

# **INSTITUTE AND FACULTY OF ACTUARIES**

## **EXAMINATION**

22 September 2023 (am)

### **Subject CB2 – Business Economics Core Principles**

Time allowed: Three hours and twenty minutes

In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator.

If you encounter any issues during the examination please contact the Assessment Team on T. 0044 (0) 1865 268 873.



- 1** Which of the following would not be classified as a resource in economics?
- A Machinery
  - B Casual labour
  - C Money in the bank
  - D Land.
- [1½]
- 2** Free market economies are classed as those where:
- A individuals and firms make decisions that determine economic outcomes with SOME government involvement in priority sectors such as healthcare and education.
  - B individuals and firms make decisions that determine economic outcomes and there is NO government involvement in any sector of the economy.
  - C individuals and government make decisions that determine economic outcomes in ALL sectors of the economy.
  - D firms and the government make decisions that determine economic outcomes in ALL sectors of the economy.
- [1½]
- 3** Which of the following does NOT limit the maximum output an economy is able to produce?
- A The availability of capital.
  - B The skill level of the labour force.
  - C The level of demand in the economy.
  - D The availability of inputs.
- [1½]
- 4** The majority of breakfast cereals contain rice as a key ingredient. If the price of rice falls, what is the likely impact on the equilibrium price and quantity traded of breakfast cereals?
- A Price stays the same and quantity falls.
  - B Price falls and quantity rises.
  - C Price rises and quantity rises.
  - D Price falls and quantity stays the same.
- [1½]



- 5** A consumer's demand curve for Good X is represented by the equation:

$$Q_{dx} = 100 - 0.2P_x$$

where  $Q_{dx}$  is the quantity of Good X demanded and  $P_x$  is the price of Good X.

A producer's supply curve for Good X is represented by the equation:

$$Q_{sx} = 20 + 0.6P_x$$

where  $Q_{sx}$  is the quantity of Good X supplied and  $P_x$  is the price of Good X.

Demand and supply are in equilibrium when:

- A quantity is 60 and price is 80.
- B quantity is 70 and price is 90.
- C quantity is 80 and price is 100.
- D quantity is 90 and price is 110.

[1½]

- 6** Following a 10% rise in price of Good A, the quantity demanded for Good B rises by 25%. What does this imply about the relationship between Goods A and B?

- A They are complements and are closely related.
- B They are complements and are not closely related.
- C They are substitutes and are closely related.
- D They are substitutes and are not closely related.

[1½]

- 7** A perfectly competitive firm will:

- A make supernormal profit in the long run.
- B face barriers when entering the industry.
- C charge a price equal to the marginal cost of the firm.
- D normally face a downward sloping demand curve.

[1½]

- 8** A firm with falling long run average costs is experiencing:

- A increasing returns to scale.
- B decreasing returns to scale.
- C diminishing returns.
- D constant returns to scale.

[1½]



**9** In the short run a rise in wages will:

- A increase the firm's average fixed costs.
- B decrease the firm's average total costs.
- C decrease the firm's average variable costs.
- D increase the firm's marginal costs.

[1½]

**10** A firm operating in an oligopoly differs from one operating in perfect competition because:

- A under perfect competition there are only a few firms, whereas in an oligopoly there are many firms.
- B under perfect competition a firm experiences a downward sloping demand curve, but in an oligopoly the firm tends to have a perfectly elastic demand curve.
- C under perfect competition firms can only make normal profit in the long run, whereas in an oligopoly firms can make abnormal profit in the long run and short run.
- D under perfect competition firms may be able to dominate the market and restrict entry, whereas firms operating in an oligopoly tend to facilitate free entry.

[1½]

**11** Given the information in the table below, calculate Gross Domestic Product (GDP) at market prices using the income method:

	<i>\$ million</i>
Mixed incomes	200
Exports of goods and services	700
Imports of goods and services	550
Taxes	150
Wages and salaries	850
Consumption expenditure	975
Subsidies	25
Gross capital formation	350
Operating surplus	450

- A \$1,625 million
- B \$1,500 million
- C \$2,575 million
- D \$2,450 million.

