

INTERNATIONAL A-LEVEL **ECONOMICS**

EC03

Unit 3 The Economics of Business Behaviour and the Distribution of
Income

Mark scheme

June 2024

Version: 1.0 Final



Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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International A-level Economics mark scheme

How to mark

Aims

When you are marking your allocation of scripts your main aims should be to:

- recognise and identify the achievements of students
- place students in the appropriate mark band and in the appropriate part of that mark band (high, low, middle)
- record your judgements with brief notes, annotations and comments that are relevant to the mark scheme and make it clear to other examiners how you have arrived at the numerical mark awarded
- put into a rank order the achievements of students (not to grade them – that is done later using the rank order that your marking has produced)
- ensure comparability of assessment for all students, regardless of question or examiner.

Approach

It is important to be **open-minded** and **positive** when marking scripts.

The specification recognises the variety of experiences and knowledge that students will have. It encourages them to study Economics in a way that is relevant to them. The questions have been designed to give them opportunities to discuss what they have found out about Economics. It is important to assess the quality of **what the student offers**.

Assessment Objectives

This component requires students to:

AO1	Demonstrate knowledge of terms/concepts and theories/models to show an understanding of the behaviour of economic agents and how they are affected by and respond to economic issues.
AO2	Apply knowledge and understanding to various economic contexts to show how economic agents are affected by and respond to economic issues.
AO3	Analyse issues within economics, showing an understanding of their impact on economic agents.
AO4	Evaluate economic arguments and use qualitative and quantitative evidence to support informed judgements relating to economic issues.

The marking grids

The marking grids cover all the Assessment Objectives indicated as being assessed in each question, followed by indicative content for individual tasks. These have been designed to allow assessment of the range of knowledge, understanding and skills that the specification demands.

The indicative content gives examples of the kind of things students might cover in their responses. They are neither exhaustive nor required – they are simply indicative of what could appear. Other valid content presented in student responses should always be credited.

Using the grids

These levels of response mark schemes are broken down into levels, each of which has descriptors. The descriptors for the level show the performance characteristics of the level. There is the same number of marks in each level. The number of marks per level varies depending upon the total number of marks allocated to the question.

Having familiarised yourself with the descriptors and indicative content, read through the answer and annotate it to identify the qualities that are being looked for and that it shows. You can now check the levels and award a mark.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptors for that level. The descriptors for the level indicate the different qualities that might be seen in the student's answer for that level.

When assigning a level, you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best-fit approach for defining the level and then use the variability of the response to help decide the mark within the level; ie if the response fulfils most but not all of level 3 with a small amount of level 4 material, it would be placed in level 3 but be awarded a mark near the top of the level because of the level 4 content.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark.

It is often best to start in the middle of the level's mark range and then check and adjust.

The exemplar materials used during standardisation should be referred to. There will be an answer in the standardising materials that will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example to determine if it is of the same standard, better or worse. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

An answer that contains nothing of relevance to the question must be awarded no marks.

Examiners are required to assign each of the students' responses to the most appropriate level according to its overall quality, then allocate a single mark within the level. When deciding upon a mark in a level, examiners should bear in mind the relative weightings of the Assessment Objectives and be careful not to over/under-credit a particular skill. For example, in question 13 more weight should be given to AO3 than to AO1 and AO2. This will be exemplified and reinforced as part of examiner training.

Annotating scripts

Annotating scripts will help you with making accurate judgements and it will help any subsequent markers to identify how you are thinking. Please do not write negative comments about students' work; this is unprofessional and it impedes a positive marking approach.

Section A

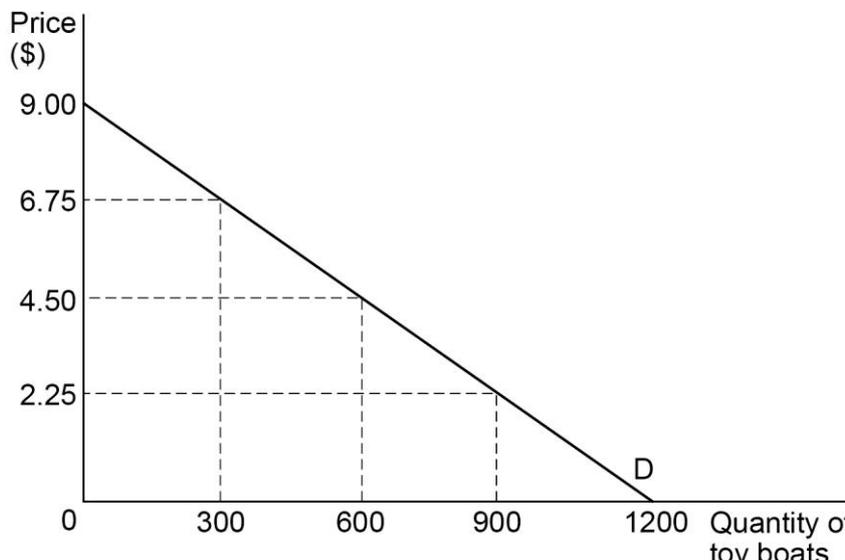
Total for this section: 10 marks

Question	Part	Marking guidance	Total marks
01		<p>Which one of the following is an example of price discrimination?</p> <p>Answer: A (A cinema charging lower prices to customers aged 65 or over.)</p>	<p>1</p> <p>AO1 = 1</p>

