## Cambridge International AS & A Level

Paper 4 Data Response and Essays

May/June 2022

MARK SCHEME

Maximum Mark: 70

### **Published**

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the May/June 2022 series for most Cambridge IGCSE, Cambridge International A and AS Level and Cambridge Pre-U components, and some Cambridge O Level components.

### **Generic Marking Principles**

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

#### **GENERIC MARKING PRINCIPLE 1:**

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

#### GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

### **GENERIC MARKING PRINCIPLE 3:**

### Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit
  is given for valid answers which go beyond the scope of the syllabus and mark scheme,
  referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

## **GENERIC MARKING PRINCIPLE 4:**

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

### **GENERIC MARKING PRINCIPLE 5:**

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

#### GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

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## Social Science-Specific Marking Principles (for point-based marking)

### 1 Components using point-based marking:

Point marking is often used to reward knowledge, understanding and application of skills.
 We give credit where the candidate's answer shows relevant knowledge, understanding and application of skills in answering the question. We do not give credit where the answer shows confusion.

#### From this it follows that we:

- **a** DO credit answers which are worded differently from the mark scheme if they clearly convey the same meaning (unless the mark scheme requires a specific term)
- **b** DO credit alternative answers/examples which are not written in the mark scheme if they are correct
- **c** DO credit answers where candidates give more than one correct answer in one prompt/numbered/scaffolded space where extended writing is required rather than list-type answers. For example, questions that require *n* reasons (e.g. State two reasons ...).
- **d** DO NOT credit answers simply for using a 'key term' unless that is all that is required. (Check for evidence it is understood and not used wrongly.)
- e DO NOT credit answers which are obviously self-contradicting or trying to cover all possibilities
- **f** DO NOT give further credit for what is effectively repetition of a correct point already credited unless the language itself is being tested. This applies equally to 'mirror statements' (i.e. polluted/not polluted).
- **g** DO NOT require spellings to be correct, unless this is part of the test. However spellings of syllabus terms must allow for clear and unambiguous separation from other syllabus terms with which they may be confused (e.g. Corrasion/Corrosion)

#### 2 Presentation of mark scheme:

- Slashes (/) or the word 'or' separate alternative ways of making the same point.
- Semi colons (;) bullet points (•) or figures in brackets (1) separate different points.
- Content in the answer column in brackets is for examiner information/context to clarify the marking but is not required to earn the mark (except Accounting syllabuses where they indicate negative numbers).

## 3 Calculation questions:

- The mark scheme will show the steps in the most likely correct method(s), the mark for each step, the correct answer(s) and the mark for each answer
- If working/explanation is considered essential for full credit, this will be indicated in the question paper and in the mark scheme. In all other instances, the correct answer to a calculation should be given full credit, even if no supporting working is shown.
- Where the candidate uses a valid method which is not covered by the mark scheme, award equivalent marks for reaching equivalent stages.
- Where an answer makes use of a candidate's own incorrect figure from previous working, the 'own figure rule' applies: full marks will be given if a correct and complete method is used. Further guidance will be included in the mark scheme where necessary and any exceptions to this general principle will be noted.

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### 4 Annotation:

- For point marking, ticks can be used to indicate correct answers and crosses can be used to indicate wrong answers. There is no direct relationship between ticks and marks. Ticks have no defined meaning for levels of response marking.
- For levels of response marking, the level awarded should be annotated on the script.
- Other annotations will be used by examiners as agreed during standardisation, and the meaning will be understood by all examiners who marked that paper.

