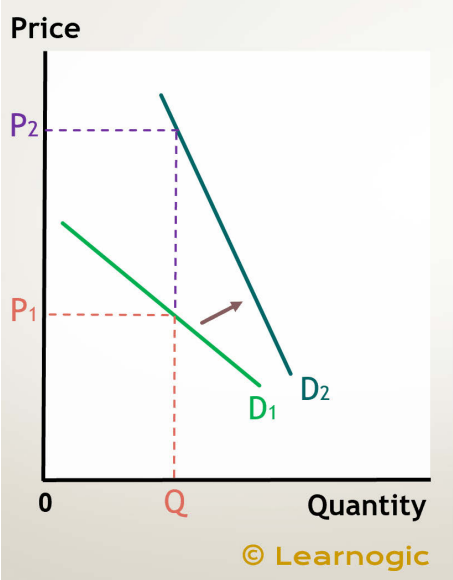
Question Number	Answer	Mark
2(a)	**Knowledge 2 Application 1 Analysis 1** **Knowledge and Analysis: Up to 3 marks for one reason e.g.** • Price elasticity of supply measures the responsiveness of supply to a proportionate change in price/formula (1) • Regulations (1) takes time to build/planning permission/immobile factors (1) • Lack of resources (1) shortage of land/materials/ labour/operating at full capacity (1) **Application: 1 mark for reference to data e.g.** • New York (PES 0.5), price inelastic supply (1) OR • Texas (PES 1.8), price elastic supply (1) • Calculation e.g. 10% increase in price in New York leads to a 5% increase in supply (1) • Supply of housing is relatively more price inelastic in New York than Texas/more price elastic in Texas than New York (1) **N.B. Could be illustrated using a supply curve and may be awarded as application or analysis (up to 2 marks)**	**(4)**

Question Number	Answer	Mark

2(b)	**The only correct answer is C** ***A*** *is not correct because 1.8/12 is an incorrect use of the formula* ***B*** *is not correct because 1.8/1.2 is an incorrect use of the formula* ***D*** *is not correct because 1.8x12 is an incorrect use of the formula*	**(1)**
Question Number	Answer	Mark
3 (a)	**Knowledge 2, Application 2** 1 mark profit maximisation output where MC=MR 1 mark profit maximisation price 1 mark revenue maximisation output where MR=0 1 mark revenue maximisation price Diagram required e.g.  	**(4)**

Question Number	Answer	Mark
1(a)	**Knowledge 2, Application 2, Analysis 1** **Knowledge/implicit understanding and analysis: up to 3 marks e.g.** • The percentage change in quantity demanded is less responsive to a change in price (1) • Is relatively low e.g. between 0 and -1 (or 0 and 1) / PED<1 (1) • Diagram showing price inelastic demand (1) • An increase in price will result in an increase in total revenue (1) • Reference to a characteristic e.g necessity, small proportion of income, few substitutes (1) **Application: up to 2 marks e.g.** • UK consumers use gas for 85% of central heating/'are some of the biggest user of gas' (1) • Gas generates a third of UK electricity (1) • There is no substitute for energy, at least in the short run (1) • Calculation of price change as percentage or percentage points (1) • Rise from around 50p per therm in Feb 2021 to 352p per therm in Dec 2021 (1) • 'An almost perfect example of price inelastic demand' (Extract A lines 7-8)	**(5)**

Question Number	Answer	Mark

Question Number	Answer	Mark
6(a)	**Knowledge 1, Application 2, Analysis 2** **Knowledge** 1 mark for discussing inelastic demand of the meat substitute products. This may be illustrated on a diagram as seen below **Application** 2 marks for using source data to explain increased revenue from meat-substitute products. • Despite high prices (1) demand continues to rise for these products (1) • Nestle buying Sweet Earth leading to its 'meat-free business hitting $1bn by 2029' (1) **Analysis** Accurate diagram – showing change in gradient/slope of the demand (1) and higher price marked on axes (1) e.g.  	**(5)**

Question Number	Answer	Mark
6(c)	**Knowledge 2, Application 2, Analysis 2** **Knowledge/understanding** 1 mark each for any two of the following: • definition or formula of cross elasticity of demand (1) • tobacco cigarettes and e-cigarettes have a positive cross elasticity of demand (1) • understanding of substitute relationship e.g. similar products (1) **Application** 1 mark each for any two of the following: • e-cigarettes seen as less harmful so become more attractive compared to tobacco cigarettes (1) • tougher regulations and growing health awareness on tobacco (1) • they are substitutes because they offer nicotine (1) • applying cigarettes to diagram showing impact on e-cigarettes (1+1) • relative price differences e.g. Figure 1 or tax rises on tobacco (1) • use of numerical example e.g. a 10% rise in the price of tobacco cigarettes results in a less than 10% rise in demand for e-cigarettes **Analysis** Up to 2 marks for any one of the following in linked development OR two limited examples of analysis (1+1): • the increase in the price of traditional cigarettes is resulting in the change in quantity demanded of e-cigarettes increasing • consideration of whether distant or close substitutes • diagram showing relationship between price of one of the product and demand for the other	**(6)**

Question Number	Answer	Mark
6(d)	**Knowledge 2, Application 2, Analysis 2** **Knowledge/understanding 2** Explanation of role/ relationship between the two products and how are substitutes (1) and that they have a positive XED (1) **Application 2** Reference to information from extract involving; environmental messaging/ litter posters/ 25p charge *i.e. Environmental messaging in cafes, for example posters about litter (1), increases the use of reusable coffee cups by 2.3% (1)* *The availability of reusable cups leads to an increase of 2.5% (1) whereas the distribution of free reusable cups leads to a further increase of 4.3% (1)* **Analysis 2** Reference to reusable cups being cheaper (1)– discussion of consumers switching due to price differentials (1) Diagram awardable showcasing demand falling (1) for single use cups with relevant explanation (1) Messaging helps to reduce asymmetrical information (1) in regards the increased external costs of single-use cups (1) Could showcase the XED and role of both reusable vs single use cups - award relevant diagram (1) with explanation (1)	**(6)**

Question Number	Answer	Mark
6(d)	**Knowledge 2, Application 2, Analysis 2, Evaluation 2** **Accept answers based on switching between electricity suppliers as well as switching from electricity to other energy sources** **Knowledge/Understanding:** 2 marks for identification of two reasons (1+1) e.g. • It takes time for consumers to switch demand following price changes • Existing contracts make it difficult to switch in the short term • More substitutes available in the longer term **Analysis:** 1 mark for linked explanation of each reason (1+1) e.g. • Demand more price inelastic in short run as: takes time for consumers to adjust their consumption habits (habitual behaviour) / imperfect market information / no close substitutes. • Demand less price inelastic in long run as: some consumers are able to change their habits improved market information / substitutes may emerge such as greater use of gas appliances or installation of solar power panels. **Application:** 2 marks for reference to data (1+1), e.g. • Idea that demand is price inelastic (1) becoming less inelastic / more elastic in the long run (1) • Use of Extract A e.g. 70% of domestic consumers do not switch (1) • Development of new technology that reduces electricity consumption / electricity saving lightbulbs or energy efficient kettles (1) • Increased awareness of measures to become more price sensitive (1) to become more energy efficient (1) • Costs and time involved in switching to energy-saving appliances (1)	

- Improved consumer knowledge of consumption through smart meters (1)

- New firms might enter the market using gas / biofuel / solar / wind / households producing their own rather than buying electricity (1)

Evaluation: 2 marks for two evaluative comments, OR 2 marks for identification and linked development of one comment

- The figures are averages for all households – but great variation exists between households; for example, there may be no effect on households who have little concern for energy saving measures.

- High income households may not be affected by rising electricity prices as it comprises such a small part of total income - so demand remains very price inelastic.

- Some households may suffer from imperfect market knowledge in long run or cannot change their habits – so demand remains very price inelastic.

- Consideration of the magnitude of the change in elasticity (from -0.35 to -0.85); quite substantial in terms of doubling elasticity / or electricity demand still remains price inelastic in the long run as no suitable alternatives.