[1½]





- 12** Which of the following is an injection in the circular flow of income model?
- A Consumption
  - B Net taxes
  - C Exports
  - D Imports.
- [1½]
- 13** In an economy where the working population increasingly undertake activities themselves rather than employing someone else to undertake the task, then national income:
- A will generally be reported at a higher value than it would be otherwise.
  - B will be growing at a faster rate than official figures report.
  - C will generally be reported at a lower value than it would be otherwise.
  - D growth is unchanged by the working population undertaking activities themselves.
- [1½]
- 14** An individual who is not actively looking for work after having lost their job due to a change in the availability of jobs in their local area is:
- A cyclically unemployed.
  - B structurally unemployed.
  - C involuntarily unemployed.
  - D not part of the labour force.
- [1½]
- 15** If a country's unemployment level rises, it is likely that:
- A its welfare payment bill will fall.
  - B its income tax revenue rises.
  - C its production possibility curve shifts outwards.
  - D it is operating inside its production possibility curve.
- [1½]
- 16** If nominal GDP increased by 11% in the last year, while real GDP rose by 5% then the GDP deflator has:
- A risen by approximately 6%.
  - B fallen by approximately 6%.
  - C risen by approximately 11%.
  - D fallen by approximately 11%.
- [1½]



- 17** The aggregate demand curve may shift to the right following:
- A an appreciation of the domestic currency.
  - B a fall in business confidence.
  - C a fall in interest rates.
  - D an increase in the rate of income tax.
- [1½]
- 18** If the consumption function lies above the 45° line, then:
- A spending is less than income.
  - B spending is equal to income.
  - C saving is more than expenditure.
  - D spending is greater than income.
- [1½]
- 19** A decrease in the average wage will:
- A shift the long run and short run aggregate supply curves downwards.
  - B shift the long run and short run aggregate supply curves upwards.
  - C not shift the short run aggregate supply but will shift the long run aggregate supply curves downwards.
  - D shift the short run aggregate supply curve downwards and leave the long run aggregate supply curve unchanged.
- [1½]
- 20** The government of a closed economy with no taxes wishes to expand real GDP by £12 billion. If the marginal propensity to consume is 0.667, what is the approximate change in the level of government spending (in £ billion) on goods and services required to achieve this?
- A 18
  - B 4
  - C 12
  - D 8.
- [1½]
- 21** In the presence of an inflationary gap in the standard Keynesian model, an appropriate policy response would be:
- A reduce government expenditure.
  - B increase the level of protectionism by raising tariffs and implementing quotas.
  - C decrease the rate of income tax.
  - D increase the level of unemployment benefits.
- [1½]



**22** The purchase of Treasury bills by the Central Bank will likely lead to:

- A a decrease in loans.
- B a decrease in aggregate demand.
- C an increase in the rate of interest.
- D a decrease in the rate of interest.

[1½]

**23** Money that is held to take advantage of unforeseen events is associated with the:

- A asset motive for holding money.
- B precautionary motive for holding money.
- C speculative motive for holding money.
- D transactions motive for holding money.

[1½]

**24** Which of the following statements correctly describes the impact of removing a tariff?

- A Consumers pay a higher price, producers receive a lower price and the government receives tariff income.
- B Consumers pay a lower price, producers receive a higher price and the government loses tariff income.
- C Consumers pay a higher price, producers receive a higher price and the government receives tariff income.
- D Consumers pay a lower price, producers receive a lower price and the government loses tariff income.

[1½]

**25** A tariff is imposed on a specific good. Which group would benefit from the imposition of this tariff?

- A Domestic consumers of the good
- B Domestic producers of the good
- C International producers of the good
- D International consumers of the good.