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Question	Answer	Marks
1(a)	Define what is meant by a cartel.	2
	A formal agreement (1) by firms to operate collectively (1) to raise price or limit output (1) to reduce competition/control the market (1 mark)	
1(b)	Russia and the US are not members of OPEC, but they engage in collusion with the cartel.'	3
	Explain what the term collusion means in the context of an oligopoly.	
	Collusion is an informal arrangement (1 mark). An example of collusion (1) It arises when firms agree to a form of competitive behaviour which benefits the firms. Accept price leadership as tacit collusion. (1 mark) Examples one firm raises it price and all other firms in the industry agree to do the same, a refusal to reduce prices despite raw material costs falling. (1 mark)	
1(c)	The oil production processes used by Saudi Arabia and the US use different proportions of fixed costs and variable costs.	7
	Analyse why the fall in the price of oil may have a more significant effect on the output of oil in the US.	
	Definition of variable costs (1 mark) and fixed costs. (1mark)	
	Recognition of higher variable costs (VC) in USA and/or lower VC in Saudi Arabia/Russia. (1 mark)	
	<ul> <li>Explanation of the relationship between price and average variable costs:-</li> <li>If the price remains above AVC but below ATC a US well can still make a contribution to fixed costs, reducing losses. (1 mark)</li> <li>If price is less than AVC a US well cannot continue in production as losses would be greater than fixed costs. (1 mark)</li> </ul>	
	Conclusion: Some US oil wells may close (1 mark) but without more detailed information on the AVC of US wells no definite estimate of the number can be made. (1 mark)	

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Discuss, with the use of AD/AS diagrams, how Russia and Saudi Arabia are likely to be able to respond to the fall in oil prices.  Effect of changes: Reason(s) for fall in AD (1 mark) Diagram to show AD falls in both R and SA  Diagram 2 marks  Price level AD1 AD AS	8
Diagram to show AD falls in both R and SA  Diagram 2 marks  Price level AD1 AD AS	
Price level AD <sub>1</sub> AD AS	
level AD <sub>1</sub> AD AS	
N <sub>1</sub> N Real GDP/output	
1 mark for correct labels/axes, 1 mark for shift AD to AD <sub>1</sub> and its outcome.  Response to problem Recognition of the need for different policies between Russia and S Arabia because of budget surplus/deficit (1 mark) Russia choses expansionary FP (1 mark) because of budget surpluses (1 mark), this restores AD. (1 mark) Up to 3 marks SA because it leads OPEC, can reduces supply of oil (1 mark) which raises the oil price because of inelastic demand (1 mark) and AD will rise. (1 mark) Up to 3 marks	

Diagram may be used in response element of the answer. (max 2 marks for

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diagram(s)

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Question	Answer	Marks
2	A rational consumer will always purchase less of an item as the price increases.	25
	Discuss, with the use of indifference curve analysis, whether this statement is correct.	
	Meaning of a rational consumer, definition/description of an indifference curve (IC), meaning of the budget line (BL). Interaction of IC and BL to determine quantity demanded. Change in price of a good and its effect on quantity demanded. Split of change in quantity demanded into substitution effect (SE) and income effect (YE). The nature of SE is always negative and YE can be either positive or negative. Combined effect on quantity demanded. Relevant diagrams.	
	The effect of a large negative income effect more than offsetting the substitution effect (Giffen good) may be explained/analysed.	
	<b>L4 (18–25 marks):</b> For answer which develops the analysis and discusses the effect of the change in price on the quantity demanded due to the size and sign of the SE and YE. Reference to a Giffen good (or a Veblen good) is made. Evaluation comment(s) is/are made.	
	L3 (14–17 marks): For an answer which analyses the effect of a change in price on the quantity demanded. There is reference to the SE and YE.	
	<b>L2 (10–13 marks):</b> For a limited explanation which describes IC and BL and the derivation of the quantity demanded at a given price. A basic diagram of a single equilibrium point is drawn.	
	L1 (1–9 marks): For an answer which has some basic correct facts but includes irrelevancies. Errors of theory or omissions of analysis will be substantial.	