(8)

Question Number	Answer	Mark
6(b)	**Knowledge 2, Analysis 2, Application 2, Evaluation 2** **Knowledge/understanding:** 2 marks for identification of two non price determinants (1+1) e.g. • Change in taste and preference/quality of service • Changes in income • Price of substitute has risen/substitute less attractive • Price of complement has fallen/complement more attractive • Increased population/migration • Lower price in real terms • Lower prices – special offers/off-peak/forward booking. **Analysis:** 1 mark for linked explanation of each identified determinant to demand increasing/shifting right (this may be shown on a diagram) (1+1) Increase in population moved to commuter areas/improvement in rail stock e.g. wifi access. Income elasticity of demand Close substitute e.g. car travel, XED >+1 Close complement e.g. on-board meal, XED >-1 **Application:** 2 marks for reference to Figure 2 (1+1) or other data (1), e.g. • Approximately 50 billion rail passenger kilometres per year (1) to 65 billion (1) or increased by 15 billion rail passenger kilometres per year (2) or Increased by 30% (2)	

	• Economic recovery post 2008 crisis (1) • Cost of car travel/road congestion (1) • Quality of train meals/on board Wi-Fi access (1) **Evaluation:** 2 marks for two evaluative comments, OR 2 marks for identification and linked development of one evaluative comment, evaluating significance of factors or another reason as a counter-argument e.g. • Delays and cancellations (1) • Recession 2008- 2010 (1) • Car travel still cheaper/train delays and cancellations (1) • Rail meals expensive/congested trains so can't work on board (1) • Increased home working • Rail fares have risen (1)	**(8)**

Question Number	Answer	Mark
6(b)	**Knowledge 2, Analysis 2, Application 2, Evaluation 2** **Knowledge/understanding:** 2 marks (1+1) e.g. • Acknowledgement of price inelastic demand (1) • Acknowledgement of price inelastic supply (1) • Non-price determinants of demand (1) • Non-price determinants of supply (1) • Cross price elasticity of demand (1) **Analysis:** 2 marks for linked explanation (1+1) e.g. • Speculative demand, change income, taste and preference (1) • Supply chain failure/ harvest failure/weather/seasonality (1) • Price inelastic demand, lack of close substitutes, small proportion of income, necessity (1) • Price inelastic supply – time-lags with supply, storage problems (1) • Closure of cafés/farms/freight in 2020 (1) **Application:** 2 marks with at least 1 mark for reference to Figure 2 e.g. • May 2020 price falls 3.23% (1) • April 2020 price rises 4.28% (1) • Between April and May 2020 price moved by 7.51 percentage points (1) • Price falls from \$3.13 (Jan 2020) to \$2.99 (Feb 2020 (1+1) • Price rises \$2.99 (Feb 2020) to 3.27 (March 2020) (1+1) • Average price = \$3.32 (2) • Coffee crop harvest failure (1) • Coffee addictive (1) **NB allow up to 2 marks for diagram that enhances the written explanation elsewhere**	**(8)**

	Evaluation: 2 marks for two evaluative comments, OR 2 marks for identification and linked development of one evaluative comment e.g. • Depends upon the degree of price elasticity of demand when supply shifts (1) • Depends upon the degree of price elasticity of supply when demand shifts (1) • Use of buffer stocks (1) brings price stability (1) • Transitory changes (1) short-term shocks of disappear over-time (1) • Futures market (1) dampens price instability/removes volatility (1) • Easy to store (1) and therefore to release if there was a poor harvest (1) • Short-run/long-run (1) **NB award a maximum of 6/8 if no reference to Fig 2 and/or price elasticity**	

Question Number	Answer	Mark
1(b)	**Knowledge 2, Application 2, Analysis 2, Evaluation 2** **Knowledge/implicit understanding:** (1+1) marks e.g. • demand is price inelastic means that the percentage change in price causes a smaller percentage change in quantity demanded • demand is income elastic means that percentage change in income causes a greater percentage change in demand **Application:** (1+1 or 2) e.g. • food delivery firms' charge of £5 is a very small percentage of consumer income so they might be seen as essential or basic goods (Ext B line 5) • three dominant firms Just Eat, Uber Eats and Deliveroo (Ext B line2) • The food delivery industry has boomed in recent years (Ext B line 2) • cash rich, time poor (Ext B line 7) • income growth prior to 2020 meant delivery has boomed • HFSS addiction/habit forming • Convenient mobile app, so PED inelastic • 5 times more expensive than cooking at home **Analysis:** (1+1) development of each type of elasticity, e.g. • if demand is price inelastic then **revenue** will rise for the firm when it raises price • habit forming behaviour so PED inelastic • few close substitutes so PED inelastic • small part of overall consumer spending so PED inelastic • food delivery services are a very small percentage of consumer income so they might be seen as essential or basic goods • if food delivery is a luxury the demand likely to be income elastic, e.g. then the firms will benefit in times of economic growth, but lose demand in a recession • if food delivery is a treat in an economic downturn then it is an inferior good **NB up to 2 marks may be awarded for diagram(s) (1+1)** **Evaluation:** (2 marks for any relevant point, or two points 1 +1) • the 30% of prices paid by restaurants is not seen by the consumer • depends on geographical areas e.g. rural vs urban areas. • the worldwide health crisis might have caused distortions in the data • third-party food delivery firms are inferior goods if demand rises when incomes fall • other factors affect demand apart from income, e.g., availability of substitutes (eating in restaurants is impossible in global health crisis)	
	• discussion of normal vs inferior question e.g. compared to eating in a restaurant or cooking at home • income elastic vs. inelastic e.g. demand for third-party food delivery is price elastic for some income groups when incomes fall as it takes up a larger percentage of income	**(8)**

Question Number	Answer	Mark
6(c)	**Knowledge 2, Application 2, Analysis 2, Evaluation 2** **Knowledge/implicit understanding:** (1+1) e.g. • Cross elasticity of demand shows the responsiveness of demand for one good to a change in the price of another / XED formula (1) • Value greater than 0 (1) **Application:** (1+1) e.g. • Declining market share of Netflix in figure 1 (1) • Rising market share of Disney+ in figure 1 (1) • Planned cancellations at Disney+ are lower than Netflix (1+1) • Subscribers rethinking their commitment to multiple subscriptions (1) • Example calculation of price changes e.g. Netflix price rise £1 leads to a greater percentage change at Disney+ (1+1) • Figure 1 shows the range of online streaming services providing similar service/growth of competition in the market/use of 'other' market share (1+1) • Netflix cutting its prices in India to compete with Disney+ and Prime (1) **Analysis:** 2 marks for linked explanation (1+1) • Explanation of substitutes, e.g. increase in the price of one streaming service will lead to an increase in the demand for other streaming services. (1+1) • Explanation of substitutes, e.g. declining satisfaction, cancellation and demand at one provider will lead to an increase in demand at an alternative (1+1) • Diagrammatic representation of positive correlation between substitutes (up to 2 marks) **Evaluation**: 2 marks for two evaluative comments, OR 2 marks for identification and linked development of one evaluative comment e.g. • Strength of substitutes • Each provider offers subscribers different shows that could be original and unique to them e.g. Stranger Things, so XED may be low causing them to be weak substitutes (positive XED less than 1) • XED can vary over time (1) - they were not viewed as substitutes during lockdown, they were viewed as complements, so many consumers had multiple subscriptions (1) • XED can vary over time with changes in real income (1) - they are viewed as stronger substitutes due to	

Question Number	Indicative content	Mark
6(b)	**Knowledge 2, Application 2, Analysis 2** • Help to Buy is a subsidy making home ownership more attractive • Cross (price) elasticity of demand (XED) measures the responsiveness of quantity demanded for one good to a change in the price of another good. • Identify home ownership and rented properties as substitutes • Likely positive cross elasticity of demand – Help to Buy scheme may result in decrease demand in rental sector • Deposit size 5% rather than 20% - demand increases • Demand for rental properties decrease – diagram showing shift inwards • Price and quantity of rental properties to fall • Consumer and Producer surplus in rented sector declines • Alternative views valid e.g. Help to Buy may increase house prices and therefore increase demand for rented accommodation from those not eligible for Help to Buy. Help to Buy shifted demand for private houses to the right (increase) and that, ceteris paribus, this would shift demand for rented accommodation to the left (reduction).	**(6)**

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1-2	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no links between causes and consequences
Level 2	3-4	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relate them to economic problems in context, although does not focus on the broad elements of the question. A narrow response or the answer may lack balance.
Level 3	5-6	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are applied appropriately to the broad elements of the question.

Question Number	Indicative content	Mark
6(b) continued	**Evaluation 4** • Scale – "modest" uptake of the Help to Buy scheme • Time-scheme due to end in 2017 • Scope – more likely to affect "lower end" of property market. • Closeness of substitutes – home ownership is purchasing an asset renting is a cost of living. • Scheme only affects first time buyers • PES – planning restrictions • Regional variations • Other factors more significant e.g. income • Candidates may refer to long-term investment in private rented sector as buy-to-let increasing demand for home ownership.	**(4)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1-2	Identification of generic evaluative comments without supporting evidence/reference to context. No evidence of a logical chain of reasoning.
Level 2	3-4	Evaluative comments supported by chains of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.