[1½]

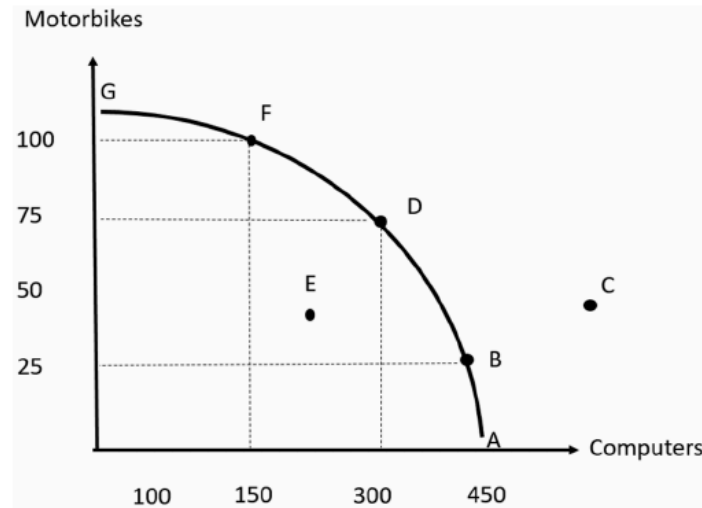
**26** If Canadian dollars are cheaper in Scotland than in Toronto, to benefit from the purchase and sale of foreign exchange Canadian dollars should be:

- A purchased in Scotland and sold back in Toronto.
- B purchased in Toronto and sold back in Scotland.
- C sold in both Scotland and Toronto.
- D purchased in both Scotland and Toronto.

[1½]



- 27 Given an endowment of resources, Country A can produce the following combinations of computers and motorbikes as shown in the diagram.



- (i) Explain why the production possibility curve is drawn concave to the origin. [1]
- (ii) Discuss the output decision at points C and E. [1]
- (iii) State the opportunity cost of producing 25 more motorbikes from point D to point F. [1]
- (iv) Explain whether point B is a preferable combination of output relative to point F from the consumer's perspective. [1]

[Total 4]





- 28** A pet food manufacturer produces tins of pet food using machinery alongside its employees. The table below shows the weekly level of output for the firm based on using either Machine A costing £600 per week or Machine B costing £1,200 per week, together with different numbers of employees.

<i>Number of employees</i>	<i>Machine A at £600 per week</i>	<i>Machine B at £1,200 per week</i>
1	4	11
2	7	17
3	17	30
4	30	45
5	44	56

- (i) Calculate the average and marginal product of labour, assuming that the firm uses Machine A. [2]
  - (ii) Comment on whether the company using Machine A is experiencing increasing or diminishing returns. [1]
  - (iii) Calculate the firm's total cost, average total cost and average variable cost assuming that the firm uses Machine B and pays each employee £500 per week. [3]
- [Total 6]

- 29** Describe how a specialist bakery currently producing cakes on a small scale could potentially experience economies of scale over time. [6]

- 30** Consider a hypothetical market where there are many health and fitness magazines for consumers to choose from.

'Fitness Champions' is initially priced at \$0.45 and sells 442 copies at this price.

- (i) Calculate the price elasticity of demand (using the point method) for 'Fitness Champions' if it were to reduce the price per copy to \$0.30 and experienced a slight increase in sales to 456 copies. [2]
- (ii) Explain the likely effect on revenue for the firm producing 'Fitness Champions' given your answer to part (i). [1]
- (iii) Explain why a competitor magazine, 'Health World', who experienced a fall in the demand for its magazine following the price cuts by 'Fitness Champions' may also seek to reduce its price. [1]
- (iv) Discuss why the company that produces the magazine 'Gym Fashion', specifically dedicated to sports apparel, has been able to maintain stable sales despite not changing its price in response to the price cut by 'Fitness Champions'. [2]

[Total 6]



