

A-level ECONOMICS

Paper 3 Economic Principles and Issues

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DO NOT WRITE ANY ANSWERS IN THIS INSERT. YOU MUST ANSWER THE QUESTIONS IN THE ANSWER BOOKLET PROVIDED.

The commercial aircraft manufacturing industry

Questions 31 to 33

- **Extract A:** The structure of the commercial aircraft manufacturing industry
- **Extract B:** Selected indicators of the performance of Boeing and Airbus
- **Extract C:** The market for commercial aircraft
- **Extract D:** Government support for the commercial aircraft manufacturing industry

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Extract A: The structure of the commercial aircraft manufacturing industry

The commercial aircraft industry manufactures aeroplanes to carry passengers and freight. Since 2000, air traffic has grown by 240% and, in 2019, sales of commercial aircraft were worth \$243.6 billion. The growth in the industry has been driven by the growth in household incomes and leisure time. Before the pandemic, the high income elasticity of demand for passenger and freight transport meant that the demand for these services, and hence commercial aircraft, grew more rapidly than the rate of growth of world GDP. It is expected that once the world economy recovers from the economic shock caused by the pandemic, the growth of the industry will resume. 5

The industry is an oligopoly that is dominated by two main manufacturers, Boeing, a United States company, and Airbus, a European company. Currently, Boeing and Airbus account for 99% of the orders for large aeroplanes and the orders for large aeroplanes make up more than 90% of the total market. However, competition is growing, not least from the state-owned Commercial Aircraft Corporation of China (COMAC) which started business in Shanghai in 2008. COMAC is currently the world's fifth largest manufacturer. Embraer, a Brazilian company, and Bombardier, a Canadian manufacturer, are the third and fourth largest companies. 10 15

Source: News reports, January 2021

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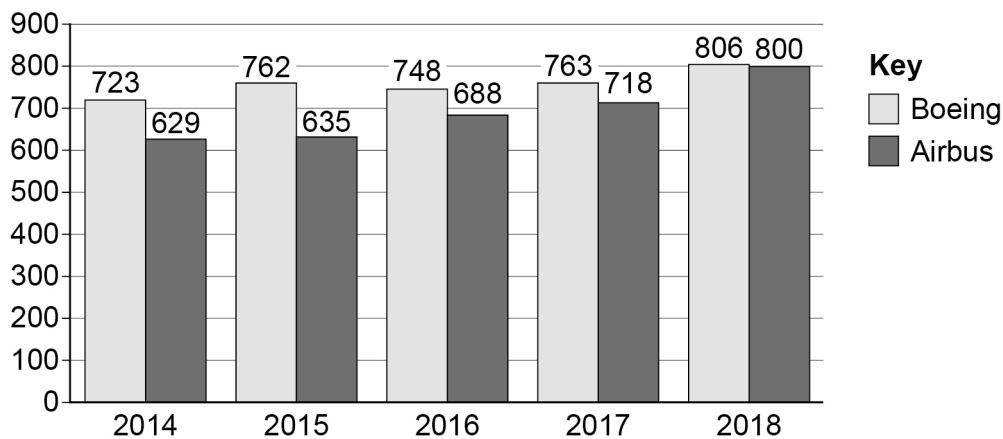
Extract B: Selected indicators of the performance of Boeing and Airbus

In 2018, Boeing and Airbus each delivered around 800 aircraft. Boeing had a backlog of orders for 5488 aircraft and Airbus had 7133 orders outstanding. In 2019, Airbus delivered 863 aircraft but Boeing's deliveries fell to 380 because the Boeing 737 MAX aircraft was grounded due to safety concerns. Towards the end of 2020, regulators in Europe and the USA ruled that design changes would mean that the plane is now safe to fly.