Question Number	Indicative Content	Mark
6(c)	**Knowledge 2, Application 2, Analysis 4,** PED is likely to be price inelastic as: - Change in price does not cause a significant change in quantity demanded/less responsive - Diagram to show price inelastic demand - 'high price does not seem to deter all new buyers, especially in sports and multi-player action games' - Examples of high prices of games - Addictive e.g. 10-16 hours per day - Irrational behaviour of buyers - In-game purchases bring in additional revenue - Price Discrimination - inelastic PED players have opportunities to spend more on in app purchases e.g. £9.99 Spiderman "skin" - Loyal customers willing to pay a high price - Market dominated by a few large firms/lack of choice arguments e.g. Microsoft/Activision merger - Use of data on games/prices to support argument - Habitual behaviour – monthly subscription payment - Likely to be a small proportion of adults' incomes - Possible discussion of how cheap per hour played the product is/comparison with other entertainment forms like cinema or Netflix - Influencers - top players get millions of views and may be sponsored by video companies. Makes consumers want to play the product themselves - Branding/brand strength making PED more price inelastic **NB: candidates could argue demand is price inelastic as KAA and demand is price elastic as evaluation (or vice versa)**	**(8)**

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–2	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no chains of reasoning or links between causes and consequences.
Level 2	3–5	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response; chains of reasoning are developed but the answer may lack balance.
Level 3	6–8	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are carefully selected and applied appropriately to economic issues and problems. The answer demonstrates logical and coherent chains of reasoning.

Question Number	Indicative Content	Mark
6(c) continued	**Evaluation 4** PED may not be inelastic (or argument for elastic PED) - Cheaper games are available (there are plenty of alternatives) - Lower prices games can attract large sales e.g. Minecraft/Mario Kart 8 - Depends on which segment of the market the game is aimed - Large proportion of income (expensive product) - PED varies over time – only very inelastic at the point of release - Games have seen a drop off in demand after the pandemic, as consumers have less free time now - Many freemium games on offer. Free to play with just advertising and no need to purchase enhanced in app features - Subscription services offer a new alternative - Could change in the future with merger activity/ government intervention	**(4)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–2	Identification of generic evaluative comments without supporting evidence/reference to context. No evidence of a logical chain of reasoning.
Level 2	3–4	Evaluative comments supported by relevant reasoning and appropriate reference to context. Evaluation recognises different viewpoints and/or is critical of the evidence.

Question Number	Indicative content	Mark
6(e)	**Knowledge 3, Application 3, Analysis 3** • Identification of determinants of price elasticity of demand • Application – PED tobacco cigarettes -0.35; PED e-cigarettes -1.9. Reasons why tobacco cigarettes being relatively price-inelastic, e-cigarettes relatively price-elastic e.g.: • habitual consumption • tobacco broadly defined • proportion of income spent on tobacco cigarettes lower than switching cost of buying reusable e-cigarette kit • number of close substitutes • tobacco addictive necessity, e-cigarettes luxury (not yet addicted to). **NB to access Level 3 candidates need to consider tobacco and e cigarettes.**	**(9)**

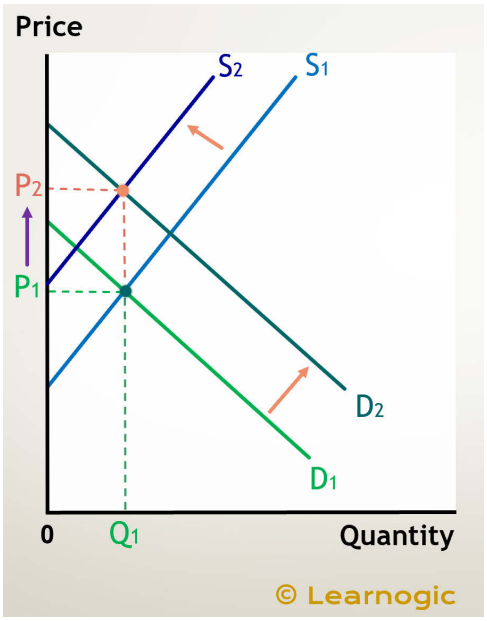
"Assess" was used as the command word for this question instead of "Discuss". In order to meet the expectations set out in the sample material the 10 mark level descriptors have been mapped on to the 15 mark levels as below on this one occasion. See Appendix 1 for full details.

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–3	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no link between causes and consequences.
Level 2	4-6	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response or the answer may lack balance.
Level 3	7-9	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are applied appropriately to the broad

		elements of the question.

Question Number	Indicative content	Mark
6(e) continued	**Evaluation 6** • significance of determinant • e-cigarettes habit forming • tobacco cigarettes narrowly defined • proportion of income spent on tobacco cigarettes is rising • becoming closer substitutes • tobacco addiction waning as lost glamour and health warnings, e-cigarettes nicotine addiction. • longer term response to rising tobacco prices	**(6)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–3	Identification of generic evaluative comments without supporting evidence/ reference to context. No evidence of a logical chain of reasoning.
Level 2	4–6	Evaluative comments supported by chains of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.

Question Number	Indicative content	Mark
6(e)	**Knowledge 3, Application 3, Analysis 3** Demand shifting right and/or Supply shifting left e.g.  Reasons for demand shifting right: • Ageing population, migration • Medical technological advances • NHS as a substitute less attractive, inferior good, waiting times. • Peer pressure Reasons for supply shifting left: • high management and administrative costs • salaries/wages rising due to doctor/nurse shortages • removal of subsidy/higher tax on private health care treatment • rising rents of private hospitals • rising cost of machinery in health care. **NB For Level 3 KAA one relevant diagram.**	**(9)**

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–3	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no link between causes and consequences.
Level 2	4-6	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response or the answer may lack balance.
Level 3	7-9	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are applied appropriately to the broad elements of the question.

Question Number	Indicative content	Mark
6(e) continued	**Evaluation 6** • Magnitude depends on how proportionately large the shift in demand or supply is as a key determinant • Price elasticity of demand may be more price elastic in the long run, given improvements in the NHS, discouraging further price increases • Price elasticity of supply may be relatively price inelastic, given health infrastructure, so price rise may be very significant • Other factors may reduce price e.g. government subsidies, productivity gains, healthier lifestyles.	**(6)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–3	Identification of generic evaluative comments without supporting evidence/ reference to context. No evidence of a logical chain of reasoning.
Level 2	4–6	Evaluative comments supported by chains of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.

Question Number	Answer	Mark
6(e)	**Knowledge 3, Application 3, Analysis 3** • The top five subjects generate earnings significantly above the average when compared to non-graduates whereas the bottom five reduce earning potential. Charging different fees would allow universities to maximise their own earning potential • Students would pay because they can clearly see that the benefits outweigh the costs • Some subjects cost more to staff, so they should cost more, allowing less expensive degrees to be reduced in price • Provide improved courses / give students better educational experience/attract more domestic students • Provide more funds to look after disadvantaged students • Improved courses will attract overseas students • Allow universities to cover the true cost of some courses. Examine variable fees in terms of allocation of resources • Discuss the consumer pays principle. Consumers i.e. students who benefit from university education (premium of £10 000) should pay/contribute to the cost? • Discuss the government / taxpayer role in financing higher education • Long term supply side benefits e.g. more skilled work force	**(9)**

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	**1–3**	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no chains of reasoning or links between causes and consequences.
Level 2	**4–6**	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response; chains of reasoning are developed but the answer may lack balance.
Level 3	**7–9**	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are carefully selected and applied appropriately to economic issues and problems. The answer demonstrates logical and coherent chains of reasoning.

Question Number	Answer	Mark
6(e) continued	**Evaluation 6** • Difficult to quantify exactly what should be charged for what subjects – figures can change over time • May be problematic for those from poorer families, who may see the higher cost of certain degrees as prohibitively expensive • Discussion of the concept of a 'broader education' – are degree choices simply about money. A creative arts subject may reduce earning potential when compared to the average but such subjects are essential for any liberal education	**(6)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	**1–2**	Identification of generic evaluative comments without supporting evidence/reference to context. No evidence of a logical chain of reasoning.
Level 2	**3–4**	Evidence of evaluation of alternative approaches which is unbalanced. Evaluative comments with supporting evidence/reference to context and a partially developed chain of reasoning.
Level 3	**5–6**	Evaluative comments supported by relevant chain of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.

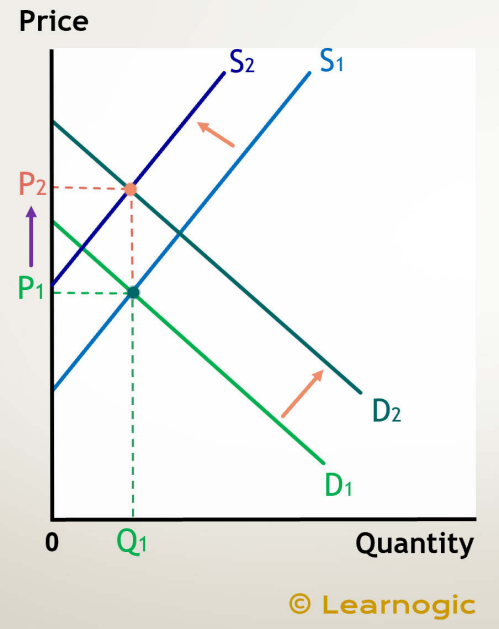
Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–2	Identification of generic evaluative comments without supporting evidence/reference to context. No evidence of a logical chain of reasoning.
Level 2	3–4	Evaluative comments supported by relevant reasoning and appropriate reference to context. Evaluation recognises different viewpoints and/or is critical of the evidence.