- 31** Describe how a company that produces anti-malaria medication can charge different prices in different countries for the same product globally. [4]
- 32** In an economy where the expected rate of inflation is 0%, Odin is willing to lend if the interest rate is at least 6% and Freya would like to borrow money if the rate of interest is less than or equal to 6%. Assume no money illusion.
- They agree to a loan between one another at the rate of 6%.
- (i) State what the interest rate would be for Odin and Freya to agree a loan if the rate of inflation over the loan period was anticipated to be 5%. [1]
  - (ii) State what the rate of interest would be for Odin and Freya to agree a loan if the rate of inflation over the loan period was anticipated to be -3%. [1]
  - (iii) Calculate the range of interest rates that they would agree on a loan if Odin expected the rate of inflation to be 5% and Freya expected it to be 7%. [2]
- [Total 4]
- 33**
- (i) Explain the impact that an increase in the interest rate payable on the national debt will have on the fiscal deficit. [1]
  - (ii) Explain why economists present the budget deficit as a proportion of GDP when analysing an economy. [1]
  - (iii) Explain why countries with a high general government debt tend to have to pay a higher rate of interest on their debt, other things being equal, than countries with a low general government debt. [3]
- [Total 5]
- 34** Describe how the natural rate of unemployment could be reduced. [6]
- 35**
- (i) Describe the market structure that would most closely represent a dental practice operating in a large town. [5]
  - (ii) Propose how a dental practice in such circumstances could use non-price competition to secure its market share. [5]
- [Total 10]



- 36** The market demand and supply for portable charging devices for mobile phones at each price in Country A, which has an open economy are shown in the table below. The industry in Country A competes with international suppliers of the device that can be imported at prices given below, but this industry is undeveloped compared to the international market.

<i>Price (US\$)</i>	<i>Demand (000s)</i>	<i>Supply (000s)</i>
15	70	50
14	80	40
13	90	30
12	100	20
11	110	0
10	120	0
9	130	0

The world price for the devices, which has been US\$13 for some time, has now fallen to US\$10. As a result, domestic suppliers are lobbying the government in Country A to provide protection from international competition to enable them to develop the industry further and improve efficiency.

Describe the situation the industry faces in relation to its demand and supply in Country A under each of the following circumstances. In your answer, you should highlight the factors that the government in Country A should take into consideration were it to implement a policy of protectionism.

- (i) prior to protectionism [3]
- (ii) post-protectionism with a tariff of US\$4 or an import quota restriction of 20,000 units. [7]
- [Total 10]

**END OF PAPER**





Institute  
and Faculty  
of Actuaries

# EXAMINERS' REPORT

**CB2 - Business Economics**

**Core Principles**









## **Introduction**

The Examiners' Report is written by the Chief Examiner with the aim of helping candidates, both those who are sitting the examination for the first time and using past papers as a revision aid and also those who have previously failed the subject.

The Examiners are charged by Council with examining the published syllabus. The Examiners have access to the Core Reading, which is designed to interpret the syllabus, and will generally base questions around it but are not required to examine the content of Core Reading specifically or exclusively.

For numerical questions the Examiners' preferred approach to the solution is reproduced in this report; other valid approaches are given appropriate credit. For essay-style questions, particularly the open-ended questions in the later subjects, the report may contain more points than the Examiners will expect from a solution that scores full marks.

For some candidates, this may be their first attempt at answering an examination using open books and online. The Examiners expect all candidates to have a good level of knowledge and understanding of the topics and therefore candidates should not be overly dependent on open book materials. In our experience, candidates that spend too long researching answers in their materials will not be successful either because of time management issues or because they do not properly answer the questions.

Many candidates rely on past exam papers and examiner reports. Great caution must be exercised in doing so because each exam question is unique. As with all professional examinations, it is insufficient to repeat points of principle, formula or other text book works. The examinations are designed to test "higher order" thinking including candidates' ability to apply their knowledge to the facts presented in detail, synthesise and analyse their findings, and present conclusions or advice. Successful candidates concentrate on answering the questions asked rather than repeating their knowledge without application.

The report is written based on the legislative and regulatory context pertaining to the date that the examination was set. Candidates should take into account the possibility that circumstances may have changed if using these reports for revision.

Sarah Hutchinson  
Chair of the Board of Examiners  
November 2023



**A. General comments on the *aims of this subject and how it is marked***

The aim of the Business Economics subject is to introduce candidates to the core economic principles and their relevance to the business environment.

The subject provides a grounding in the fundamental concepts of micro and macro-economics as they affect the operation of insurance and other financial systems, both for individuals and their requirements for financial security, and for financial institutions and their ability to provide products that meet individual and institutional clients' needs.