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Question	Answer	Marks
3(a)	Explain the relationship between marginal revenue and average revenue and their role in determining the output and profit of a profit maximising firm in a perfectly competitive market.	12
	Definition of average revenue (AR) and marginal revenue (MR). Understanding of their nature in a perfectly competitive market. Marginal costs (MC) equality to MR for profit maximising output. The difference between AC and AR to determine the level of profits. Short run and long run changes.	
	L4 (9–12 marks): For an answer which refers to average and marginal revenue and analyses the relationship between MR/MC and AR/AC in both the short run and long run and links the two, to determine profits in perfect competition.	
	<b>L3 (7–8 marks):</b> For an answer which refers to average and marginal revenue and analyses the relationship between MR/MC and AR/AC in the short run <b>or</b> long run to determine profits in perfect competition.	
	<b>L2 (5–6 marks):</b> For an answer which explains average and marginal revenue in the context of a perfectly competitive firm.	
	<b>L1 (1–4 marks):</b> For an answer which has some basic correct facts but includes irrelevancies. Errors of theory or omissions of analysis will be substantial.	
3(b)	Discuss the significance of economies of scale for the survival of firms.	13
	Definition and explanation of internal/external economies of scale (EoS), reference to impact of EoS on barriers to entry (BtE). Ability to access EoS and long run average costs (LRAC) impact on competitive position compared with other firms in an industry and survival. EoS and the development of oligopoly and/or monopoly industries and long run survival of the firm within those market structures.	
	<b>L4 (9–13 marks):</b> For an answer which develops an analysis of the relationship between EoS and BtE with reference to LRAC, and market structure(s) and the survival of a firm. A comparative analysis is drawn with the survival of small firms. A conclusion is reached for 12/13 marks.	
	L3 (7–8 marks): For an answer which develops an analysis of the relationship between EoS and BtE, with reference to LRAC, and the survival of a firm.  Alternatively, the analysis compares the ability to gain EoS, with the competitive strength of a firm and its survival. There is limited reference to market structure(s). A limited comparison is drawn with the survival of small firms.	
	<b>L2 (5–6 marks):</b> For an answer which defines and explains economies of scale with reference to LRAC. Answer is largely descriptive. No link to survival.	
	<b>L1 (1–4 marks):</b> For an answer which has some basic correct facts but includes irrelevancies. Errors of theory or omissions of analysis will be substantial.	

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Question	Answer	Marks
4(a)	Explain how the problems of climate change, such as global warming, may be regarded as a consequence of resource misallocation.	12
	The allocative efficiency implications of the effects of overuse of carbon emission producing fuels, on externalities in consumption and production. Externalities marginal private/benefits social efficient output.	
	<b>L4 (9–12 marks):</b> For an answer which explains and analyses climate change in terms of externalities <b>and</b> private and social costs/benefits <b>and</b> link to resource misallocation.	
	<b>L3 (7–8 marks):</b> For an answer which explains and analyses climate change in terms of externalities <b>or</b> private <b>or</b> social costs/benefits with link to resource misallocation.	
	<b>L2 (5–6 marks):</b> For an answer which explains externalities and private and social costs/benefits and comments on the outcome.	
	<b>L1 (1–4 marks):</b> For an answer which has some basic correct facts but includes irrelevancies. Errors of theory or omissions of analysis will be substantial.	
4(b)	Evaluate two policies a government may implement to reduce the impact of climate change.	13
	Analysis of two from a range of policies is possible: taxation of carbon producing activities, subsidies of alternative fuels, prohibition of activities, improved information, pollution permits. Evaluation may refer to direct cost of implementation, environmental effectiveness, allocative efficiency, effect on production costs, local effects on employment, the international aspects of climate change or regressive/progressive income effects.	
	<b>L4 (9–13 marks):</b> For an answer which analyses <b>two</b> policies which may reduce the impact of climate change. Evaluation is made.	
	L3 (7–8 marks): For an answer which analyses two policies.	
	L2 (5–6 marks): For an answer which defines and explains one or two policies.	
	<b>L1 (1–4 marks):</b> For an answer which has some basic correct facts but includes irrelevancies. Errors of theory or omissions of analysis will be substantial.	

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Question

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in the labour market is given.

market. Accurate diagrams are present. An explanation of government intervention

L2 (10–13 marks): For a limited explanation which describes the effects of supply

L1 (1–9 marks): For an answer which has some basic correct facts but includes

irrelevancies. Errors of theory or omissions of analysis will be substantial.

and demand on the wage level in a competitive labour market.