Question Number	Indicative content	Mark
6(e)	**Knowledge 3, Application 3, Analysis 3** **Exploiting market power** • Jet2 increases 'price per person' by £36 after Thomas Cook closes (Fig 2) • Thomas Cook, with a 13% market share in 2019, exits the market causing Jet2 to gain market share, possibly close to 25% - gaining monopoly power/duopoly/oligopoly (Fig 1) • Jet2 may be using its monopoly dominance to set a price above the market clearing/allocatively market price • Consumer surplus reduced, producer surplus gained. • With less competition for package holidays, Jet2's PED becomes relatively more price-inelastic resulting in greater price setting powers for package holidays • Jet2 may now be able to set its price at a profit maximising level of £824 rather than possible sales maximisation/revenue pricing/limit pricing/predatory pricing at £788 • Demand for Jet2 holidays increasing as a close substitute to Thomas Cook • Remaining companies colluding, use of game theory. **N.B KAA may be used as EV and vice-versa.**	**(9)**

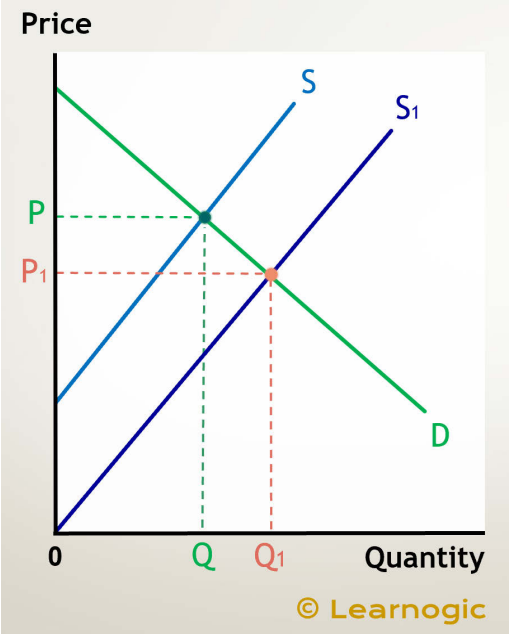
Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–3	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no chains of reasoning or links between causes and consequences.
Level 2	4–6	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response; chains of reasoning are developed but the answer may lack balance.
Level 3	7–9	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are carefully selected and applied appropriately to economic issues and problems. The answer demonstrates logical and coherent chains of reasoning.

Question Number	Indicative content	Mark
6(e) continued	**Evaluation 6** **Responding to market forces** • Demand for Jet2 holidays increasing as a close substitute to Thomas Cook. This may have been happening before Thomas Cook closure • Thomas Cook exiting the package holiday may have removed a surplus of package holidays • At the price of £788 there is now a shortage of holidays to Sorrento, as shown by excess demand due to cancelled Thomas Cook holidays • Market forces resulting in Jet2 extending their supply at higher prices • As they increase the price to £824 the market may clear • Consumers may decide not to buy at higher price - to stay home or become anxious about firms closing and cancelled holidays • Other factors may have caused demand to rise or supply to shift inwards • Market share may not be reallocated to Jet2 • Jet2 is a distant substitute and may not go to same destinations as Thomas Cook • Companies do not collude as fear a whistle-blower and fines 10% or revenue • Rising marginal costs for Jet2 to reduce CO_2 emissions/ buy more fuel to new destinations/ costly take overs. **NB KAA may be used as EV and vice-versa.**	**(6)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–2	Identification of generic evaluative comments without supporting evidence/reference to context. No evidence of a logical chain of reasoning.
Level 2	3–4	Evidence of evaluation of alternative approaches which is unbalanced. Evaluative comments with supporting evidence/reference to context and a partially-developed chain of reasoning.
Level 3	5–6	Evaluative comments supported by relevant chain of reasoning and appropriate reference to context. Evaluation recognises different viewpoints and/or is critical of the evidence.

Question Number	Indicative content	Mark
6(e)	**Knowledge 3, Application 3, Analysis 3** Reasons why the market price within the streaming television content is rising; Reasons causing demand to shift; • The demand for streamed services has increased significantly because of quality content • Lockdowns have increased demand as people watched much more television whilst at home. • Since the end of the first quarter of 2014 to the end of 2021, Netflix has grown its U.S. subscriber base by 70%. Its subscription price for its most popular plan is now 62% higher than it was in the first quarter of 2014 • The supply of streamed services has increased with competition from Amazon prime and Disney+. The cost of gaining new subscribers has increased significantly Reasons causing supply to shift; • New content is expensive and has increased the costs of content producers. 'The costs of providing streaming television content have risen. • Consumers now expect original content, for example Stranger Things which costs around £10 million an episode to make'. • 'Furthermore, advertising in a saturated market is expensive' causing firms costs to increase **NB For Level 3 KAA one relevant demand and supply diagram is required showing D or S shift/or both**  	**(9)**

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–3	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no chains of reasoning or links between causes and consequences.
Level 2	4–6	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response; chains of reasoning are developed but the answer may lack balance.
Level 3	7–9	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are carefully selected and applied appropriately to economic issues and problems. The answer demonstrates logical and coherent chains of reasoning.

Question Number	Indicative content	Mark
6(e) continued	**Evaluation 6** • Discussion of the impact of demand and supply factors upon the price of streaming services • Discussion of 'saturation' may mean that prices will start to fall as number of substitute services, such as Apple TV, continues to increase • Discussion of the timescale under consideration. i.e. whether subscribers will continue to tolerate rising prices • Much depends on the PED and YED of streamed services and how high prices will affect demand • Diagram demonstrating understanding of increased competition could result in falling prices  	**(6)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–2	Identification of generic evaluative comments without supporting evidence/reference to context. No evidence of a logical chain of reasoning.
Level 2	3–4	Evidence of evaluation of alternative approaches which is unbalanced. Evaluative comments with supporting evidence/reference to context and a partially developed chain of reasoning.
Level 3	5–6	Evaluative comments supported by relevant chain of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.

Question Number	Indicative content	Mark
1(e)	**Knowledge 4, Application 4, Analysis 8, Evaluation 9** **Microeconomic effects may include:** • Effects on consumers – e.g. higher prices (or lower prices if increased competition), more consumer spending on high street. Might include PED, YED (this might be developed as evaluation) • Effect on workers – higher incomes, more jobs • Effect on firms, e.g. increase in profits, revenue/decrease for independent non-branded coffee shops; cost of employing specific skilled workers e.g. baristas or other factors of production • Increase negative externalities e.g. more coffee cups • External economies of scale e.g. ancillary services such as cup manufacturers **Macroeconomic effects may include:** • Increased employment in service industry • Balance of payments e.g. outflow of profits to Starbucks • Effects on primary product producers • AD increase, negative/positive multiplier effects (local businesses might lose out to branded supermarket coffee outlets), inflation/growth • Tax implications e.g. transfer pricing • Income inequality • Environmental impacts **NB environmental impacts, labour markets, taxation or incomes can be seen as a micro or macro approach.** **Evaluation points may include:** • Extent of negative externalities depends on whether new processing plants for cups are set up/how alternatives are produced. • Depends on the extent of the increase in demand, PED, YED, XED – and if other areas are seeing declines. • Depends on the size of the multiplier • Depends on the level of spare capacity (LRAS for example) • Depends on growth levels, point at which AD and AS meet (if Keynesian approach) • Depends on the performance of other firms • Depends on the extent to which local shops are displaced	

	• Depends on the extent to which substitution can occur – e.g. people drink coffee instead of going to pubs • Depends on degree of profit repatriation, remittances, transfer pricing • Depends on whether coffee shops extends consumption spending or replaces demand for something else which might have different benefits/costs	**(25)**

Knowledge, application and analysis		
Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–4	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no chains of reasoning or links between causes and consequences.
Level 2	5–8	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response or superficial, two stage chains of reasoning only.
Level 3	9–12	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to apply economic concepts and relate them directly to the broad elements of the question with evidence integrated into the answer. Analysis is clear and coherent, although it may lack balance. Chains of reasoning are developed but the answer may lack balance.
Level 4	13–16	Demonstrates precise knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using appropriate examples. Analysis is relevant and focused with evidence fully and reliably integrated. Economic ideas are carefully selected and applied appropriately to economic issues and problems covering both microeconomic and macroeconomic factors. The answer demonstrates logical and coherent chains of reasoning.