The examination paper is designed to assess candidates' knowledge and understanding, as well as application of economic concepts and exploration of the linkages within the wider economy, and the marking scheme duly reflects this aim.

**B. Comments on *candidate performance in this diet of the examination.***

The multiple choice and short answer questions were answered well. For short answer questions most candidates demonstrated knowledge of the theory underpinning the application, as well as an understanding of the application of the theory in the relevant context. The numerical questions were answered moderately well. Most candidates made a reasonable attempt at the first long answer question. The other long answer question was generally explored in the depth required to gain a good mark. It was observed that answers to this question lacked sufficient depth and detail. In some cases, the answers did not address the specific aspects of the case in question, and the discussion was confined to the theory or general observations on the case. For this type of question, however, it was a discussion of the specific issues within the theoretical framework that was required.

**C. Pass Mark**

The Pass Mark for this exam was 62  
1115 presented themselves and 808 passed.



## Solutions for Subject CB2 – September 2023

Q1	C	[1½]
Q2	B	[1½]
Q3	C	[1½]
Q4	B	[1½]
Q5	C	[1½]
Q6	C	[1½]
Q7	C	[1½]
Q8	A	[1½]
Q9	D	[1½]
Q10	C	[1½]
Q11	A	[1½]
Q12	C	[1½]
Q13	C	[1½]
Q14	D	[1½]
Q15	D	[1½]
Q16	A	[1½]
Q17	C	[1½]
Q18	D	[1½]
Q19	D	[1½]
Q20	B	[1½]
Q21	A	[1½]
Q22	D	[1½]
Q23	B	[1½]
Q24	D	[1½]
Q25	B	[1½]
Q26	A	[1½]

*The multiple-choice questions were generally answered well.*

### Q27

(i)

The shape shows increasing opportunity costs; that increasing amounts of one good must be sacrificed to produce the other. This is due to the fact that different goods require different combinations of resources to produce them and those resources become less suitable for producing one good relative to another.

[1]

(ii)

Point C shows a point of production that is not currently possible given current resources. The only way to produce this level of output would be to engage in trade. Point E is possible but is not efficient as there are under-utilised resources due to production taking place inside the PPC.

[1]

(iii)





The opportunity cost of producing 25 more motorbikes from point D to F is 150 computers.

[1]

(iv)

Both options show combinations of output that are possible and productively efficient. The choice is entirely dependent on the preferences of the consumers.

(Any reasonable response that indicates consumer preference can be supported) [1]

[Total 4]

*This question was generally answered well.*

*In part (i) the answer needed to mention increasing opportunity cost as the reason for concavity to gain the mark. Answers that indicated an understanding of the reason were also given credit.*

*For part (ii) a brief answer was required for each point carrying ½ mark each. Most candidates provided correct answers to parts (ii)-(iv).*

## Q28

(i)

Number of employees	Average product	Marginal product
1	4	
		3
2	3.5	
		10
3	5.7	
		13
4	7.5	
		14
5	8.8	

[2]

(ii)

The company is experiencing increasing returns to labour since when each additional worker is used alongside machine A, they contribute to the output more than the previous worker.

[1]

Number of employees	Total cost	Average total cost	Average variable cost
1	1700	154.54	45.5
2	2200	129.41	58.8



3	2700	90	50
4	3200	71	44.4
5	3700	66.07	44.6

[3]

[Total 6]

*This question was generally answered well.*

*For part (iii) calculation of the three types of costs for various numbers of employees was required. However, if candidates offered correct calculation of the three costs for a particular number of employees, full mark was awarded. Numerical answers correct to one or two decimal points were acceptable.*

**Q29**

The economies of scale a bakery is likely to be able to potentially benefit from over time are as follows:

Specialisation of labour. A bakery may initially have only one or two members of staff to produce its cakes. If it is looking to expand, it would need to increase production and this may be possible by reducing the range of products and having staff specialise in a smaller number of products to become faster and more efficient at production.

Purchasing. A bakery may need to buy inputs on a larger scale to negotiate better per unit prices. Longer term, it would need to increase capital in order to automate activities rather than everything being produced by hand.