Question	Part	Marking guidance	Total marks										
02		<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Quantity of hats sold</th> <th>Marginal revenue (\$)</th> </tr> </thead> <tbody> <tr> <td>18</td> <td>40</td> </tr> <tr> <td>19</td> <td>25</td> </tr> <tr> <td>20</td> <td>10</td> </tr> <tr> <td>21</td> <td>-5</td> </tr> </tbody> </table> <p>Which one of the following statements is correct when the firm sells the 20th hat?</p> <p>Answer: D (Total revenue is increasing and demand is price elastic.)</p>	Quantity of hats sold	Marginal revenue (\$)	18	40	19	25	20	10	21	-5	<p>1</p> <p>AO2 = 1</p>
Quantity of hats sold	Marginal revenue (\$)												
18	40												
19	25												
20	10												
21	-5												

Question	Part	Marking guidance	Total marks
03		<p>Output</p> <p>How many workers should the firm employ if it wants to maximise its output?</p> <p>Answer: C (OC)</p>	<p>1</p> <p>AO2 = 1</p>

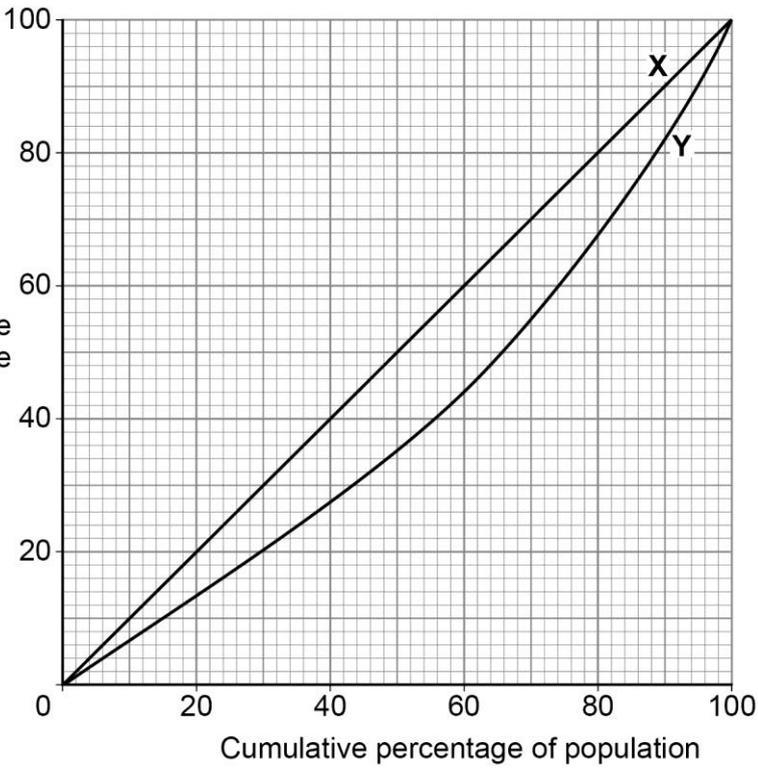
Question	Part	Marking guidance	Total marks
04		<p>Which one of the following is most likely to help a trade union achieve a large wage increase for the workers in an industry?</p> <p>Answer: A (Demand for the industry's product is very price inelastic)</p>	<p>1</p> <p>AO1 = 1</p>

Question	Part	Marking guidance	Total marks
05		 <p>Which one of the following can be concluded from the diagram?</p> <p>Answer: A (Marginal revenue is decreasing when price falls from \$4.50 to \$2.25)</p>	<p>1</p> <p>AO2 = 1</p>

Question	Part	Marking guidance	Total marks
06		<p>In order to maximise profits she should</p> <p>Answer: B (produce the level of output where marginal cost is rising and equals price.)</p>	<p>1</p> <p>AO1 = 1</p>

Question	Part	Marking guidance	Total marks
07		<p>There has been a fall in both producer and consumer surplus in the market for cars.</p> <p>Which one of the following is the most likely reason for these falls?</p> <p>Answer: B (A tariff has been placed on components used to make cars.)</p>	<p>1</p> <p>AO2 = 1</p>