5

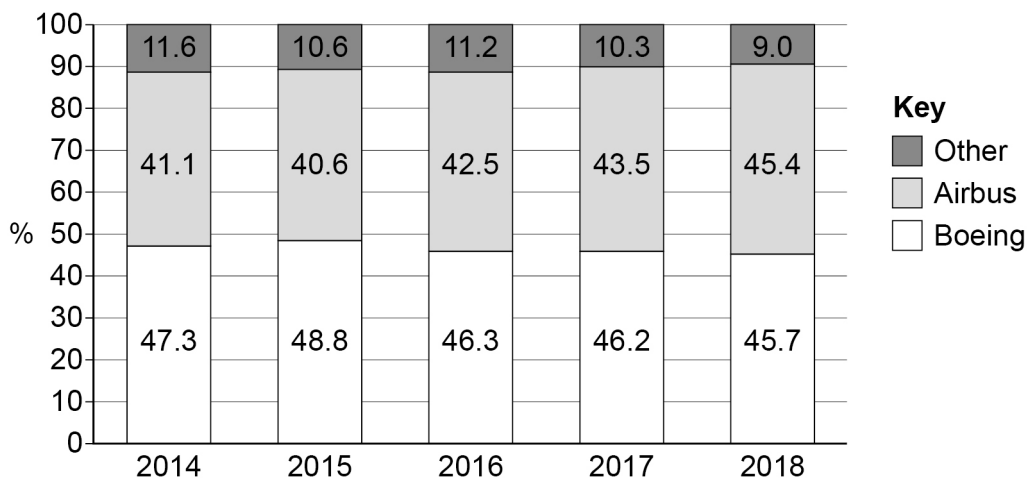
Source: News reports, January 2021

Figure 1: Deliveries of aircraft made by Boeing and Airbus, 2014 to 2018.



Source: Trefis.com, accessed January 2021

Figure 2: Market share of deliveries of commercial aircraft (%), 2014 to 2018



Source: Trefis.com, accessed January 2021

Note: The market shares may not add to 100% due to rounding.

Figure 3: Revenue and profit, 2014 to 2018

Years	Boeing			Airbus		
	Total revenue (\$ billion)	Profit margin* before interest and tax (%)	Average revenue per aircraft (\$ million)	Total revenue (\$ billion)	Profit margin* before interest and tax (%)	Average revenue per aircraft (\$ million)
2014	60.0	10.7	83.0	56.2	6.3	89.3
2015	66.0	7.8	86.7	50.9	5.0	80.1
2016	59.4	3.3	79.4	54.5	3.1	79.2
2017	58.0	9.4	76.0	57.6	5.2	80.2
2018	60.7	13.0	75.3	56.7	9.0	70.8

Source: Trefis.com, accessed January 2021

* Profit margin is profit as a percentage of sales revenue.

Turn over for the next Extract**Turn over ►**

Extract C: The market for commercial aircraft

The market for commercial aircraft is subject to cyclical fluctuations in demand that reflect the normal economic cycle of recession and recovery. The market is also vulnerable to economic shocks such as the global financial crisis in 2008. The recent pandemic is the largest demand-side shock to hit the industry and has created much uncertainty. Boeing's sales also suffered following the grounding of the 737 MAX but are expected to recover. For example, in December 2020, it was reported that Ryanair ordered 75 more 737 MAX planes after negotiating a discount. 5

Over the past decade, the growth in passenger air travel averaged 6.5% per annum. To cope with the rise in the number of passengers, the world's airlines increased the size of their fleets by ordering new aeroplanes and delaying the retirement of older aeroplanes. Many older aeroplanes now need to be replaced. Over the next 20 years, the middle-class population is expected to rise from 3.9 billion to 5.9 billion, adding to the growth in air travel. 10

The development of new, more efficient aircraft is encouraging the airlines to replace older aeroplanes. Pressures to reduce the environmental impact of air travel have also increased the need to replace less fuel-efficient aeroplanes with ones that are less damaging for the environment. Improvements in technology have meant that aeroplanes are now quieter and use less fuel per seat. For example, Airbus's A321XLR has 30% lower fuel consumption per seat compared with previous-generation competitor aeroplanes. 15

Industry experts believe that the growth in air travel will return to its trend rate in a few years' time but the sales of narrow-bodied aircraft will recover before the sales of wide-bodied aircraft. How quickly the industry recovers will depend on confidence and the growth in the world economy. 20

The growth in international trade has led to an increase in air cargo. While aeroplanes only transport 1% of goods by weight, the value of the goods they carry is around 35% of total trade. Over the next 20 years, it is expected that annual average growth of the air cargo market will be about 4%. 25

Source: News reports, January 2021

Extract D: Government support for the commercial aircraft manufacturing industry

The UK's aerospace sector is a world leader in the manufacture of engines, wings and advanced systems. The sector employs over 120 000 skilled workers, mainly outside London and the south east. It is forecast that globally 38 000 new passenger aircraft will be required over the next 20 years. In 2018, as part of its industrial strategy, the UK government launched its Aerospace Sector Deal. The deal builds on a long-established partnership between the government and the aerospace industry. Government financial support is helping the industry remain competitive and develop new technologies to reduce the environmental impact of air transport.

5

Whilst many governments provide state aid for key industries, such support can distort the pattern of comparative advantage. In 2004, the US complained to the World Trade Organisation (WTO) about subsidies for Airbus and the EU retaliated by making a counter claim about subsidies for Boeing. The WTO ruled that both sides unfairly subsidised their aircraft manufacturers, allowing the US and the EU to impose tariffs on each other's goods.

