CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge Pre-U Certificate

MARK SCHEME for the May/June 2015 series

9772 ECONOMICS

9772/01 Paper 1 (Multiple Choice, Short Answers and Data Response), maximum raw mark 80

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Section A
Multiple Choice
Answer Key

Question Number	*Key*	*Question Number*	*Key*
1	**B**	16	**A**
2	**D**	17	**C**
3	**B**	18	**B**
4	**D**	19	**A**
5	**B**	20	**B**
6	**B**	21	***see note**
7	**A**	22	**D**
8	**A**	23	**C**
9	**C**	24	**C**
10	***see note**	25	**B**
11	**C**	26	**B**
12	**A**	27	**B**
13	**C**	28	**C**
14	**D**	29	**A**
15	**D**	30	**A**

*Note: Questions 10 and 21 were not included in the assessment as they did not work as intended. All candidates were awarded 1 mark for each of these two questions.

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Section B

Answer **all** questions.

1 (a) Identify <u>two</u> conditions necessary for price discrimination to occur. [2]

One mark for each of two valid conditions, such as:

- Separation of markets.
- No possibility of resale.
- Monopoly power in at least one market.
- Different levels and/or different elasticities of demand.
- Other relevant factors, such as low cost of separation relative to potential gains.

The wording of answers might not incorporate all of these points as clearly as the mark scheme but marking should look to be positive. [2]

(b) Explain <u>one</u> way in which the Internet has affected firms' ability to practise price discrimination. [3]

Candidates should be rewarded for attempting to answer the question directly – irrespective of whether they argue that the Internet has increased or decreased the ability of firms to price discriminate; it is possible to make a case for both.

Reward will be given for citing specific examples:

- The internet enables e-retailers to identify the postcode of the purchaser and thus they might be able to charge people who live in high income areas more than people in lower income areas.
- The nature of transactions mean that in effect a given retailer has a 'monopoly position' as regards an individual on a website.
- Sellers are able to reward loyal customers with greater discounts – or vice versa, e.g. at one time Amazon offered new customers lower prices than established customers.
- Technology has advanced to such a degree that e-retailers now identify the internet browser being used – generally Apple users are charged more than Windows users – and the speed with which customers make a purchase – someone who clicks on a specific product and goes straight to the checkout is perceived to have a lower PED.

Award one mark for identifying a reason and up to two marks for the clarity of the explanation, although the awarding of the second mark will reflect the candidates' ability to apply theoretical economics in an accurate fashion. [3]

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2 A bus company estimates that it faces the following elasticities for a particular journey:

Price elasticity of demand	**–2.2**
Income elasticity of demand	**–0.6**

(a) Using the data, explain why this journey is an 'inferior good'. [2]

Identification that it is income elasticity of demand which tells us whether a good is a normal or an inferior good. [1]

Recognition that the negative coefficient means that, as incomes increase, the quantity of the good demanded decreases. [1]

(b) Explain the likely impact on the bus company if the price of bus tickets rises by 5%. [3]

Identification of the fact that price elasticity of demand (PED) is negative will enable a candidate to consider the impact of a rise in ticket prices on the quantity demanded. [1]

Given the data, if the price of journeys increases, the company can expect the quantity of journeys to decrease and quantification of this – i.e. a 5% increase in the price of bus tickets will see an 11% decrease in the number of journeys made. [1]

Identification that this won't be good for the company ceteris paribus– a reduced number of journeys will mean less revenue for the company [1]

An ability to go beyond the simple use of the elasticity data and make a valid, well developed point. For example, an assessment of how this can affect other aspects of the company: suggestions of the impact of this change on costs and profit; how this might ignore other factors that have changed – the income of bus passengers – and how this might affect the company. Reward any well-argued points. [1]

[Up to a maximum of 3]

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3 How can income and substitution effects be used to explain backward-bending individual labour supply curves? [5]

Candidates should be methodological in constructing an answer here:

- A general definition of the "income" and "substitution effects" will get [2]; the application of this to an individual's decision to work or not in response to a higher real wage – if done accurately – will get [2]. Candidates who correctly identify the income and substitution effects but confuse the definitions will get a maximum of 2 marks.
- A well-drawn, clearly labelled backwards bending individual labour supply curve which clearly shows that, up to a certain point, higher real wages will draw forth a greater labour supply, and that beyond a certain point the higher real wage will see the number of hours worked fall [2].
- A further valid development of the model: identification that the income and substitution effects operate for each change in real wages, but that the shape of the curve depends upon which predominates; an application of knowledge – candidates may be aware of the fact that the backwards bending labour supply curve is more typical of working men than working women [1].

[Up to a maximum of 5]

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4 An industry consists of two firms, A and B.