Question	Part	Marking guidance	Total marks										
08		<table border="1" data-bbox="485 331 1169 716"> <thead> <tr> <th data-bbox="485 331 826 407">Number of gym visits</th> <th data-bbox="829 331 1169 407">Total utility (units)</th> </tr> </thead> <tbody> <tr> <td data-bbox="485 412 826 488">5</td> <td data-bbox="829 412 1169 488">38</td> </tr> <tr> <td data-bbox="485 492 826 568">7</td> <td data-bbox="829 492 1169 568">54</td> </tr> <tr> <td data-bbox="485 573 826 649">10</td> <td data-bbox="829 573 1169 649">72</td> </tr> <tr> <td data-bbox="485 654 826 716">13</td> <td data-bbox="829 654 1169 716">78</td> </tr> </tbody> </table> <p data-bbox="368 786 1225 853">Which one of the following can be concluded from the information provided?</p> <p data-bbox="368 887 1161 920">Answer: C (The average utility from 13 gym visits is 6 units)</p>	Number of gym visits	Total utility (units)	5	38	7	54	10	72	13	78	<p data-bbox="1310 309 1334 342">1</p> <p data-bbox="1310 383 1426 416">AO1 = 1</p>
Number of gym visits	Total utility (units)												
5	38												
7	54												
10	72												
13	78												

Question	Part	Marking guidance	Total marks
09		 <p data-bbox="368 1137 1249 1211">All other things being equal, by how much does this change reduce the mean wealth owned by the poorest 50% of the population?</p> <p data-bbox="368 1238 643 1274">Answer: A (\$9 000)</p>	<p data-bbox="1313 304 1331 336">1</p> <p data-bbox="1313 383 1426 414">AO3 = 1</p>

Question	Part	Marking guidance	Total marks												
10		<table border="1" data-bbox="405 338 1251 658"> <thead> <tr> <th data-bbox="405 338 687 427">Income (\$/year)</th> <th data-bbox="687 338 970 427">Income tax rate in 2022</th> <th data-bbox="970 338 1251 427">Income tax rate in 2023</th> </tr> </thead> <tbody> <tr> <td data-bbox="405 427 687 506">0 – 10 000</td> <td data-bbox="687 427 970 506">0%</td> <td data-bbox="970 427 1251 506">0%</td> </tr> <tr> <td data-bbox="405 506 687 584">10 001 – 40 000</td> <td data-bbox="687 506 970 584">20%</td> <td data-bbox="970 506 1251 584">15%</td> </tr> <tr> <td data-bbox="405 584 687 658">40 001+</td> <td data-bbox="687 584 970 658">35%</td> <td data-bbox="970 584 1251 658">50%</td> </tr> </tbody> </table> <p data-bbox="368 696 1262 792">All other things being equal, which one of the following is the most likely effect of the change to marginal income tax rates introduced in 2023?</p> <p data-bbox="368 831 943 864">Answer: A (A reduction in relative poverty)</p>	Income (\$/year)	Income tax rate in 2022	Income tax rate in 2023	0 – 10 000	0%	0%	10 001 – 40 000	20%	15%	40 001+	35%	50%	<p data-bbox="1310 304 1334 338">1</p> <p data-bbox="1310 383 1430 416">AO2 = 1</p>
Income (\$/year)	Income tax rate in 2022	Income tax rate in 2023													
0 – 10 000	0%	0%													
10 001 – 40 000	20%	15%													
40 001+	35%	50%													

Section B

Total for this section: 10 marks

Question	Part	Marking guidance	Total marks
11	1	<p>Identify two functions of prices in the allocation of resources in a market economy.</p> <p>Award 1 mark for each function identified:</p> <ul style="list-style-type: none"> • signalling • rationing • incentive • coordinating buyer and seller decisions • providing information to economic agents. <p>Credit valid alternative content.</p>	<p>2</p> <p>AO1 = 2</p>