10

Firms can become too reliant on state aid, reducing the incentive to increase productivity and competitiveness. It also makes it more difficult for new firms to enter the market. However, where there is a genuine market failure, state aid can be justified. State aid may be needed, for example, to reduce negative externalities and to help less prosperous regions grow.

15

Source: News reports, January 2021

END OF EXTRACTS

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Candidate number

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Surname

Forename(s)

Candidate signature

I declare this is my own work.

A-level ECONOMICS

Paper 3 Economic Principles and Issues

Time allowed: 2 hours

Materials

For this paper you must have:

- the Insert
- a calculator.

Instructions

- Answer **all** questions.
- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the top of this page.
- You will need to refer to the Insert provided to answer **Section B**.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this answer book. Cross through any work that you do not want to be marked.

Information

- The maximum mark for this paper is 80.
- The marks for questions are shown in brackets.
- No deductions will be made for wrong answers.

For Examiner's Use	
Section	Mark
A	
B	
TOTAL	



J U N 2 2 7 1 3 6 3 0 1

Section A

Answer **all** questions in this section.Only **one** answer per question is allowed.

For each question completely fill in the circle alongside the appropriate answer.

CORRECT METHOD



WRONG METHODS



If you want to change your answer you must cross out your original answer as shown.



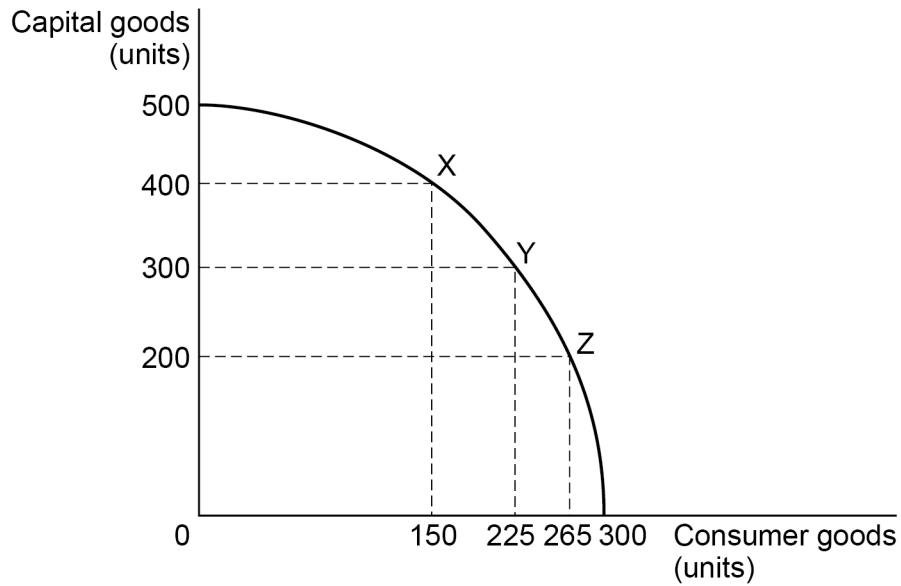
If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown.

**0 1** A positive statement**[1 mark]****A** does not take into account irrational behaviour.**B** enables accurate forecasts to be made.**C** includes a value judgement.**D** may be true or false.**0 2** Which one of the following is a nudge technique that could be used to encourage healthy eating?**[1 mark]****A** Banning supermarkets from selling high-calorie energy drinks**B** Increasing taxes on high-fat products to raise their price**C** Moving products with a high sugar content away from supermarket checkouts**D** Subsidising fruit and vegetables to reduce their prices

0 3

Figure 1 shows the production possibility diagram for an economy producing capital goods and consumer goods.

Figure 1



The opportunity cost of producing an additional unit of capital goods is

[1 mark]

- A** greater at X than Y.
- B** greater at Z than Y.
- C** the same at X, Y and Z.
- D** zero when 300 units of consumer goods are produced.

Turn over for the next question

Turn over ►



0 4

Table 1 shows the individual price indices and the weightings of the three goods that make up a price index.

Table 1

Good	Weighting	Price Index in April 2022 (April 2021=100)
X	0.1	102
Y	0.4	104
Z	0.5	103

What was the percentage increase in the overall price index between April 2021 to April 2022?