The profit-payoff matrix shows how the profits, in £ millions, of A and B vary depending on the prices charged by the two firms.

		price charged by firm A	
		P_A= £20	P_A= £10
price charged by firm B	P_B= £20	£12m_A £12m_B	£15m_A – £2m_B
	P_B= £10	– £2m_A £15m_B	£2m_A £2m_B

(a) Explain why, in the absence of collusion, both firms will charge £10. [2]

Identification of the bottom right hand payoff matrix square as a Nash equilibrium [1]. Recognition of the fact that in the absence of collusion it is rational for the firms to charge a low price; irrespective of what their opponent does, they will not want to change their strategy. Thus, the best outcome for them is to charge £10. [2] Candidates who imply this, without being able to clearly state it may be awarded a mark.

[Up to a maximum of 2]

(b) Identify <u>three</u> characteristics of an industry that make collusion an unlikely outcome. [3]

Marks should be awarded for any valid reason why collusion is unlikely: these are likely to include: a large number of firms, significant product differentiation, low barriers to entry in the market, significant differences in firms' cost structures, hawkish regulation by the competition authorities, rapid technological change.

Candidates should be awarded one mark for any relevant factor that is raised.

[Up to a maximum of 3]

[Total: 20]

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Section C

Answer **all** questions.

5 Answers should be primarily assessed on the basis of good economics, clearly explained and/or illustrated.

(a) With reference to Figure 1, compare Japanese and Italian GDP per worker relative to the United Kingdom in 2010. [2]

	Knowledge
2 marks	Good understanding of the relative productivity of workers. This will entail quantifying the fact that Japanese workers are 10% less efficient and Italian workers approximately the same amount more efficient that UK workers. To get the 2nd mark, candidates must make accurate use of the index numbers.
1 mark	Partial understanding that Japanese workers are less productive than workers in the UK and that Italian workers are more productive than UK workers.
0 mark	No relevant understanding.

(b) Explain the term 'international competitiveness' (Extract 1, line 2). [3]

	Knowledge	**Application**
2 marks		Good explanation of the causes of differences in 'international competitiveness'. To get two marks candidates are likely to refer to both price and non-price factors. However, two marks may be awarded for detailed consideration of either one factor or another (e.g. a candidate might mention the importance of unit labour costs in relation to price competitiveness.)
1 mark	Identification of the fact that 'international competitiveness' is a term used to describe the relative ability of nations to attract foreign buyers to choose their products over those of trading rivals.	Partial explanation of the causes of 'international competitiveness' – perhaps simply implying the cheaper production is the sole determinant of competitiveness.
0 mark	No attempt made to define the term 'international competitiveness'.	No relevant or very limited explanation.

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Candidates should be rewarded if they endeavour to engage with factors that determine international competitiveness – particularly if they make use of applied examples such as cost advantages, an artificially low exchange rate.

(c) What type of relationship would you expect there to be between the level of R&D expenditure and the long-term rate of growth of GDP? Explain your answer with reference to Table 1 and Extract 1. [5]

	Knowledge	Application	Analysis
2 marks		Good, accurate application: a link being drawn between the data in Table 1 and Extract 1 and R&D expenditure as % of GDP and % real GDP growth and direct reference to some ambiguity in the data.	Good explanation of the relationship between the level of R&D expenditure and the rate of GDP growth with reference to the data. Candidates may well explain that the level of R&D expenditure is unlikely to be associated with a high rate of growth in the same time period. R&D expenditure boosts productive capacity and that this implies an increase in long-run, potential growth rather than immediate actual growth. Candidates might also highlight that lots of other factors might generate growth, or highlight the complexity of growth.
1 mark	Understanding of a possible relationship between the level of R&D and rate of GDP growth, and that at some level there is likely to be a positive relationship between the two.	Application of the relationship between R&D expenditure as % of GDP and % real GDP growth, with simple quantification of a positive relationship.	Partial explanation, but there may be little development. Candidates are likely to state that there should be a positive relationship without being able to suggest why this might not hold or identifying why the data might be anomalous.

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0 mark	No or limited understanding of any relationship between the level of R&D and rate of GDP growth.	No meaningful identification of the relationship between R&D expenditure and the rate of GDP growth.	No meaningful analysis of any relationship between R&D expenditure and the rate of GDP growth.

This question is designed to get candidates thinking about the nature of relationships between variables and the nature of the variables themselves.

Issues that might be considered include:

- The ability to differentiate between the proportion GDP devoted to R&D and changes in the absolute level of R&D – the US might have lower R&D as a % of GDP but this is likely to translate into more R&D because the US economy is larger.
- A short-run/longer-term distinction. High levels of R&D in the short-run might not result in immediate increases in the rate of growth of GDP. However, it might increase in the future.
- The marginal efficiency of capital. It is all very well a nation having a high level of R&D but does it result in productivity gains and how quickly.
- Other valid observations will be rewarded. [5]

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(d) With reference to the information provided and your own knowledge, evaluate whether R&D is best funded by the state or by the private sector. [10]

	Analysis	Evaluation
6 marks		Clear evidence of evaluation and excellent awareness of the relative strengths of the arguments given.
5 marks		Clear evidence of evaluation and very good awareness of the relative strengths of the arguments given.
4 marks	Good explanation of a suitable range of relevant issues within a clear structure.	Clear evidence of evaluation and good awareness of the relative strengths of the arguments given.
3 marks	Reasonable explanation of a limited range of relevant issues: some structure to the answer.	Some evidence of evaluation and/or limited awareness of the relative strengths of the arguments given; may well have no final summary.
2 marks	Partial explanation given: a limited or unstructured answer.	Some evidence of evaluation but no clear conclusion.
1 mark	Partial explanation given; a very limited answer.	Limited evaluation.
0 mark	No relevant explanation.	No evaluation.