Question	Part	Marking guidance	Total marks						
11	2	<p>Use Figure 4 to calculate the producer surplus after the supply curve for apples shifts from S_1 to S_2.</p> <p>Calculation:</p> $(\$1.39 - \$0.79) \times \frac{219m}{2} = \$65.7m$ <table border="1" data-bbox="370 611 1294 1196"> <thead> <tr> <th data-bbox="370 611 1134 705">Response</th> <th data-bbox="1134 611 1294 705">Max 2 marks</th> </tr> </thead> <tbody> <tr> <td data-bbox="370 705 1134 813">For the correct answer: \$65.7m (with or without working shown)</td> <td data-bbox="1134 705 1294 813">2 marks</td> </tr> <tr> <td data-bbox="370 813 1134 1196"> For the correct answer but with missing/incorrect units: eg 65.7m OR For the correct calculation of the price differential × quantity sold: \$131.4m OR For the correct method but the wrong answer </td> <td data-bbox="1134 813 1294 1196">1 mark</td> </tr> </tbody> </table>	Response	Max 2 marks	For the correct answer: \$65.7m (with or without working shown)	2 marks	For the correct answer but with missing/incorrect units: eg 65.7m OR For the correct calculation of the price differential × quantity sold: \$131.4m OR For the correct method but the wrong answer	1 mark	<p>2</p> <p>AO1 = 1 AO2 = 1</p>
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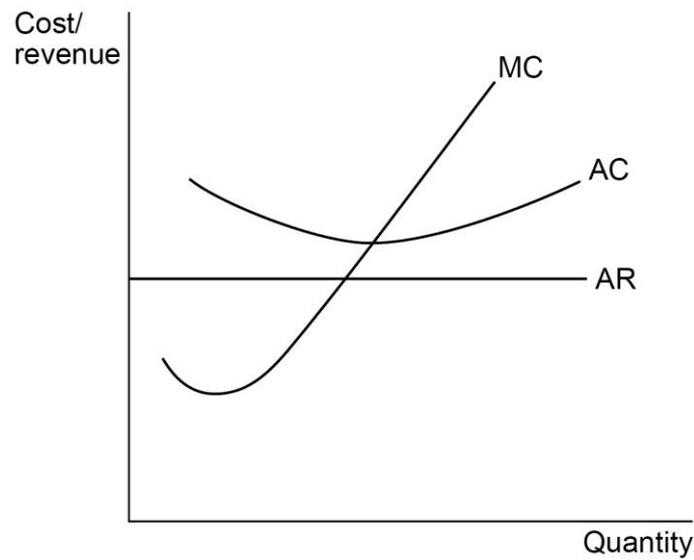
Question	Part	Marking guidance	Total marks								
11	3	Use Figure 4 to calculate the percentage change in total revenue following the shift of the supply curve from S_1 to S_2 .	3 AO1 = 1 AO2 = 2								
		Give your answer to two decimal places.									
		Calculation: Original revenue = $\$1.15 \times 321\text{m} = \369.15m New revenue = $\$1.39 \times 219\text{m} = \304.41m Change in revenue = $\$304.41\text{m} - \$369.15\text{m} = -\$64.74\text{m}$ Percentage change = $\frac{-\$64.74\text{m}}{\$369.15\text{m}} \times 100 = -17.54\%$ (2dp)									
		<table border="1"> <thead> <tr> <th>Response</th> <th>Max 3 marks</th> </tr> </thead> <tbody> <tr> <td>For the correct answer: -17.54% (with or without working shown)</td> <td>3 marks</td> </tr> <tr> <td>For the correct value but with missing/incorrect units: eg -17.54 OR For the correct answer but not to two decimal places: eg -17.5% OR For the correct answer but rounded the wrong way: -17.53% OR For the correct answer but without the minus sign or reference to the fall: 17.54%</td> <td>2 marks</td> </tr> <tr> <td>For a correct revenue figure: $\\$369.15\text{m}$, $\\$304.41\text{m}$ or $\\$64.74\text{m}$ (with or without units) OR For the correct value but with two of missing/incorrect units, not to two decimal places, rounded the wrong way or without minus sign/reference to fall: eg 17.5% OR For the correct method but the wrong answer</td> <td>1 mark</td> </tr> </tbody> </table>		Response	Max 3 marks	For the correct answer: -17.54% (with or without working shown)	3 marks	For the correct value but with missing/incorrect units: eg -17.54 OR For the correct answer but not to two decimal places: eg -17.5% OR For the correct answer but rounded the wrong way: -17.53% OR For the correct answer but without the minus sign or reference to the fall: 17.54%	2 marks	For a correct revenue figure: $\$369.15\text{m}$, $\$304.41\text{m}$ or $\$64.74\text{m}$ (with or without units) OR For the correct value but with two of missing/incorrect units, not to two decimal places, rounded the wrong way or without minus sign/reference to fall: eg 17.5% OR For the correct method but the wrong answer	1 mark
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Question	Part	Marking guidance	Total marks								
11	4	Draw a diagram showing average revenue, average cost and marginal cost for a firm that would leave a perfectly competitive market in the long run.	3 AO1 = 1 AO2 = 2								
		<table border="1"> <thead> <tr> <th>Response</th> <th>Max 3 marks</th> </tr> </thead> <tbody> <tr> <td>Diagram showing a horizontal AR curve that is below an AC curve for its entire length. The MC curve intersects AC at the lowest point on the AC curve. All curves and axes are correctly labelled.</td> <td>3 marks</td> </tr> <tr> <td> Correctly labelled diagram showing a horizontal AR curve that is below an AC curve for its entire length. The MC curve does not intersect AC at the lowest point on the AC curve. OR Diagram showing a horizontal AR curve that is below an AC curve for its entire length. The MC curve intersects AC at the lowest point on the AC curve, but one or two of the labels are missing/incorrect. </td> <td>2 marks</td> </tr> <tr> <td> Diagram showing a horizontal AR curve that is below an AC curve for its entire length. The MC curve may be missing or incorrectly positioned and one or two labels are missing/incorrect. OR Correctly labelled diagram showing a downward-sloping AR curve that is below an AC curve for its entire length. The MC curve may be missing or incorrectly positioned. OR A correctly labelled diagram showing a horizontal AR curve that is tangential to the AC curve for part of its length. </td> <td>1 mark</td> </tr> </tbody> </table>		Response	Max 3 marks	Diagram showing a horizontal AR curve that is below an AC curve for its entire length. The MC curve intersects AC at the lowest point on the AC curve. All curves and axes are correctly labelled.	3 marks	Correctly labelled diagram showing a horizontal AR curve that is below an AC curve for its entire length. The MC curve does not intersect AC at the lowest point on the AC curve. OR Diagram showing a horizontal AR curve that is below an AC curve for its entire length. The MC curve intersects AC at the lowest point on the AC curve, but one or two of the labels are missing/incorrect.	2 marks	Diagram showing a horizontal AR curve that is below an AC curve for its entire length. The MC curve may be missing or incorrectly positioned and one or two labels are missing/incorrect. OR Correctly labelled diagram showing a downward-sloping AR curve that is below an AC curve for its entire length. The MC curve may be missing or incorrectly positioned. OR A correctly labelled diagram showing a horizontal AR curve that is tangential to the AC curve for part of its length.	1 mark
		Response		Max 3 marks							
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Indicative content:

The expected diagram shows an average cost curve which is intersected by a marginal cost curve at its lowest point. The horizontal average revenue curve should be below the average cost curve for its entire length. Equilibrium quantity and price do not need to be shown, nor does a loss area.

The expected diagram is as follows:



Acceptable labels include:

Vertical axis: Cost/revenue, \$, P, C/R

Horizontal axis: Quantity, output, Q

MAXIMUM FOR QUESTION 11: 10 MARKS

Section C

Total for this section: 45 marks

Question	Part	Marking guidance	Total marks
12	1	<p>Extract A shows minimum monthly wage rates for supervisors and general cleaners and the Gini coefficient for income in Singapore.</p> <p>Explain how increases in minimum wage rates are likely to affect the distribution of income in a country.</p>	<p>4</p> <p>AO1 = 1 AO2 = 1 AO3 = 2</p>

Examiners are reminded that AO1, AO2 and AO3 are regarded as interdependent. When deciding on a mark all should be considered together using the best-fit approach. In doing so, examiners should bear in mind the relative weightings of the Assessment Objectives in this question.

Level	Marks	Descriptor
2	3–4	<ul style="list-style-type: none"> Shows sound knowledge and understanding of relevant economic terminology, concepts and principles. Includes reasonable application of relevant economic principles to support the response. Includes well-focused analysis with a clear, logical chain of reasoning.
1	1–2	<ul style="list-style-type: none"> Shows some limited knowledge and understanding of relevant economic terminology, concepts and principles. May include some application of relevant economic principles to the question. May include some attempted analysis but the analysis is not adequately developed and/or may be confused.
	0	No creditworthy material

Indicative content:

- explanation of minimum wage (rate)
- meaning and measurements of distribution of income
- identification of individuals within an economy who are likely (or not) to be affected by increases in minimum wage rates
- explanation that workers in occupations affected by a minimum wage rate are likely to see their incomes rise
- indirect effects on income of other groups eg bargaining power of other lower income groups experiencing reduced wage differentials
- how higher wage rates for lower income groups will lead to a more equal distribution of income
- explanation that minimum wages may reduce demand for labour and therefore employment and how this affects the distribution of income
- impact of minimum wages in redistributing firms' revenues from owners towards lower earners
- impact on the earnings gaps between high- and low-income individuals
- importance of the way minimum wage rates are set eg whether they apply to the entire economy or selected industries, links to (wage) inflation in determining the impact on the distribution of income.

Note: Some students may support their answer with a diagram, but this is not needed for full marks.

Credit valid alternative content.

Question	Part	Marking guidance	Total marks
12	2	To what extent do the data suggest that increases in minimum wage rates affected the distribution of income in Singapore between 2018 and 2022? Use the data in Extract A to support your answer.	4 AO1 = 1 AO2 = 1 AO4 = 2

Examiners are reminded that AO1, AO2 and AO4 are regarded as interdependent. When deciding on a mark all should be considered together using the best-fit approach. In doing so, examiners should bear in mind the relative weightings of the Assessment Objectives in this question.

Level	Marks	Descriptor
2	3–4	<ul style="list-style-type: none"> Includes sound evidence that indicates the extent to which increases in minimum wage rates affected the distribution of income in Singapore between 2018 and 2022. Includes a supported judgement concerning the extent to which increases in minimum wage rates affected the distribution of income in Singapore between 2018 and 2022.
1	1–2	<ul style="list-style-type: none"> Includes some limited evidence that indicates the extent to which increases in minimum wage rates affected the distribution of income in Singapore between 2018 and 2022. May attempt a judgement concerning the extent to which increases in minimum wage rates affected the distribution of income in Singapore between 2018 and 2022 but this is not adequately supported by the data.
	0	No creditworthy material

Indicative content:

- there are three periods during which minimum monthly wage rates rose and the Gini coefficient fell, suggested falling income inequality, eg from January 2019 to January 2020 minimum wage for supervisors rose from S\$1720 to S\$1800 (4.65%) and the Gini coefficient decreased from 0.398 in 2019 to 0.375 in 2020
- there is one period when minimum monthly wage rates rose and the Gini coefficient rose, suggested increasing income inequality, from January 2020 minimum wage for supervisors rose from S\$1800 to S\$1854 (3%) and the Gini coefficient increased from 0.375 in 2020 to 0.385 in 2021
- minimum monthly wage rates rose over the entire period from 2018 to 2022 (from S\$1660/1060 to S\$1910/1274) and the Gini coefficient for income decreased from 0.403 to 0.378 during this period
- the largest annual change in minimum monthly wage rates was S\$80 (4.65%/7.14%) which occurred between January 2019 and January 2020 and this was the year where there was the most significant fall in the Gini coefficient from 0.398 to 0.375, offering some evidence of a direct relationship
- the minimum monthly wage rate increased by a greater proportion for the lower paid job category (20.2% compared with 15.1%), suggesting that increasing the incomes of the lowest paid groups does have an impact on income distribution as incomes became more evenly distributed over the period
- there is likely to be a time delay between changes in the level of minimum wages and the full impact being seen on income distribution, perhaps illustrated by the Gini coefficient
- the Gini coefficient for income showed some degree of volatility, after 2019, potentially reflecting the differing impact of Covid and policies to mitigate its effects on the incomes of high and low-income groups
- data was only provided for two occupations and so information about minimum wage rates for other occupations would be needed to fully explain the link between minimum wage rates and changes in the distribution of income

- other factors not related to minimum wage rates may also affect income distribution such as levels of unemployment, levels of out-of-work or work-related benefits, labour market elasticities, alternative sources of income, tax rates etc.
- the likely conclusion is that, on balance, there appears to be some evidence of increases in minimum wage rates leading to a more equal distribution of income in Singapore between 2018 and 2022.

Credit valid alternative content.

MAXIMUM FOR QUESTION 12: 8 MARKS

Question	Part	Marking guidance	Total marks
13		<p>Extract C (lines 1–2) states: ‘Governments around the world are making more use of behavioural policies to achieve their objectives.’</p> <p>Explain, using examples, how governments can use behavioural policies to influence decision making.</p>	<p>12</p> <p>AO1 = 3 AO2 = 3 AO3 = 6</p>

Examiners are reminded that AO1, AO2 and AO3 are regarded as interdependent. When deciding on a mark all should be considered together using the best-fit approach. In doing so, examiners should bear in mind the relative weightings of the Assessment Objectives in this question. More weight should therefore be given to AO3 than AO1 and AO2.

Level	Marks	Descriptor
3	9–12	<ul style="list-style-type: none"> Is well organised and develops one or more of the key issues that are relevant to the question. Shows sound knowledge and understanding of relevant economic terminology, concepts and principles. Includes good application of relevant economic principles and/or good use of data to support the response. Includes well-focused analysis with a clear, logical chain of reasoning. May include a relevant diagram that is accurate and used appropriately to support their explanation.
2	5–8	<ul style="list-style-type: none"> Includes one or more issues that are relevant to the question. Shows reasonable knowledge and understanding of economic terminology, concepts and principles but some weaknesses may be present. Includes reasonable application of relevant economic principles and/or data to the question. Includes some reasonable analysis but it might not be adequately developed and may be confused in places. May include a relevant diagram to support their explanation.
1	1–4	<ul style="list-style-type: none"> Is very brief and/or lacks coherence. Shows some limited knowledge and understanding of economic terminology, concepts and principles but some errors are likely. Demonstrates very limited ability to apply relevant economic principles and/or data to the question. May include some very limited analysis but the analysis lacks focus and/or becomes confused. May include a diagram but the diagram is likely to be inaccurate in some respects or is inappropriate.
	0	No creditworthy material

Indicative content:

- meaning of behavioural policies
- contrast between the assumptions of traditional economic theory and behavioural economic theory
- reasons why individuals may not act rationally and implications for government policy
- the importance of understanding the processes involved in individuals' decision making in order to achieve desired outcomes
- how this understanding can allow governments to design systems that support decision making, eg development of apps that improve the uptake of benefits
- why decision making in 'rational' firms may still be subject to 'behavioural' influences eg human involvement in decision making, satisficing decisions etc
- analysis of how governments can use an understanding of behavioural influences to achieve specific objectives:
 - consumer inertia, eg automatic opt-ins for pension scheme membership and contributions, organ donor schemes etc
 - anchoring, eg forward guidance on economic indicators such as interest rates influencing consumers' and firms' decisions
 - social norms, eg use of nudges to increase tax payments or reduce anti-social behaviour
 - altruism, eg uptake of vaccines
- explanation of how governments may take account of bounded self-control in policy development eg provision of dietary information to improve decision making in relation to food consumption
- explanation of how habitual behaviour can be understood and used to achieve desired outcomes, eg providing cycle lanes and bicycle subsidies to encourage less car use
- consideration of the impact of behavioural policies enacted in conjunction with traditional approaches, eg providing information about how taxes are spent in order to incentivise payment.

Credit valid alternative content.