[1 mark]**A** 1.1%**B** 3%**C** 3.3%**D** 9%**0 5**

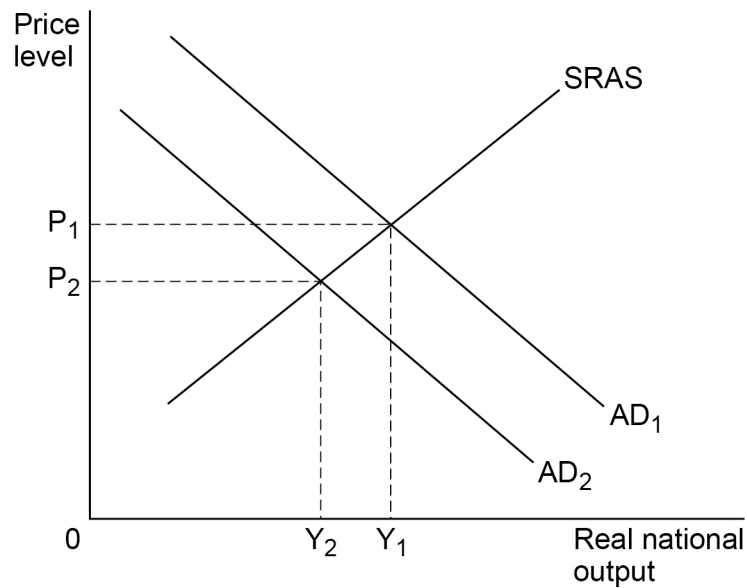
When using data to make international comparisons of the standard of living, purchasing power parity (PPP) exchange rates are more useful than market exchange rates.

This is because PPP exchange rates take into account differences in countries'

[1 mark]**A** distribution of income.**B** levels of taxation.**C** price levels.**D** rates of population growth.

0 6

Figure 2 shows two aggregate demand (AD_1 and AD_2) curves and the short-run aggregate supply (**SRAS**) curve for an economy.

Figure 2

Which one of the following is the government most likely to increase if it wishes to use fiscal policy to reduce national output from Y_1 to Y_2 ?

[1 mark]

- A** Infrastructure expenditure
- B** Interest rates
- C** Rates of income tax
- D** The budget deficit

Turn over for the next question

Turn over ►



0 7

Which one of the following is a reason why the extension of property rights is likely to reduce market failure?

[1 mark]

- A** Merit goods will no longer be underconsumed in a free market.
- B** Producers will be more likely to have to pay compensation for pollution.
- C** Public goods will no longer be subject to the free-rider problem.
- D** The inequality in the distribution of income and wealth will be reduced.

0 8

Figure 3 shows the demand curve for a firm's scarves.

Figure 3



Which one of the following statements is true when the price of scarves is reduced from £30 to £25?

[1 mark]

- A** Demand for scarves is price elastic.
- B** Price elasticity of demand is -0.5 .
- C** The firm's total revenue falls.
- D** The firm's total revenue increases.



0 9

A firm charging different customers different prices for the same product is practising

[1 mark]

A limit pricing.

B marginal cost pricing.

C price discrimination.

D price leadership.

1 0

In an economy, an index showing the change in the money supply multiplied by the velocity of circulation increases from 100 to 115.5. At the same time, the final output produced by the economy increases from 100 to 110.

According to Fisher's equation of exchange, the price level will increase by

[1 mark]

A 5%

B 5.5%

C 10%

D 15.5%

1 1

Systemic risk is most likely to occur in financial systems when

[1 mark]

A investment banks have low capital-output ratios.

B most banks carry out both commercial and investment banking activities.

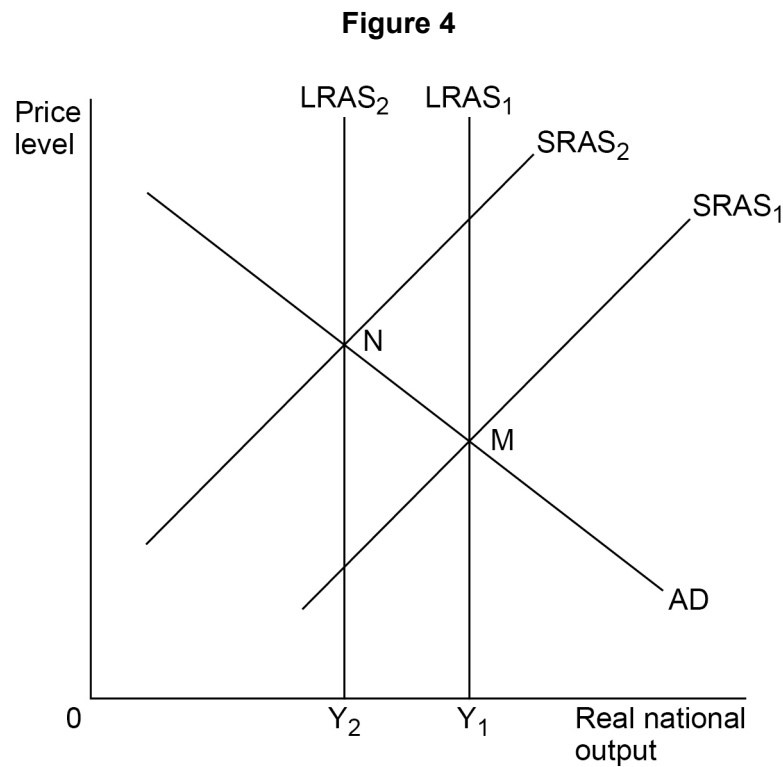
C the central bank acts as lender of last resort to financial institutions.