Evaluation		
Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–3	Identification of generic evaluative comments without supporting evidence/reference to context. No evidence of a logical chain of reasoning.
Level 2	4–6	Evidence of evaluation of alternative approaches which is unbalanced, leading to unsubstantiated judgements. Evaluative comments with supporting evidence/reference to context and a partially developed chain of reasoning.
Level 3	7–9	Evaluative comments supported by relevant reasoning and appropriate reference to context. Evaluation recognises different viewpoints and is critical of the evidence provided and/or the assumptions underlying the analysis enabling informed judgements to be made.

Question Number	Indicative content	Mark
7	**Knowledge 4, Application 4, Analysis 8, Evaluation 9** • Definition of microeconomic consequences • Identification of positive XED Positive consequences • Consequences for microeconomic agents of increased demand for electricity – consumers, electric vehicle manufacturers, electric vehicle dealers, battery manufacturers, freight companies, retailers, government, employees. • Use of cost and revenue diagram for to show the effect on profit of falling cost of electric powered vehicles/rising revenue. • Welfare effects on consumer and producer surplus of consumers switching to electric powered vehicles. • Efficiency – allocative, productive, dynamic • Positive external benefits • Reduced negative external costs (MSC>MPC) closer to social optimum Negative consequences • Use of cost and revenue diagram to show the effect on profit of rising cost of petrol or diesel/declining revenue (D=AR). • Welfare effects on consumer and producer surplus of consumers switching away from diesel or petrol. • Efficiency – x-inefficiency • Loss of government revenue as a large proportion of petrol or diesel price is tax • Negative external costs associated with e car manufacturing **NB: Negative consequences can be seen as KAA and positive consequences against as evaluation or vice versa.**	

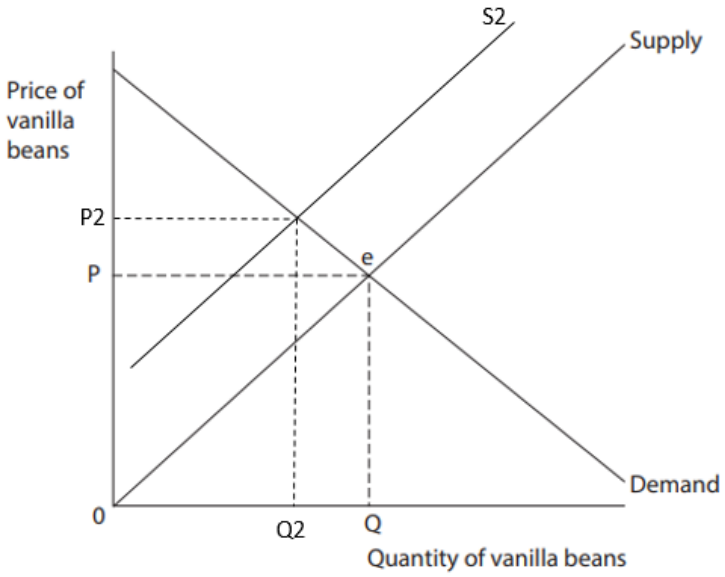
	Evaluation • Predictions may be wrong – dynamic market forces between substitutes may result in cheaper sources of oil, electric power becoming more expensive. Lack of electric infrastructure. Distant substitutes, XED<+1. • Counterarguments made to the point raised e.g. Supernormal profits made may raise barriers to entry, firms may pursue sales maximisation rather than profit maximisation, congestion. • Information gaps • Different geographic markets – regulations and taxes on oil powered vehicles • Impact on the oil market will depend on how electricity is generated • Negative external costs partly offset by increased demand for electricity **NB: Negative consequences can be seen as KAA and positive consequences against as evaluation or vice versa.**	**(25)**

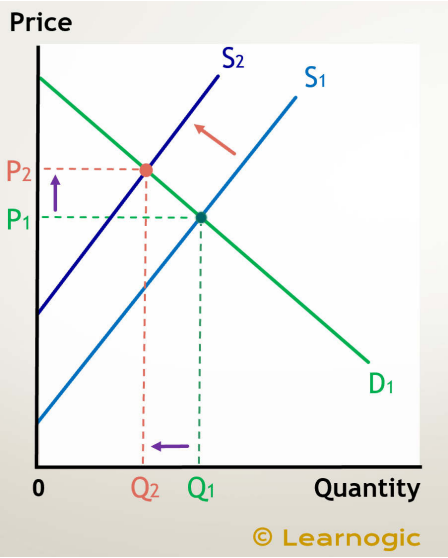
Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	**1–4**	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no chains of reasoning or links between causes and consequences.
Level 2	**5–8**	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response or superficial, two stage chains of reasoning only.
Level 3	**9–12**	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to apply economic concepts and relate them directly to the broad elements of the question with evidence integrated into the answer. Analysis is clear and coherent, although it may lack balance. Chains of reasoning are developed but the answer may lack balance.
Level 4	**13–16**	Demonstrates precise knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using appropriate examples. Analysis is relevant and focused with evidence fully and reliably integrated. Economic ideas are carefully selected and applied appropriately to economic issues and problems. The answer demonstrates logical and coherent chains of reasoning.

Level	Mark	Descriptor
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Level 1	**1–3**	Identification of generic evaluative comments without supporting evidence/reference to context. No evidence of a logical chain of reasoning.
Level 2	**4–6**	Evidence of evaluation of alternative approaches which is unbalanced leading to unsubstantiated judgements. Evaluative comments with supporting evidence/reference to context and a partially-developed chain of reasoning.
Level 3	**7–9**	Evaluative comments supported by relevant reasoning and appropriate reference to context. Evaluation recognises different viewpoints and is critical of the evidence provided and/or the assumptions underlying the analysis enabling informed judgements to be made.

Question Number	Answer	Mark
2(a)	**Knowledge 1** **Knowledge/ Understanding** 1 mark for e.g. • willingness and ability of producers to create goods and services to take them to market • the amount of a good that can be produced by a business • the quantity of a good or service that a firm is willing to sell at a given price – over a given time period	**(1)**

Question Number	Answer	Mark
2(b)	**Knowledge 1** **The only correct answer is D** A – is not correct, as it is an unobtainable level of resources B – is not correct as shows a movement along the PPF curve, increasing the level of consumer goods C – is not correct as displays a shift out of the PPF curve illustrating increased productive potential/ resources	**(1)**

Question Number	Answer	Mark
2(c)	**Knowledge 1 Application 1** Application 2 marks for e.g. • New supply curve drawn and labelled, showing an inwards/leftwards shift (1) • New equilibria labelled, showing a rise in price (1)  	**(2)**

Question Number	Answer	Mark
6(a)	**Knowledge 1, Application 2, Analysis 2** **Knowledge** 1 mark for original supply and demand diagram with original equilibrium **Application** 2 marks for using source data explaining change in supply e.g. • Cod catch limits cut (1) by 50% (1) • Reduced limited TACs agreed for Celtic Sea/Irish Sea/west of Scotland (1) • Relevant use of data from Figure 1 (1+1) e.g. Identifying the country that is overfishing (1) Identifying the amount of overfishing (1) **Analysis** Accurate diagram – showing price rise or candidate states price rise (1) correct shift in supply (1) e.g.  	**(5)**

Question Number	Answer	Mark
5(a)	**Knowledge 1 Application 1 Analysis 1** **Knowledge** 1 mark for e.g. • Recognition that supply is price inelastic • It takes time for firms to respond **Application** 1 mark for, e.g. • Flour producers cannot process the wheat into flour quickly enough • It takes time for wheat to grow • It is difficult to store wheat because it is bulky and perishable **Analysis** 1 mark for linked development e.g. a diagram showing inelastic supply or an explanation of a small quantity response to a change in price using numerical or other explanation	**(3)**

Question Number	Answer	Mark
5(b)	**The only correct answer is D** ***A*** *is not correct because the decimal place is in the wrong place* ***B*** *is not correct because the decimal place is in the wrong place* ***C*** *is not correct as the price change would need to be 33.33%*	**(1)**

Question Number	Answer	Mark
6(a)	**Knowledge 1, Application 2, Analysis 2** **Knowledge/understanding** 1 mark for e.g: • definition or formula or diagram of price elasticity of supply. Price elasticity of supply (PES) measures the responsiveness of quantity supplied to a change in price. PES can be calculated using the following formula: PES= percentage change in Quantity Supplied (%Δ in Qs) / percentage change in Price (%Δ in P) **Application** Linked application focussed on new housing stock (1+1) e.g. • Price elasticity of supply of 1 means unitary elasticity; PES>1 means elastic; PES <1 means inelastic (1) • 1 mark for identifying Supply elasticities in the USA or Finland are at or above unity (1) and 1 mark for identifying a country with particularly low elasticities of supply e.g. the Netherlands or the UK (1). • Candidates who compare the elasticities of one country where supply is elastic and one country where supply is inelastic: e.g. USA +2.0 (1) and UK +0.4 (1). • Supply is particularly unresponsive to prices in the Netherlands, more than ten times less responsive than in the USA (1+1). • A numerical illustration of the effects of price changes in different countries (1+1) **Analysis** Linked analysis (1+1) e.g. • Above unity PES implying that in response to a demand shock housing output will increase proportionally more than prices (1) and below unity where housing supply is relatively unresponsive (1). • Explaining how it is easier to build new houses in the US compared to the UK (1) where it is more difficult to build new houses e.g. due to planning restrictions in UK (1). • Allow other reasons/factors that affect PES e.g. land availability, technology or time(1+1).	**(5)**