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Answer	Marks	
The best outcome for labour markets is that the forces of supply and demand are left to determine wages without government interference.	25	
Discuss with the use of diagrams, whether this statement is always true.		
The demand (MRP theory) and supply of labour and the determination of wages. Reference to elasticities on the wage level. The implementation and impact of minimum wage legislation. The effect of monopsony on the labour market.		
<b>L4 (18–25 marks):</b> For an answer which analyses the effects of supply and demand on the wage level in a competitive labour market <b>and</b> imperfect labour market. Government intervention in the labour market is analysed and discussed. Accurate diagrams are present. An evaluation of the truth of the statement is made.		
<b>L3 (14–17 marks):</b> For an answer which analyses the effects of supply and demand on the wage level in a competitive labour market <b>or</b> an imperfect labour		

Question	Answer	Marks
6(a)	Distinguish between the characteristics of developed (high income) and developing (low income) countries.	12
	GDP per capita, population age structure, education, health care, foreign debt levels, sectoral distribution of employment, level of employment, level of infrastructure or level of urbanization.	
	<b>L4 (9–12 marks):</b> For an answer which explains and analyses the relationship between <b>three</b> or more characteristics.	
	L3 (7–8 marks): For an answer which explains and analyses the relationship between two characteristics.	
	L2 (5–6 marks): For an answer which explains two characteristics.	
	<b>L1 (1–4 marks):</b> For an answer which has some basic correct facts but includes irrelevancies. Errors of theory or omissions of analysis will be substantial.	

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Question	Answer	Marks
6(b)	Discuss whether gross domestic product (GDP) is the best measure of the standard of living.	13
	Definition of gross domestic product (GDP) and its use in the form of real GDP per head as a measure of the standard of living. The use of HDI/MEW/ or other measures of standard of living, a discussion of their merits as measures of the standard of living.	
	<b>L4 (9–13 marks):</b> For an answer which discusses the relative merits of GDP and an alternative measure of the standard of living. GDP is evaluated against an alternative measure.	
	L3 (7–8 marks): For an answer which analyses the use of real GDP per capita as a measure of the standard of living and comments on an alternative measure of the standard of living.	
	<b>L2 (5–6 marks):</b> For an answer which defines and explains the use of real GDP or GDP per capita as a measure of the standard of living.	
	L1 (1–4 marks): For an answer which has some basic correct facts but includes irrelevancies. Errors of theory or omissions of analysis will be substantial.	

Question	Answer	Marks
7(a)	Explain the relationship between the Keynesian demand for money and the rate of interest.	12
	The description of the transaction, precautionary and speculative demands for money, their individual relationship with the rate of interest. The combined effect of the 3 demands and the rate of interest.	
	<b>L4 (9–12 marks):</b> For an answer which provides a detailed explanation and analysis of the <b>three</b> demands for money and relates them to the rate of interest.	
	<b>L3 (7–8 marks):</b> For an answer which explains and analyses <b>two</b> of the demands for money and relates them to the rate of interest.	
	L2 (5–6 marks): For an answer which explains two of the demands for money.	
	<b>L1 (1–4 marks):</b> For an answer which has some basic correct facts but includes irrelevancies. Errors of theory or omissions of analysis will be substantial.	

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Question	Answer	Marks
7(b)	Discuss whether monetary policy alone is sufficient for a government to achieve its macroeconomic aims simultaneously.	13
	Identification of government macroeconomic aims: employment, inflation, growth or balance of payment equilibrium. Explanation of the monetary policy process and the limitations of this policy. Explanation of alternative policy(ies) e.g. fiscal, supply side policy. Comparison and discussion of their relative ability to achieve stated economic aims – employment, inflation, growth or balance of payment equilibrium.	
	<b>L4 (9–13 marks):</b> For an answer which discusses and analyses the impact of monetary policy changes on <b>two</b> government macroeconomic aims and the impact of an alternative policy are compared. An evaluation of the statement.	
	L3 (7–8 marks): For an answer which analyses the impact of monetary policy changes on two government macroeconomic aims. Reference is made to an alternative policy which may help achieve those aims.	
	<b>L2 (5–6 marks):</b> For an answer which defines and explains the monetary policy and/or <b>two</b> government macroeconomic aims.	
	L1 (1–4 marks): For an answer which has some basic correct facts but includes irrelevancies. Errors of theory or omissions of analysis will be substantial.	

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