Container principle. A larger oven or mixer would also enable the bakery to produce more cake mixture in a given period of time, effectively raising the volume of production.

By-products - the firm could decide to use offcuts from the cakes to make other products such as cake pops and use any waste more efficiently.

Could also refer to organisational economies of scale (overheads, financial, marketing and scope)

Other points could also be explored. For example:

Greater efficiency of larger machines

Indivisible or lumpy inputs (a minimum size of machine, so the firm needs to grow before it can utilise such a machine)

Multi-stage production gains, for example, preparing, baking and decorating the product.

[6]



*Most candidates made a reasonable attempt at answering this question. To gain most of the marks, the answer needed to be linked to the example of a bakery and be explored within a theoretical framework. Some continuity of the discussion was expected, so offering a list of points did not score a good mark.*

**Q30**

(i)

%change in P is  $30-45/45 * 100 = -33.33\%$

% change in Q is  $456-442/442 * 100 = 3.17\%$

PED =  $3.17/-33.33 = -0.10$  to 2dp [2]

(ii)

With a reduction in price and relatively price inelastic demand, overall sales revenue is likely to fall for Fitness Champions. [1]

(iii)

Health World may reduce its price as Fitness Champions is potentially a close substitute. When Fitness Champions cuts its price, it may have encouraged some consumers to switch away from Health World as an alternative magazine. Health World observing this may seek to entice its original customer base back by also undertaking a price reduction. [1]

(iv)

Sales at Gym Fashion may remain relatively stable as whilst it is a magazine in the sphere of health and fitness, it would not appear to be a close substitute as its focus is not fitness as such but fitness related clothing. Hence, a change in the price of one of the other publications should not have a strong effect on the price of a magazine associated with clothing albeit in a fitness context. The breadth of it is dedicated to clothing, rather than health and fitness more generally which is a broader category. The cross-price elasticity of demand here is unlikely to be high as they are not close substitutes, thus a change in the price of "Fashion Champions" magazine is unlikely to have a significant/any effect on the quantity demanded of "Gym Fashion". [2]

**[Total 6]**

*This question was generally answered well.*

*For part (i) both point formula and the average formula for calculation of elasticity were accepted.*

*Some reference to the products being close substitutes in (iii) and unrelated or complements in (iv) needed to be made.*

*Answers that referred to brand loyalty in (iv) were also credited. Reasonably valid points in relation to the price change were also accepted.*



### Q31

A drugs company may wish to use price discrimination to sell anti-malaria drugs at different prices in different markets to maximise its revenue. The conditions for price discrimination to operate are:

The firm is able to set its own price. As such the market cannot be one of perfect competition. In the pharmaceutical setting, we would anticipate a market that is likely to be an oligopoly. Firms operating in this market are price makers and have a degree of control over their price. [1]

The market is separable and the anti-malaria drugs cannot be sold by the less developed countries back into the high-income countries markets. They may sell it under different brand names or packaging and only licence it under a particular name in a given country to prevent resale. [1]

Demand elasticity is different in the two markets, the company is able to charge a higher price in the high-income countries as the product is less price elastic, whereas in the less developed countries, it is much more price elastic and sensitive to changes in price. [1]

This would be an example of third-degree price discrimination. [1]  
[Total 4]

*The answers to this question were varied. Some offered the theory on the market structure without sufficient reference to the particular industry. Others pointed out characteristics of the industry without deeper theoretical underpinnings. As seen above, a discussion of the theory as applied to the industry was required. Other valid points were also accepted.*

### Q32

(i)

If they both anticipate inflation to run at 5 percent, then they would anticipate money to decrease in value by this amount. They will agree to a rate of interest at 11 percent, to maintain their preference of a 6 percent interest rate given the impact of inflation. [1]

(ii)

If they both anticipate that there will be deflation in the magnitude of 3 percent, then the value of money would instead increase by 3 percent, so they could agree on a rate of interest of 3 percent to maintain their preference of 6 percent interest as in the previous case. [1]

(iii)

If Odin anticipates that there will be inflation at a rate of 5 percent, he will only be willing to make a loan if he achieves a rate of interest equal to 11 percent or more. Freya on the other hand, would be willing to borrow at a rate of 13 percent or less. [2]

[Total 4]





*Very few candidates scored the full mark for this question. The formula linking the nominal rate of interest and the real rate of interest as well as the formula linking the nominal rate of return and the real rate of return could be used. Both formulae, applied correctly, provide a close answer and were accepted.*

*In part (iii) a range of interest rates were required. Offering only numerical answers were deemed sufficient in answering this question.*

### Q33

(i)

An increase in the interest rate payable on the national debt will raise the fiscal deficit because it is part of the government expenditure used to calculate the fiscal deficit.