Question	Part	Marking guidance	Total marks
14		<p>Extract B (lines 20–21) states: ‘Subsidies are available to help employers pay for training and minimum wage increases. A key focus of the PWM is that it should increase productivity in sectors where it applies.’</p> <p>Evaluate the likely effects of increased education and training on the demand and supply of labour in Singapore.</p>	<p>25</p> <p>AO1 = 4 AO2 = 3 AO3 = 9 AO4 = 9</p>

Examiners are reminded that AO1, AO2, AO3 and AO4 are regarded as interdependent. When deciding on a mark all should be considered together using the best-fit approach. In doing so, examiners should bear in mind the relative weightings of the Assessment Objectives in this question. More weight should therefore be given to AO4 and AO3 than AO1 and AO2.

Level	Marks	Descriptor
5	21–25	<p>Sound, focused analysis and well-supported evaluation that:</p> <ul style="list-style-type: none"> • is well organised, showing sound knowledge and understanding of economic terminology, concepts and principles with few, if any, errors • includes good application of relevant economic principles to the given context and, where appropriate, good use of data to support the response • includes well-focused analysis with clear, logical chains of reasoning • includes supported evaluation throughout the response and in a final conclusion.
4	16–20	<p>Sound, focused analysis and some supported evaluation that:</p> <ul style="list-style-type: none"> • is organised, showing sound knowledge and understanding of economic terminology, concepts and principles but some minor errors may be present • includes some good application of relevant economic principles to the given context and, where appropriate, some good use of data to support the response • includes some well-focused analysis with clear, logical chains of reasoning • includes some reasonable, supported evaluation.
3	11–15	<p>Some reasonable analysis but generally unsupported evaluation that:</p> <ul style="list-style-type: none"> • focuses on issues that are relevant to the question, showing satisfactory knowledge and understanding of economic terminology, concepts and principles but some weaknesses may be present • includes reasonable application of relevant economic principles to the given context and, where appropriate, some use of data to support the response • includes some reasonable analysis but which might not be adequately developed or becomes confused in places • includes fairly superficial evaluation; there is likely to be some attempt to make relevant judgements but these aren’t well-supported by arguments and/or data.
2	6–10	<p>A fairly weak response with some understanding that:</p> <ul style="list-style-type: none"> • includes some limited knowledge and understanding of economic terminology, concepts and principles but some errors are likely • includes some limited application of relevant economic principles to the given context and/or data to the question • includes some limited analysis but it may lack focus and/or become confused • includes some evaluation which is weak and unsupported.
1	1–5	<p>A very weak response that:</p> <ul style="list-style-type: none"> • includes little relevant knowledge and understanding of economic terminology, concepts and principles • includes application to the given context which is, at best, very weak • includes attempted analysis which is weak and unsupported.
	0	No creditworthy material

Indicative content:

- meanings of demand and supply of labour
- understanding of education and training and impact on the labour market
- the importance of education and training in maximising labour productivity given the low unemployment rate and strict controls on hiring foreign workers
- analysis of the effects of increased education and training on the demand for labour:
 - relationship between education and training, skills and higher MPP and MRP
 - potential reductions in training costs if firms can recruit higher-skilled workers
 - impact on job satisfaction and labour productivity
- effects of increased education and training on the supply of labour:
 - increasing the supply of labour into specific occupations
 - increases in the elasticity of labour supply
 - greater mobility between similar or related occupations
- discussion of the incentive effects on labour supply if companies provide formally recognised qualifications or training
- analysis and evaluation of the extent to which increased skill and qualification levels are likely to increase labour productivity in different occupations
- consideration of the extent to which the Singapore government will subsidise training and impact on demand for labour
- analysis of necessity for specific qualifications in different industries and impact on costs, productivity and therefore labour demand
- consideration of whether education or training is more significant to the demand and supply of labour in different industries
- analysis of the extent to which higher-skilled workers are more or less susceptible to capital-labour substitution and impact on labour demand
- analysis and evaluation of the magnitude and impacts of any further increases in skill/qualification levels when Singapore is already rated highest in human capital development globally
- evaluation of the relevance of education to labour productivity (and therefore demand for labour) in different industries, especially given the Singapore government and employers' focus on technology-related skills
- the importance of length of time needed to acquire qualifications on influencing supply and demand elasticities
- consideration of whether higher wage rates arising from greater skill levels can have a significant enough effect on spending power to influence demand, prices and therefore MRP
- evaluation of the extent to which rising marginal costs due to higher training requirements outweigh increases in MRP
- an overall assessment of the effect of increased education and training on the demand and supply of labour in Singapore.

The use of relevant diagrams to support the analysis should be taken into account when assessing the quality of the student's response to the question.

Credit valid alternative content.