D the commercial banks have high liquidity ratios.

Turn over ►

1 2

Figure 4 shows the aggregate demand (**AD**) curve, the short-run aggregate supply (**SRAS₁** and **SRAS₂**) curves and the long-run aggregate supply (**LRAS₁** and **LRAS₂**) curves for an economy.



All other things being equal, which one of the following is most likely to move the economy from point **M** to point **N**?

[1 mark]

- A** A decrease in the natural rate of unemployment
- B** A loss of consumer and producer confidence
- C** A natural disaster, damaging productive capacity
- D** A rise in factor prices, resulting in cost-push inflation



1 3

Which one of the following is a role of the World Trade Organisation?

[1 mark]

- A** Helping countries settle disputes over tariffs and quotas
- B** Lending money to countries with balance of payments problems
- C** Monitoring the stability of the international monetary system
- D** Providing loans at low rates of interest to low-income countries

1 4

Which one of the following is a reason why the supply of cars is likely to be price elastic in the short run when the price of cars increases?

[1 mark]

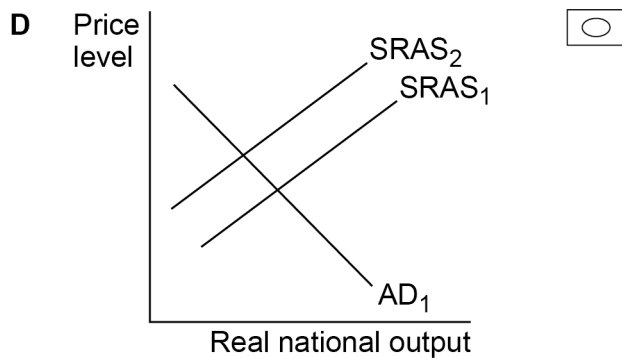
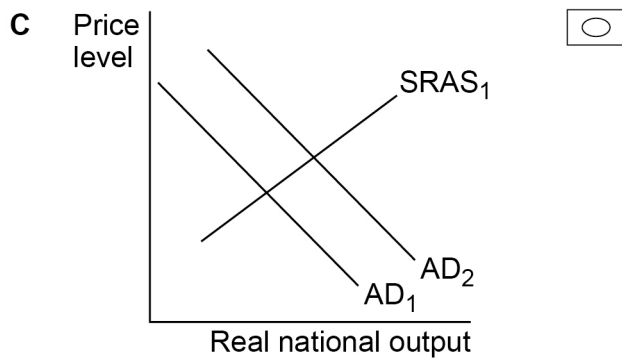
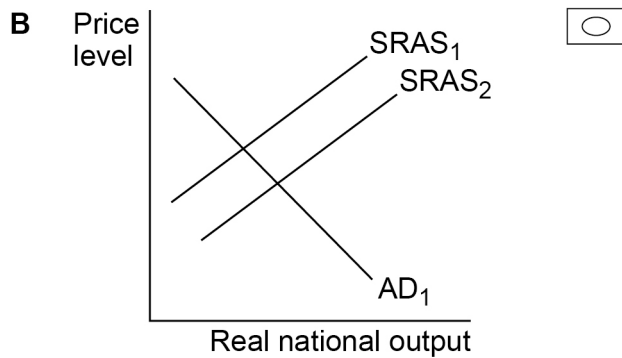
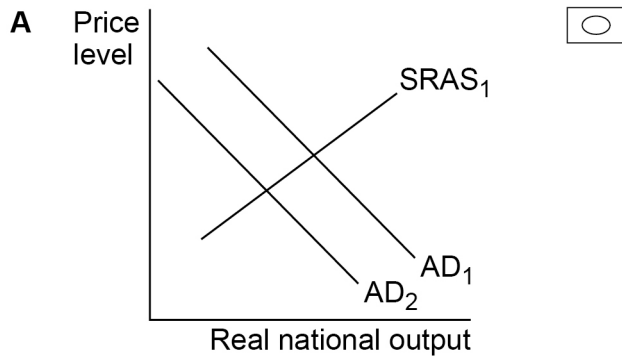
- A** Car manufacturers' stocks of unsold cars are low
- B** The demand for cars is also price elastic
- C** The marginal cost of producing cars increases significantly with output
- D** There is considerable spare capacity in the car industry

Turn over for the next question**Turn over ►**

1 5

Which one of the following diagrams, **A**, **B**, **C** or **D**, shows the most likely short-run impact on an economy of an improvement in technology in the production process?