[1]

(ii)

Economists like to divide the fiscal deficit by the national come so that they can get some idea of its size, for instance a 1% of national income deficit is not regarded as a significant a problem as a 5% deficit. Another reason is that it enables economists to compare the fiscal deficit between countries.

[1]

(iii)

The general government debt of a country is the outstanding stock of government bonds in the market. The higher a country's government debt the higher the stock of bonds available on the market and, other things being equal, the higher the interest rate. Apart from this, governments with a high government debt tend to be distrusted by the financial markets. The markets may attach a higher risk to countries with high government debts for fear that the government may ultimately redeem the debt by printing money which could lead to inflation. This extra inflation risk will tend to be priced into the rate at which the government can borrow.

[3]

[Total 5]

*Parts (i) and (ii) of this question were answered reasonably well.*

*Most answers to part (iii) mentioned higher interest payments but only well-prepared candidates explored the impact of high government debt on the interest rates and the economy.*

### Q34

The natural rate of unemployment is the level of unemployment that occurs when the market is in equilibrium. The natural rate consists of seasonal, frictional and structural unemployment where there will be those that are between roles and those that are without work due to a fundamental structural change in the economy.

Policies to lower the natural rate of unemployment would therefore be focused on reducing these types of unemployment. Specifically, a policy that reduces the amount



of time that someone is engaged in “search”. Ensuring that jobs are well advertised and accessible so that people looking for jobs can be quickly placed back into employment would be beneficial. Effectively improving the efficiency of matching those looking for work with existing vacancies is essential for reducing this type of unemployment thus reducing the natural rate of unemployment.

Structural unemployment arises when people have a skillset which is no longer needed in their local labour market. There are two potential solutions here. One option would be to increase the mobility of labour as their skillset may be demanded elsewhere. The alternative is to reskill and retrain people for the changing local labour market, as one industry closes, another rises. Investing in training and developing the labour force is essential in this case, to ensure that there is not a “mismatch” between what the economy needs and what is available. If people are trained and adapt to a changing environment then people will move into new roles more readily and the natural rate of unemployment would decline. [6]

*Performance was reasonably good in this question. Most candidates offered one or two relevant types of unemployment and policies to reduce these. The answer to this question needed to focus on the three types of unemployment (frictional, structural and seasonal) that are relevant to natural unemployment and specifically propose policies that link appropriately to these types of unemployment. A good response needed to propose three distinct policies, in a well-developed discussion, aimed at alleviating any of the three types of unemployment. A definition/description of natural unemployment or the three types of unemployment was not required. Reducing unemployment benefits as applied to frictional unemployment was also accepted (it would lead to moving back into roles more quickly).*

### Q35

(i)

Monopolistic competition is likely to reasonably represent the market structure of dentistry in a large town. Firstly, there may be a large number of providers who offer similar services but each practice can be differentiated by its premises, the range of services provided (some may offer basic services, whilst others provide more advanced onsite services).

Some practices may be very small and be sole traders or partnerships, whilst others could be franchises of a larger organisation. In the case of the sole trader or partnership, the owners would have a large degree of control over their price. In the case of a franchise, the firm may be required to charge rates in line with the parent organisation. The firm may also be able to offer different prices to different types of customers and be able to exercise some form of price discrimination. For example, some patients may not pay a fee, or some services could be chargeable, whilst others are provided free at the point of delivery as part of public health care services.

Given the personal nature of the service, demand will not be perfectly elastic,



although it could be relatively price inelastic for some organisations given consumer loyalty.