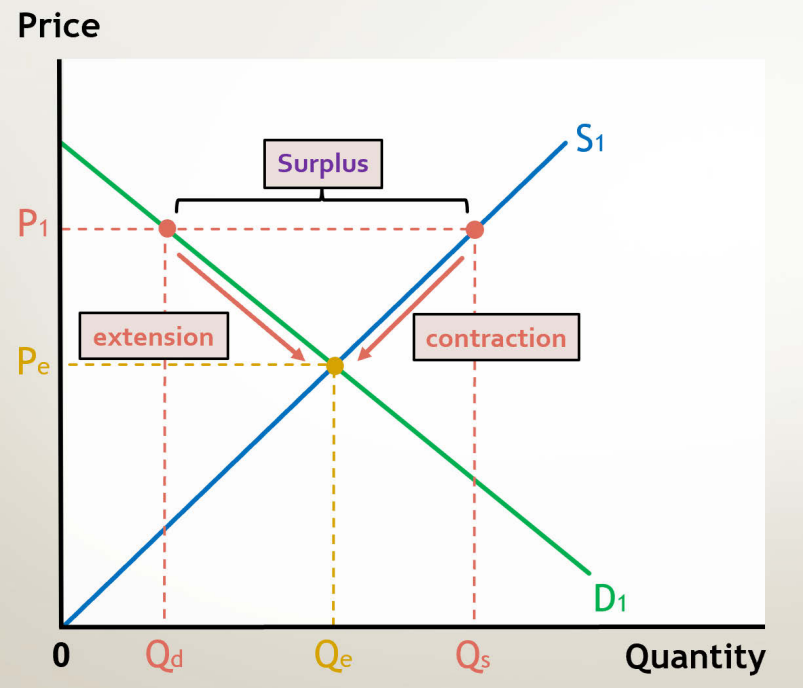
Question Number	Answer	Mark
6(c)	**Knowledge 1, Application 1 Analysis 1** **Award up to 3 marks for each factor**: **Knowledge/understanding** • Identification of two separate reasons: number of producers, spare capacity, how easily switch from other products, storage ease, length of time to produce (all 1 mark) **Application** 1 mark for, e.g. • Reference to goji berries. (1) • Reference to oyster mushrooms (1) **Analysis** Linked development of how these agricultural goods supply will be affected by a range of factors **e.g.** • The time it would take to grow these new products and to harvest them would affect their PES (1)	**(6)**

Question Number	Indicative content	Mark
6(b)	**Knowledge 2, Application 2, Analysis 2** • Shows or demonstrates understanding of price elasticity of supply. • Reasons why uranium is price inelastic. • Diagram to show price inelastic supply. • Time. Two years to build a uranium mine in Spain, ten years in 'development', difficult to find in right concentrations. • Factor immobility e.g. uranium mine cannot be switched to other uses • Regulation. 'Have to clear extra hurdles' due to government concerns regarding negative externalities. **NB KAA can be treated as Evaluation and vice versa**	**(6)**

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–2	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no link between causes and consequences.
Level 2	3–4	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response or the answer may lack balance.
Level 3	5–6	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are applied appropriately to the broad elements of the question.

Question Number	Indicative content	Mark
6(b) continued	**Evaluation 4** Reasons why uranium is price elastic: • Time. Ability to store stockpiles of uranium, Figure 1 surplus suggests and 'stockpiles until 2020'. • 'Uranium is a relatively common metal'. Extract A Line 2 • Distinction between short run and long run and its significance for elasticity of supply. By 2018 mine in Uranium producing '2.2 million kilos a year'.	**(4)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–2	Identification of generic evaluative comments without supporting evidence/ reference to context. No evidence of a logical chain of reasoning.
Level 2	3–4	Evaluative comments supported by chains of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.

Question Number	Answer	Mark
4(a)	**Knowledge 1, Application 1, Analysis 1** **Knowledge/Understanding** 1 mark for identifying/defining surplus, excess supply **Application** 1 mark for reference to context, e.g. • Reference to $530 or falling below (1) • Price mechanism in free market (signal, incentive/disincentive or ration) (1) **Analysis** 1 mark for linked development, e.g. • Steel supply contracts, movement back along supply curve if drawn (1) • Extension in demand for steel, movement forwards along demand curve if drawn (1) • Surplus of steel gradually removed (1) • New market equilibrium identified (1)  	**(3)**

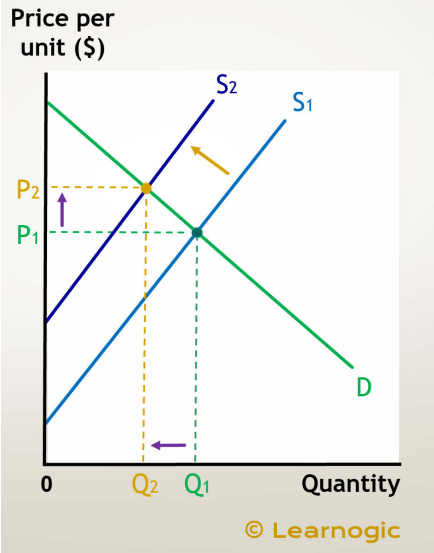
Question Number	Answer	Mark
4(b)	D	**(1)**

Question Number	Answer	Mark
5(a)	**Knowledge 1, Application 1, Analysis 1** **Knowledge/Understanding** 1 mark for identifying/defining excess demand, shortage **Application** 1 mark for application to university education, e.g. • Diagram indicates cut in tuition fees from £9 000 to £6 000 (1) • Universities lack cash so close down departments (1) • University now more affordable for applicants (1) **Analysis** 1 mark for linked development, e.g. • Lower maximum price illustrated or explained, price below market equilibrium (1) • Extension in demand, movement forwards along demand curve if drawn (1) • Contraction in supply of university places, movement backwards along supply curve (1)	**(3)**

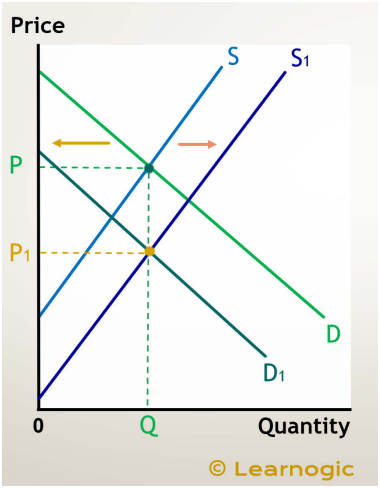
Question Number	Answer	Mark
5(b)	A	**(1)**

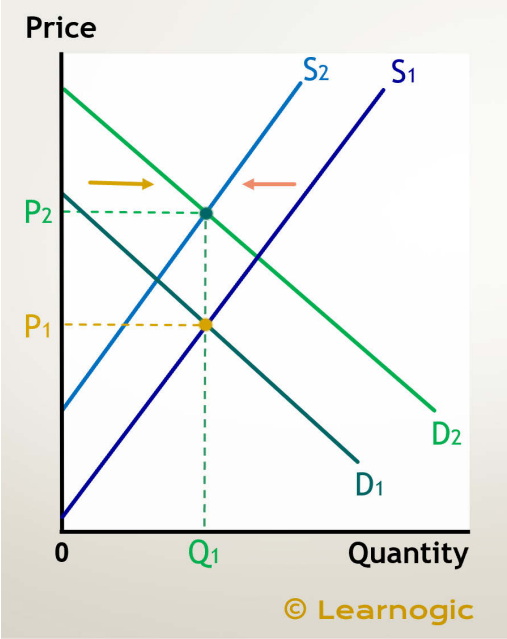
Question Number	Answer	Mark
4(a)	**The only correct answer is B** ***A*** *is not correct because a decrease in demand would cause a left shift in the demand curve* ***C*** *is not correct because a tax on the product would cause a left shift of the supply curve* ***D*** *is not correct because an increase in the cost of production would cause a shift in the supply curve to the left*	**(1)**

Question Number	Answer	Mark
4(b)	**Knowledge 1, Application 1, Analysis 1** **Knowledge/understanding** 1 mark for correct understanding of market forces and resultant contraction in supply and extension in demand (1) **Application** 1 mark for, e.g. Reference to the fall in price to its market clearing level as firms reduce in order to sell excess (1) **Analysis** 1 mark for linked development e.g. the combination of a contraction in supply and increase in demand at lower price level to cause the market to reach equilibrium (1).	**(3)**