[1 mark]



1 6

Which one of the following best explains the existence of relative poverty?

[1 mark]

- A** Some households have to pay more in income tax than other households.
- B** The Gini coefficient in some countries is low.
- C** The income of some households is significantly less than the median household income.
- D** The prices of items that are essential for life differ between countries.

1 7**Table 2** shows the amount paid in tax by individuals at different levels of income.**Table 2**

Income (£)	Tax paid (£)
20 000	4 000
30 000	5 400
40 000	6 400
50 000	7 000

This tax is an example of a

[1 mark]

- A** lump sum tax.
- B** progressive tax.
- C** proportional tax.
- D** regressive tax.

Turn over ►

1 8

Which one of the following is a supply-side policy aimed at reducing the natural rate of unemployment?

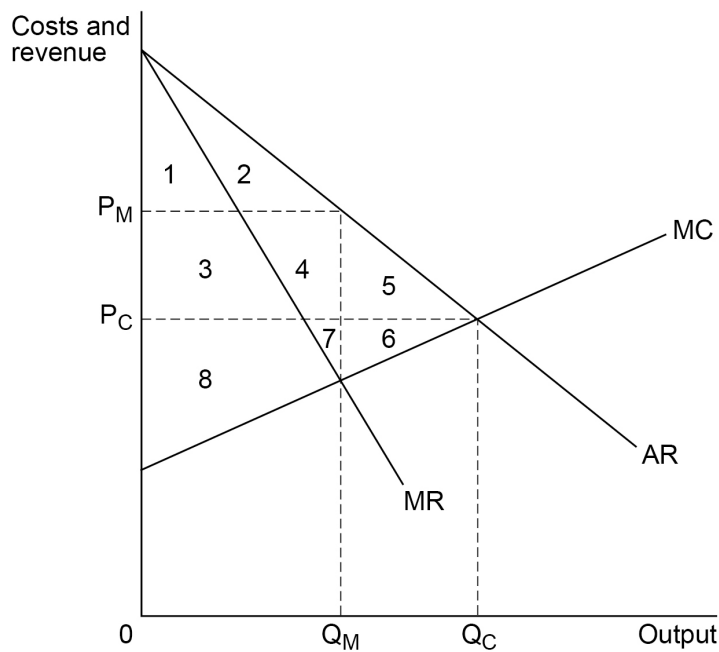
[1 mark]

- A Government retraining schemes for structurally unemployed workers
- B Increasing legal protection against unfair dismissal for employees
- C Increasing the real value of the national minimum wage
- D New government subsidies for developers of artificial intelligence

1 9

Figure 5 shows the average revenue (AR), marginal revenue (MR) and marginal cost (MC) curves for an industry which was perfectly competitive but is now a monopoly. The cost and revenue curves remain unchanged.

Figure 5



Which of the following areas shows the total deadweight loss of consumer and producer surplus resulting from the structure of the industry changing from perfect competition to monopoly?

[1 mark]

- A 1 + 2
- B 3 + 4
- C 5 + 6
- D 7 + 8



2 0

There is a reduction in the market demand for the product supplied by firms operating in a perfectly competitive industry.