Analysis

Candidates should consider some of the leads given in the data, not least the obvious starting point at the end of Extract 1 (lines 25–26): “as every economist knows, because of the positive externalities associated with R&D activity, it is inevitable that private firms will underinvest in R&D.”

Further, they might move on to consider:

- The low level of R&D in the UK relative to some of its trading partners might imply that there’s more of a need for government intervention.
- The fact that influential innovators are calling for government incentives to encourage innovation – does this reflect genuine shortage or vested interests seeking government assistance.
- The decline in the ratio of public sector R&D to GDP between 1986 and 2009.

Evaluation

Issues likely to be discussed are likely to include:

- Whether or not there are any grounds for intervention given that UK GDP performance has remained strong in spite of relatively low levels of R&D expenditure.
- The fact that people such as Sir James Dyson have a vested interest in encouraging increased state support of R&D.

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- The various welfare considerations of any form of government intervention – the opportunity cost, the likelihood of government failure, the distributional consequences.
- The possibility of unintended consequences: might increase government spending on R&D see a decline in private sector spending?
- Evaluation of the phrase 'at the present time': given the government's fiscal position can it afford to undertake increased R&D expenditure.
- The extent to which there are positive externalities from government R&D expenditure.

A clear and full explanation of any two of the above, or similar issues is needed for an award of all 6 evaluation marks.

Again, candidates must be rewarded for the quality of their economics, not prescriptive responses. Some may choose to take the question in interesting directions: for example, it might be argued that globalisation means that technology transfer is now much more rapid and thus, the level of R&D as a proportion of GDP is increasingly less relevant, especially when so much of it is undertaken by multinational corporations (MNCs). Provided that the economic reasoning is sound and the supporting arguments well-explained, credit should be given to these answers.

(e) With reference to Extract 1 and your own knowledge, evaluate the degree to which a government can play a significant role in areas other than R&D in increasing a nation's international competitiveness. [10]

	Analysis	**Evaluation**
6 marks		Clear evidence of evaluation and excellent awareness of the relative strengths of the arguments given.
5 marks		Clear evidence of evaluation and very good awareness of the relative strengths of the arguments given.
4 marks	Good explanation of a suitable range of relevant issues within a clear structure.	Clear evidence of evaluation and good awareness of the relative strengths of the arguments given.
3 marks	Reasonable explanation of a limited range of relevant issues: some structure to the answer.	Some evidence of evaluation and/or limited awareness of the relative strengths of the arguments given; may well have no final summary.
2 marks	Partial explanation given: a limited or unstructured answer.	Some evidence of evaluation but no clear conclusion.
1 mark	Partial explanation given; a very limited answer.	Limited evaluation.
0 mark	No relevant explanation.	No evaluation.

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Analysis

Answers without direct reference to the issues raised in Extract 1 will be awarded a maximum of 2 marks.

The many issues that might be analysed include:

- Competition policy and regulation.
- Education and training.
- Attitudes to immigration.
- Competition in product markets/flexibility in factor markets.
- The construction of a tax/benefit system that incentivises work and avoids the creation of the poverty trap.

Evaluation

Candidates can adopt one of two approaches to evaluating the question.

Some might choose to argue that there is a place for government intervention to enhance 'international competitiveness, focusing on the leads given in the question such as Sir James Dyson's call to 'incentivise innovation', improving the system of vocational education and other policies to improve infrastructure or enhance human capital.

Others might equally argue that the government would be better served by seeking to withdraw from economic activity and focus on creating the appropriate institutional framework (e.g. the rule of law based on property rights, a suitable regulatory framework) seeking to improve factor mobility and remove market imperfections such as a National Minimum Wage.

For each of the areas mentioned above, a clear and full appreciation of the relative merits of at least two of the issues mentioned above, or similar, is needed for an award of all 6 evaluation marks.

Candidates should look to mention the case for and the case against the government intervening. Candidates who only consider either the case for or the case against will be awarded a maximum of 6 marks in total.

It is likely that the best candidates may also put the question in a global context. The actions of any one government to enhance 'international competitiveness' need to be judged relative to those of others. Furthermore, exogenous factors (e.g. commodity price shocks) and unfavourable movements in a nation's exchange rate might adversely affect the ability of a government to improve 'international competitiveness'.

Candidates should not be rewarded for reference to R&D, or for rehashing material that they've already covered in part (d).

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