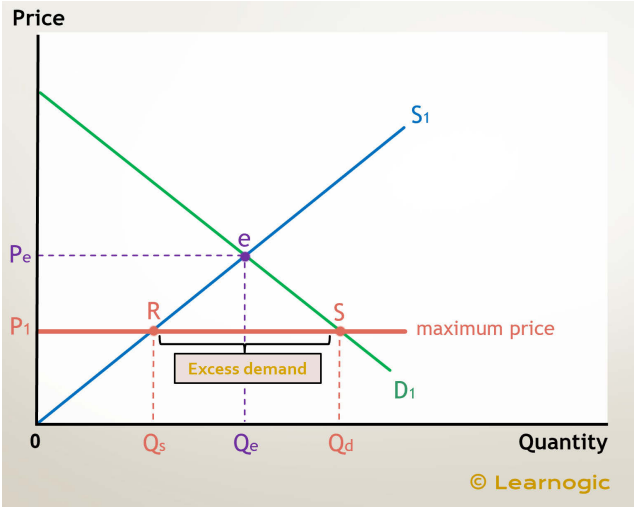
Question Number	Answer	Mark
2(a)	**Knowledge 2, Application 2** **Knowledge** • Supply and demand diagram annotated to show a left shift in the supply curve (2) **Application** • New equilibrium price (1) • New equilibrium quantity (1)  NB – Award up to 2 diagrammatic application marks for other microeconomic effects based on correct knowledge e.g. – changing Consumer Surplus (1) or Producer Surplus (1) or Revenue (1) or Shortage (1)	**(4)**

Question Number	Answer	Mark
2(b)	**Analysis 1** **The only correct answer is A** **B** is not correct because the potential output is not likely to increase **C** is not correct because A is more likely than C which illustrates a reallocation of resources towards consumer goods. If anything a reallocation of resources towards more capital goods is more likely **D** is not correct because this illustrates an increase in actual output which the stem to the question does not provide evidence for	**(1)**

Question Number	Answer	Mark
6(a)	**Knowledge 1, Application 2, Analysis 2** **Knowledge** 1 mark for an increase in supply or a decrease in demand. This may be illustrated on a diagram **Application** 2 marks for using source data explaining change in supply and demand, e.g. • Estimated surplus (1) of approximately 7 million kg of uranium (1) • Kazakhstan's production has increased significantly/stockpiles (1) • Confidence in nuclear industry declined/Japan closed some of its nuclear plants (1) **Analysis** Accurate diagram – showing price fall (1) correct shift in demand **and** supply (1) e.g.  	**(5)**

6(a)	**Knowledge 1, Application 1, Analysis 3** **Knowledge and Analysis: (up to 4 marks)** Correctly labelled diagram annotated to show a shift left in supply curve **and** right in demand curve (1+1) e.g.  **NB two KAA marks are reserved for an accurate diagram: 1 mark for shifting demand, one for shifting supply. Or two separate diagrams, i.e. one showing shift in demand and another showing shift in supply can still get all 2 KAA** • Explanation that increased cost of production shift supply left causing price to rise (1) • Explanation that growing popularity shifts demand right causing price to rise (1) **Application: 1 for reference to Extract A e.g.** • Higher material costs/cost of components (chips) for consoles computers and smartphones (1) • Data reference to price of chips e.g. $0.20 each to more than $1 (1) • 'Growing popularity of home entertainment' or increase in demand for game consoles (1)	**(5)**

Question Number	Answer	Mark

Question Number	Indicative content	Mark
6(e)	**Knowledge 3, Application 3, Analysis 3** • Understanding of maximum price.  The effect of a maximum price on consumers: • Energy prices more affordable for consumers, end of 'decade of rising energy bills', extension in demand for energy or increase in quantity demanded (inefficient use). The effect of a maximum price on producers: • Contraction in supply or decrease in quantity supplied, power stations turned off 'undermine energy market', decline in producer surplus or revenue/profit. **NB Level 3 responses must consider the effects on both energy consumers and producers.** **NB If no valid diagram then the maximum of Level 2 may be awarded**	**(9)**

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–3	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no chains of reasoning or links between causes and consequences.
Level 2	4–6	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response; chains of reasoning are developed but the answer may lack balance.
Level 3	7–9	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are carefully selected and applied appropriately to economic issues and problems. The answer demonstrates logical and coherent chains of reasoning.

Question Number	Indicative content	Mark
6(e) continued	**Evaluation 6** • It depends on whether and how far the maximum price is below the market equilibrium price. • It depends on the PES of energy. • It depends on the PED for energy. • Comment on the costs to consumers – loss of consumer surplus, energy shortages, 'higher prices in the future'. • Comment on the impact on producers – producer behaviour e.g. may move up to the price cap, reduce investment • Government failure e.g. distortion of price signals, unintended consequences	**(6)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–2	Identification of generic evaluative comments without supporting evidence/reference to context. No evidence of a logical chain of reasoning.
Level 2	3–4	Evidence of evaluation of alternative approaches which is unbalanced. Evaluative comments with supporting evidence/reference to context and a partially developed chain of reasoning.
Level 3	5–6	Evaluative comments supported by relevant chain of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.

Question Number	Answer	Mark
3(a)	**The only correct answer is A** ***B*** *is not correct because a shortage will be eliminated by a rise in rice rather than a fall in rice* ***C*** *is not correct because setting 'targets' is not a clear application of the rationing function using the price mechanism* ***D*** *is not correct because the lower NHS price will act as a discincentive*	**(1)**

Question Number	Answer	Mark
3(b)	**Knowledge 2** **Knowledge/Understanding** 1 mark for reason and 1 mark for linked development. Possible answers include: • Risk/Imperfect information (1) which may lead to a misallocation of resources (1) • Inequality (1) provide for those priced out of unaffordable private care (1) • Positive externalities (1) spillover benefits to third parties i.e. employers/families (1) Diagram may illustrate this (1) • Growth/economic freedom/welfare safety net (1) ensure the ill can recover and return to workforce (1).	**(2)**

Question Number	Answer	Mark
3(c)	**Knowledge 1** **Knowledge/understanding** 1 mark for definition, e.g. • Where one party in a transaction has more or superior information compared to another (1) • Providers know more than consumers or vice versa (1)	**(1)**

Question Number	Answer	Mark
4(a)	**The only correct answer is B** ***A*** *is not correct because as a quantitative skill this describes the range rather than median so acts as a distractor* ***C*** *is not correct because as a quantitative skill this describes the mode rather than median so acts as a distractor* ***D*** *is not correct because as a quantitative skill this describes the mean rather than median so acts as a distractor*	**(1)**

Question Number	Answer	Mark
1(a)	**Knowledge 1** **Knowledge/Understanding** 1 mark for definition, e.g. A free market economy refers to an economic system where the prices of goods and services are set freely by the forces of supply and demand (1) or without intervention by the government (1)	**(1)**

Question Number	Answer	Mark
1(b)	**The only correct answer is D** ***A*** *is not correct because this is the incentive function* ***B*** *is not correct because this is the signalling function* ***C*** *is not correct because a rise in price will reduce the shortage*	**(1)**

Question Number	Answer	Mark
1(c)	**Knowledge 2** **Knowledge/understanding** 1 mark for one reason. Possible answers include: • Competitive markets responsive to consumers (1) no competition in command economies to ensure firms are efficient (1) • Market prices transmit information between buyers and sellers (1) no need for costly bureaucracy (1) • Reduces risk of government failure (1) as governments do not know what is demanded (1)	**(2)**

Question Number	Indicative content	Mark
6(e)	**Knowledge 3, Application 3, Analysis 3** • Prices perform a **signalling function –** they adjust to demonstrate where resources are required. • Prices act as an **incentive function** – for consumers and/or suppliers • Prices perform a **rationing function**. • House price index fell e.g. in 2007-09 from 360 to 300 (-17%). House price index increased e.g. 2009-2014 from 300 to 375 (+25%). • Use of selected PES in Figure 1 • Diagram to explain price mechanism e.g. removal of shortages and surpluses • Allow use of economic thinkers/theories e.g. Smith's invisible hand/addressing the economic problem, Hayek's communication network.	**(9)**

Level	Mark	Descriptor
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Level 1	1-3	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no chains of reasoning or links between causes and consequences.
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Level 3	7-9	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are carefully selected and applied appropriately to economic issues and problems. The answer demonstrates logical and coherent chains of reasoning

Question Number	Indicative content	Mark
6(e) continued	**Evaluation 6** • Signals ignore negative externalities of building on green belt or higher risk of flooding. • Incentives lack perfect information or exhibit asymmetric information • Housing is an asset – speculative demand will prevent shortages from being eradicated – a "runaway train" Extract A. • Housing price mechanism fails to meet demand for affordable housing. • Regional inconsistencies – supply shifting inwards in parts of country or demand not increasing • Impact of recession/housing recovery fragile - prices volatile or continuously over-priced. • Long run/ short run distinction. • Lack of land/planning restrictions means PES remains inelastic. • Allow other government interventions/failure.	**(6)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1-2	Identification of generic evaluative comments without supporting evidence/reference to context. No evidence of a logical chain of reasoning.
Level 2	3-4	Evidence of evaluation of alternative approaches which is unbalanced. Evaluative comments with supporting evidence/reference to context and a partially developed chain of reasoning.
Level 3	5-6	Evaluative comments supported by relevant chain of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.