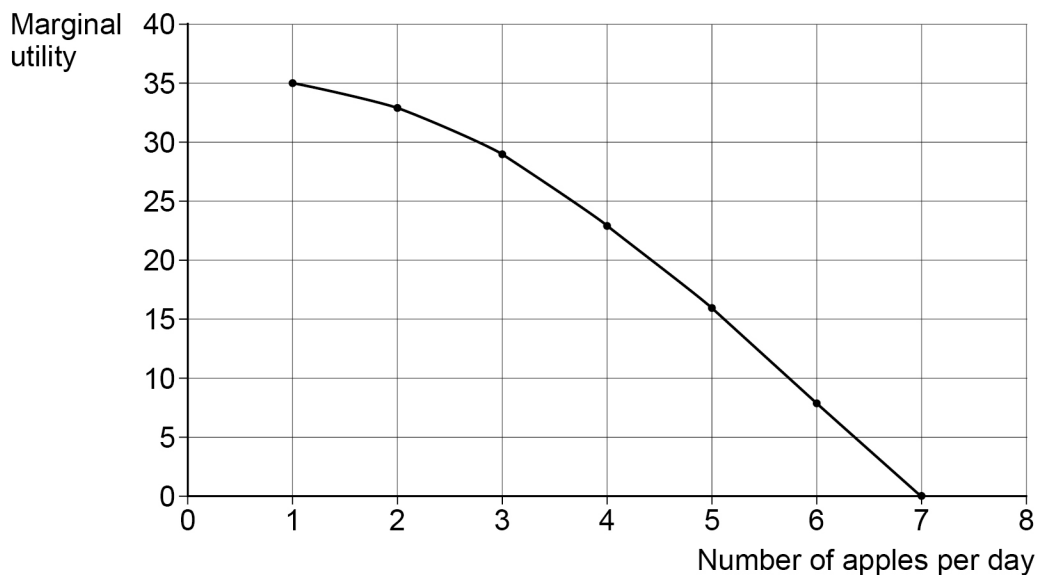
All other things being equal, which one of the following will happen to firms' average and marginal revenue as a result of this change?

[1 mark]

- A** Average revenue and marginal revenue will both fall.
- B** Average revenue and marginal revenue will not change.
- C** Average revenue will fall and marginal revenue will increase.
- D** Average revenue will increase and marginal revenue will fall.

2 1

Figure 6 shows the marginal utility that a consumer gains from eating apples.

Figure 6

When 7 apples per day are consumed

[1 mark]

- A** average utility is maximised.
- B** marginal utility is maximised.
- C** opportunity cost is minimised.
- D** total utility is maximised.

Turn over ►

2 2**Table 3** shows different combinations of performance for three macroeconomic indicators.Which one of the combinations, **A**, **B**, **C** or **D**, is most likely to indicate an economy experiencing an economic boom?**[1 mark]****Table 3**

	Imports	Price level	Job vacancies	
A	Decreasing	Increasing	Decreasing	<input type="radio"/>
B	Decreasing	Decreasing	Increasing	<input type="radio"/>
C	Increasing	Increasing	Increasing	<input type="radio"/>
D	Increasing	Decreasing	Decreasing	<input type="radio"/>

2 3**Table 4** shows the values of nominal GDP and a price index in two different years.**Table 4**

Year	2015	2019
Nominal GDP (£ billions)	250	290
Price index	100	110

What was the value of real GDP in 2019, to the nearest £ billion, expressed in 2015 prices?

[1 mark]

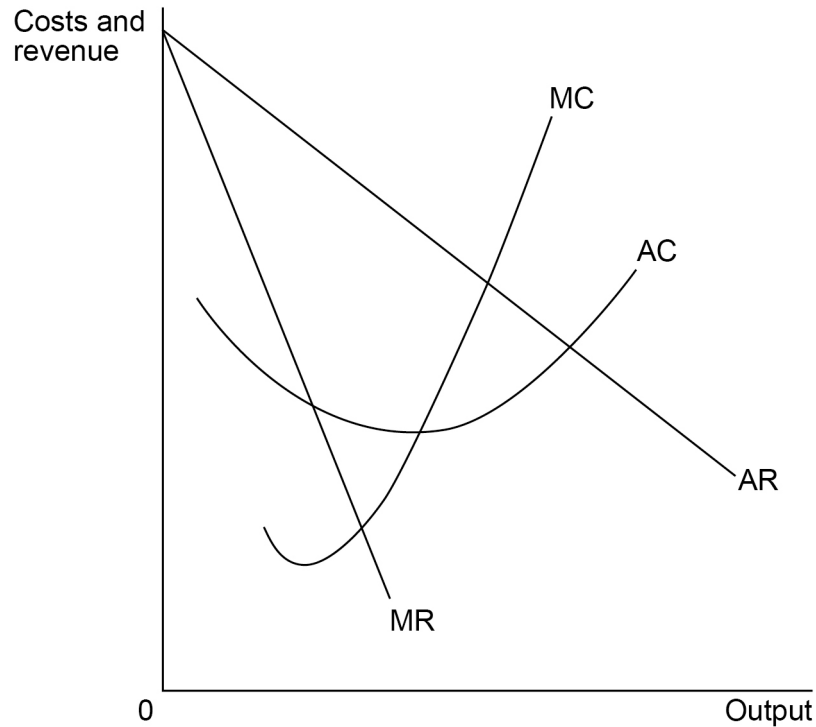
- A** £227 billion
- B** £261 billion
- C** £264 billion
- D** £319 billion



2 4

Figure 7 shows the average revenue and marginal revenue (**AR** and **MR**) curves and the average cost and marginal cost (**AC** and **MC**) curves for a firm in monopolistic competition in the short run.