Firms could make super normal profits in the short run which may encourage new entry. Entry may not be completely restriction free however, as in order to offer dental services, practitioners would likely need to be licenced but the same requirement would be applicable to all businesses offering such services.

Perfect competition is not applicable and given that the question indicates a large town rather than a small village, a proposal for a monopoly is hard to support. Oligopoly could also be considered but this would assume a small number of firms which is also less applicable in most cases. However, the alternatives could be considered where appropriate justification has been provided. [5]

(ii)

Product development and advertising are two ways of securing demand for a firm over its rivals.

In the setting of a dental practice, this could be offering a larger range of services to patients or offering services that use different technical equipment. This could be in the form of more advanced treatments including cosmetic work, complementary services in the field of health and beauty more generally or different hours of operation (weekends for example) or support for those who are fearful of dentists.

The firm could also embark on advertising its services to the local community so that patients are aware of its existence and range of services. Some elements of dentistry may be relatively generic and so perhaps the location of premises, the practitioners, different forms of payment/payment plans or hours of service could be attractive for potential patients and help to draw patients from one practice to another. [5]

[Total 10]

*Most responses to this question offered correct observations in relation to a dental practice in a large town and succeeded in linking these to theory.*

*As well as monopolistic competition, responses based on an Oligopoly structure, if applied correctly, were accepted. Responses based on a monopoly or perfect competition were not anticipated (due to case being in a large town excluding the latter).*

*In part (ii) a discussion of both product development and advertising in relation to a dental practice were required. For the question as a whole, to gain the full mark, a response needed to be applied to the context of a dental practice, not generalised and have breadth and depth.*

### Q36

(i)

The market initially operates at a price of 13 dollars, at that price, demand is 90,000



units and supply is 30,000 units. The shortfall of 60,000 units is provided by imports. The fall in the world price to 10 dollars, results in demand for 120,000 units. At this much lower price, the domestic industry is unable to offer any supply to the local market. All demand would need to be met by overseas competitors. If this situation were to continue, then the likelihood is that the industry would have to close down. [3]

(ii)

With a tariff of \$4, local producers would be able to supply 40,000 units and demand would be met with 40,000 imports, and demand locally would fall to 80,000 units. At this level of tariff, the post protectionism position is a lower level of imports (40,000). Domestic consumers would now pay more and buy less. The government would earn some tariff revenue. [2]

If a quota were to be implemented, restricting the total level of imports to the much lower level of 20,000 units. Consumers in Country A would be able to buy far fewer products than they were able to previously. [1]

Domestic producers will be able to raise their price whilst the protectionism is in place:

If the mobile industry is an infant industry, then protection could be placed until the industry is able to recover and compete on an international platform. Introducing some form of protection when the sector previously faced none could lead to retaliation from other countries. This could have a much larger impact on Country A depending on the scale of any such retaliation. Maintaining a relationship with other trading partners could have important strategic implications.

In making a decision, the government would need to decide that if it instigates protectionism, the industry is able to subsequently make the efficiency gains it needs in order to survive. This could include investment in research and development in order to support technological progress which may help the firm to reduce its costs and be more competitive. It could also help to support better relationships with other countries who supply components and reduce costs of production. There could also be investment in the education and training of the workforce to make workers more efficient. If this is not going to be possible, then there is little gain to be had from protectionism, instead it could be detrimental to the Country and its relationship with others.

If protectionism is to be implemented then the government needs to ensure that any measures are sufficient to growth of the infant industry but not to the point that it could lead to a complacent industry. A tariff could be used as a form of protection as it would raise important income for the government which they could direct into supporting R&D in the industry to make the efficiency gains required or it could use a quota to limit imports into the country. [4]

[Total 10]





*Very few responses offered a sufficiently detailed discussion of this question to be able to gain a high mark. Most answers lacked sufficient detail and depth in applying the theoretical principles relating to international trade to the circumstances of the question. A good response needed to involve a discussion around the issues associated with using protectionism and this could link in the infant industry arguments and a discussion around how long the infant industry would require protections.*

**[Paper Total 100]**

**END OF EXAMINERS' REPORT**





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