Question Number	Answer	Mark
4(a)	**Application 2** **Application** 2 marks for e.g. • (5 664 - 5 044)/5 044 x 100 (1) • 12.3% (1) **NB Allow 2 marks for correct answer (12.29, 12.3 or 12)**	**(2)**

Question Number	Answer	Mark
4(b)	**Knowledge 1, Analysis 1** **Knowledge** 1 mark for understanding e.g. • Understanding of consumer surplus (1) **OR** • Recognition that consumer surplus will fall (1) **Analysis** 1 mark for e.g. • Understanding of *why* consumer surplus will fall (1) **NB Can be shown via written or diagrammatic explanation**	**(2)**

Question Number	Answer	Mark
4(c)	**Application 1** **The only correct answer is C** ***A*** *is not correct because this is the change is consumer surplus* ***B*** *is not correct because this is the new area of consumer surplus* ***D*** *is not correct because this is the new area of producer surplus*	**(1)**

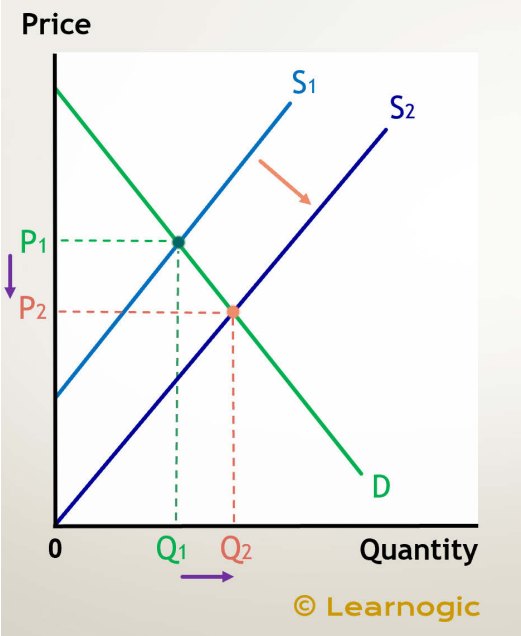
Question Number	Answer	Mark
6(c)	**Knowledge 2, Application 2, Analysis 2** **Knowledge** 2 marks for e.g. • Define producer surplus e.g. a measure of producer welfare or the difference between what producers are willing and able to supply a good for and the price they actually receive • Diagram to show the original demand and supply curve and equilibrium • Identify the original producer surplus **Analysis** 2 marks for e.g. • Diagram illustrates increased producer surplus (1) resulting from demand shifting out (1) **Application** 2 marks for e.g. • Explain that there is an increase in prices (1) as demand for houses rises (1) • Explain that there is an extension in supply or a rise in the housing availability • House builders will make a larger surplus (profit) • Producer surplus is likely to be only for new housing. With the existing housing stock, any increase in house prices would not be referred to as increasing producer surplus as the seller still has to find a home to live in. • Effect of PED/PES on size of producer surplus	**(6)**

Question Number	Answer	Mark
2(c)	B	**(1)**

Question Number	Answer	Mark
3(a)	**Application 2** **Application:** 568 × 1.8 million (1) Accept 1022 million or 1022.4 million for 2 marks. Accept 1,022,400,000 **NB If million is missing from the answer award up to 1 mark**	**(2)**

Question Number	Answer	Mark
3(b)	**Application 2** **Application:** 1 mark for the percentage of subsidy for consumers: **71 ÷ 568 X 100 = 12.5%** (1) 1 mark for the percentage of subsidy received by producers: **497 ÷ 568 X 100 = 87.5%** (1) Award 1 mark if the answers are transposed **NB** if no correct calculations, award up to 1 mark for: correct annotation of diagram depicting consumer and producer subsidy areas OR the actual consumer subsidy per unit (71 rupees) and producer subsidy per unit (497 rupees) OR consumer subsidy (127.8 million rupees) and Producer subsidy (894.6 million rupees)	**(2)**

Question Number	Answer	Mark
3(c)	A	**(1)**

Question Number	Answer	Mark
6(a)	**Knowledge 1, Application 1, Analysis 3** **Knowledge and Analysis:** (up to 4 marks) Correctly labelled diagram annotated to show a shift right in the supply curve (2) e.g. rise in subsidy  **NB: also accept a double shift right indicating an increase in subsidy.** **NB: also accept a rise in price, given prices annually linked to RPI, but less than it would have been.** **NB: 2 KAA marks are reserved for an accurate diagram** Explanation that subsidy increase is a rise in financial assistance OR cut in cost of production OR additional cash grant (2) Explanation that decreasing costs borne by producers is passed on to consumers as a fall in rail fares OR excess supply results in fall in rail fares (2) **Application:** 1 for reference to Figure 1 e.g. subsidy rises around £11 million (1) subsidy rises from £277 million to £287.9 million (1) subsidy increased by 3.9% (1)	**(5)**

Question Number	Answer	Mark
2(c)	**The only correct answer is C** ***A*** *is not correct because the flood defence scheme is non-exclusive* ***B*** *is not a private good because flood defence scheme is non-exclusive so you are unable to charge private individuals that benefit from the scheme* ***D*** *is not correct because it is a distractor in lacking meaning but also indicating that the candidate is confusing rivalry with the non-rivalrous nature of public goods*	**(1)**

Question Number	Answer	Mark
3 (a)	**Application 2** **Application 2:** 1 mark for appropriate calculation /formula e.g. $\frac{1.3 \times £489\,000}{100}$ (1) **OR** 489 000 ×0.013 (1) Answer = **£6 357** **Award 2 marks for correct answer (6 360)**	**(2)**

Question Number	Answer	Mark
3(b)	**The only correct answer is C** ***A*** *is not correct because the candidate has mistakenly done the average house price in North East of England to the average house price in London* ***B*** *is not correct because the candidate has made a computational error* ***D*** *is not correct because the candidate has made a computational error*	**(1)**

Question Number	Answer	Mark
3(c)	**Knowledge 1, Analysis 1** **Knowledge / understanding:** 1 mark for one reason e.g. • differences in average income or wealth (1) • employment or unemployment rates (1) • migration or population change (1) • foreign buyers (1) • availability of land to build on (1) **Analysis**: 1 mark for a linked development e.g. • Higher average income in London mean people are able to obtain larger mortgages and so pay higher prices (1) • Higher employment rate or lower unemployment rate in London mean greater demand for housing from its population (1) • Foreign buyers attracted to invest in London due to high rental returns or expectations of increase in value of property or better market knowledge (1) • Shortage of land to build on in London, especially with green belt restrictions (1)	**(2)**

Question Number	Answer	Mark
6(b)	**Knowledge 2, Application 2 Analysis 2** • Contribution towards littering and 'protecting of landscapes' – Extract A • Alternatives to non-single use bags are available • Habitual consumers will keep previously purchased single use/ 'bags for life' and will be used to bring to use on additional visits • Clearly evident in the fall in use of single use bags from 2014 (7500m) to 2021 (197m) as charges increased • Cost of purchasing new bags due to charge ensures that there is a financial cost/ consequence to continue purchasing new single-use bags – computational awareness • Rational and irrational behaviour discussion relevant **NB KAA can be treated as Evaluation and vice versa**	**(6)**

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–2	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no link between causes and consequences.
Level 2	3–4	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response or the answer may lack balance.
Level 3	5–6	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are applied appropriately to the broad elements of the question.

Question Number	Answer	Mark
6(b) continued	**Evaluation 4** • Consumers may simply forget/ be rushing/ to bring bags with them from previous visits • With consumers making increased visits to supermarkets specifically each week, it may not always be possible to bring previously purchased bags • Bags are still available from stores – and not sufficiently expensive to discourage consumption / not high enough price charge to warrant not re-purchasing for most • Plastic bags (10p) make up very small % of consumers income so negligible impact of purchasing • Computational weakness of not estimating or understanding the consequences of the increased cost(s) **NB KAA can be treated as Evaluation and vice-versa**	**(4)**

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–2	Identification of generic evaluative comments without supporting evidence/ reference to context. No evidence of a logical chain of reasoning.
Level 2	3–4	Evaluative comments supported by chains of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.