Section D

Total for this section: 25 marks

Question	Part	Marking guidance	Total marks
15		<p>Governments in many countries have research and development agencies that are state controlled and financed. These agencies have contributed to important technological advances in areas such as satellites, computer networks, and cars that do not need drivers.</p> <p>Assess the role of governments in generating technological change in an economy.</p>	<p>25</p> <p>AO1 = 4 AO2 = 3 AO3 = 9 AO4 = 9</p>

Examiners are reminded that AO1, AO2, AO3 and AO4 are regarded as interdependent. When deciding on a mark all should be considered together using the best-fit approach. In doing so, examiners should bear in mind the relative weightings of the Assessment Objectives in this question. More weight should therefore be given to AO4 and AO3 than AO1 and AO2.

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Indicative content:

- meaning and methods of generating technological change
- the impacts of technological change on firms including production, productivity and competition
- the impacts of technological change on consumers including labour markets, quality and choice of products and living standards
- ways that governments may generate technological change:
 - state-owned enterprises creating new technologies
 - working in partnership with private sector firms to develop new technologies
 - funding research in state-controlled educational institutions
 - as a significant consumer of technologies, signalling and creating market incentives
 - creating an environment that values and develops human capital in sciences and enterprise
 - through industrial strategy and policy
- analysis and evaluation of specific policies to generate technological progress:
 - subsidising firms that create or implement new technologies
 - planning infrastructure development to support technological progress eg broadband networks, innovation networks/business hubs
 - tax incentives to support R&D and investment
 - direct financial assistance to support firms that generate new technologies eg loans, grants
 - labour market policies to influence supply of skilled labour eg immigration and visas, apprenticeship funding
 - legislation to protect intellectual property
 - competition policy and its impacts on profits, barriers to entry and incentives
 - involvement in international academic or scientific projects to share knowledge, risks etc.
- running or funding research projects that may be unattractive to private sector firms due to cost, risk, reward or timescales
- analysis and evaluation of the importance of the market system and creative destruction in generating technological change
- evaluation of the risks of government intervention in market systems eg government failure, regulatory capture
- analysis and evaluation of the role of government in co-ordinating public and private sectors to generate technological change
- consideration of the cost and opportunity cost of generating technological change and whether this should be borne by private or public sectors
- knowledge of different situations or examples where governments have played a role in generating technological change in an economy
- assessment of winners and losers, eg those who gain from spin-offs of technological change versus those who become structurally or regionally unemployed
- an overall assessment of the role of governments in generating technological change in an economy.

The use of relevant diagrams to support the analysis should be taken into account when assessing the quality of the student's response to the question.

Credit valid alternative content.

Question	Part	Marking guidance	Total marks
16		<p>An important way that producers of smartphones compete is by differentiating their products. However, in other oligopolistic industries, such as supermarkets in many countries, price competition is more significant.</p> <p>Evaluate whether the use of price competition is likely to be the most effective way for firms in oligopolistic markets to increase their profits.</p>	<p>25</p> <p>AO1 = 4 AO2 = 3 AO3 = 9 AO4 = 9</p>

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Indicative content:

- definition and importance of profit
- the meaning and examples of oligopolistic markets
- the meaning and examples of price competition
- meaning and examples of product differentiation and other forms of non-price competition
- discussion of the way in which market structure or concentration may affect a firm's choice of whether to use price competition or which forms to adopt
- analysis and evaluation of forms of pricing behaviour and how they can be used to increase profits:
 - price leadership
 - price agreements
 - predatory pricing
 - limit pricing
 - price wars
- analysis and evaluation of non-price methods of increasing profits:
 - advertising and branding
 - customer service
 - product differentiation
 - quality
 - innovation
- how the price elasticity of demand for the firm's product may affect whether price competition is the most effective way for oligopolistic firms to increase their profits
- how the cost of various methods of non-price competition may affect whether or not they are a more effective way for firms to increase their profits
- analysis and evaluation of the use of collusive agreements concerning price or other factors in increasing profits
- consideration of the importance of profits in funding oligopolistic firms' choice of competitive strategy eg use of retained profit to facilitate non-price methods such as marketing or research and development
- analysis of the distinction between short- and long-run profit and possible implications for competitive strategies
- evaluation of reasons why price competition may not be effective eg kinked demand curve theory
- evaluation of the importance of other firms' competitive strategies in dictating whether price competition will be used or successful
- evaluation of the importance of inter-relationships between price and other methods of competition
- knowledge of specific examples where firms in oligopolistic markets have used price competition or other methods to increase profits
- evaluation of whether price competition is the most effective way for firms in oligopolistic markets to increase their profits.

The use of relevant diagrams to support the analysis should be taken into account when assessing the quality of the student's response to the question.

Credit valid alternative content.

Assessment Objectives Grid

	AO1	AO2	AO3	AO4	Total
Section A					
01	1				1
02		1			1
03		1			1
04	1				1
05		1			1
06	1				1
07		1			1
08	1				1
09			1		1
10		1			1
Section B					
11.1	2				2
11.2	1	1			2
11.3	1	2			3
11.4	1	2			3
Section C					
12.1	1	1	2		4
12.2	1	1		2	4
13	3	3	6		12
14	4	3	9	9	25
Section D					
15 and 16	4	3	9	9	25
Unit total	22	21	27	20	90