Figure 7



At the profit maximising price and output the firm will

[1 mark]

- A** make supernormal profits.
- B** produce the allocatively efficient output.
- C** produce where average revenue = average cost.
- D** set price equal to minimum average costs.

Turn over for the next question

Turn over ►



2 5

The price of a government bond was £10 000 when it was issued. The bond does not have a maturity date and the government is not intending to buy back the bond. The bond pays £200 per year to the bond holder and has a market price of £8 000.

Which one of the following fractions represents the yield on the bond?

[1 mark]

A $\frac{1}{50}$

B $\frac{1}{40}$

C $\frac{1}{5}$

D $\frac{4}{5}$



2 6 Table 5 contains figures from the balance sheet of a commercial bank.

Table 5

Item	Value (£ bn)
Cash	45
Share capital	100
Loans advanced	135
Fixed assets	115
Long-term liabilities	85
Investments	50
Reserves (retained profit)	30
Balances at the central bank	25
Deposits and other liabilities	185
Other liquid assets	30

What is the value of this bank's total liquid assets?

[1 mark]

- A** £70 bn
- B** £100 bn
- C** £130 bn
- D** £175 bn

Turn over for the next question

Turn over ►



2 7

Changing patterns of consumption have meant that summer holidays at UK seaside towns have become less popular. As a result, UK seaside holiday towns are affected by seasonal unemployment and increasing structural unemployment.

Which one of the following is the most likely consequence of this change in the pattern of consumption?

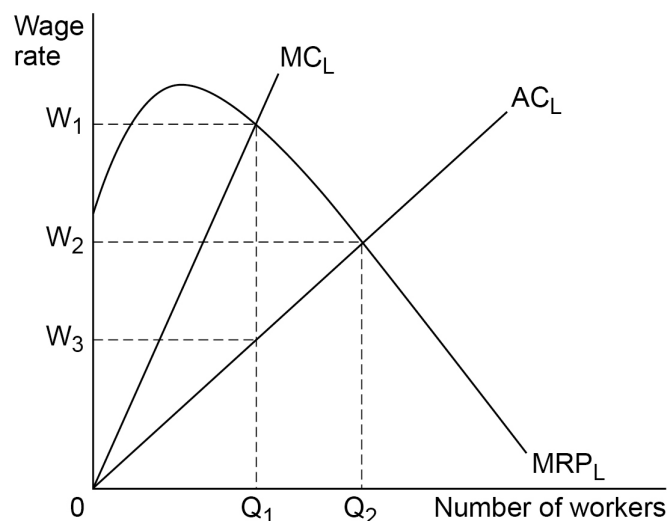
[1 mark]

- A** Occupational immobility of labour will help to reduce structural unemployment.
- B** The cost of living for people who live in UK seaside towns will fall.
- C** Unemployment is likely to be higher in the summer than the winter.
- D** Wages in UK seaside towns will rise because firms want to retain workers.

2 8

Figure 8 shows the marginal cost (MC_L), average cost (AC_L) and marginal revenue product (MRP_L) curves for labour in a specialised computer programming industry.

Figure 8



Following a series of mergers between firms in this industry, a single large firm remains as a monopsony employer.

Which one of the following is the most likely to result from a competitive labour market being replaced by a monopsony employer?

[1 mark]

- A** The total amount paid in wages will fall from $(W_2 \times Q_2)$ to $(W_3 \times Q_1)$.
- B** The total amount paid in wages will increase from $(W_3 \times Q_1)$ to $(W_1 \times Q_1)$.
- C** The wage rate will fall from W_1 to W_2 .
- D** The wage rate will increase from W_3 to W_2 .



2 9

Table 6 shows the value of the UK's Human Development Index (HDI) over the period 2015 to 2019.

Table 6

Year	2015	2016	2017	2018	2019
UK HDI Value	0.916	0.918	0.919	0.920	0.932

All other things being equal, which one of the following is most likely to explain the trend shown in **Table 6**?

[1 mark]

- A** A fall in the sterling exchange rate
- B** Falling emissions of greenhouse gases
- C** Increasing life expectancy at birth
- D** Reductions in income inequality

3 0

Unemployed workers in the south of a country are unable to take up jobs in the north of the country due to higher housing costs. This is an example of

[1 mark]

- A** cyclical unemployment.
- B** frictional unemployment.
- C** geographical immobility of labour.
- D** occupational immobility of labour.

30**Turn over for Section B****Turn over ►**

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