

NAME:

NO:

CLASS:

RIVERSIDE SECONDARY SCHOOL**END-OF-YEAR EXAMINATION 2022**

SUBJECT : **Geography**
LEVEL/STREAM : **Sec 2 Express**
DURATION : **1 hour 15 minutes**

INSTRUCTIONS TO CANDIDATES

Candidates answer on the Question Paper.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, glue or correction fluid.

Answer **all questions**.

Candidates are encouraged to support their answers with the use of relevant examples.

The number of marks is given in brackets [] at the end of each question or part question.

Section A [4 marks]

Answer all questions from this section.

- 1) a) Identify one main function of rural settlements.

..... [1]

- b) The table below shows the population and land area of four countries.

Country	Population (million)	Total land area (sq km)
A	9.5	7 560 000
B	16	9 520 000
C	3	653 000
D	25	10 315 000

Which country is the least densely populated?

..... [1]

- c) Study Fig. 1 which shows a journey taken from Kuala Lumpur to Langkawi in Malaysia.

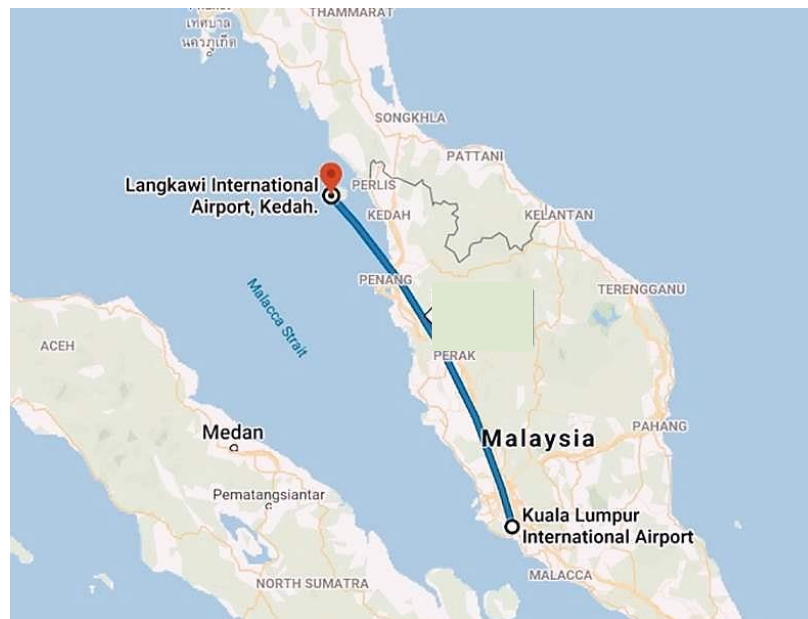


Fig. 1

Is the journey shown a unimodal or intermodal connection? Why do you say so?

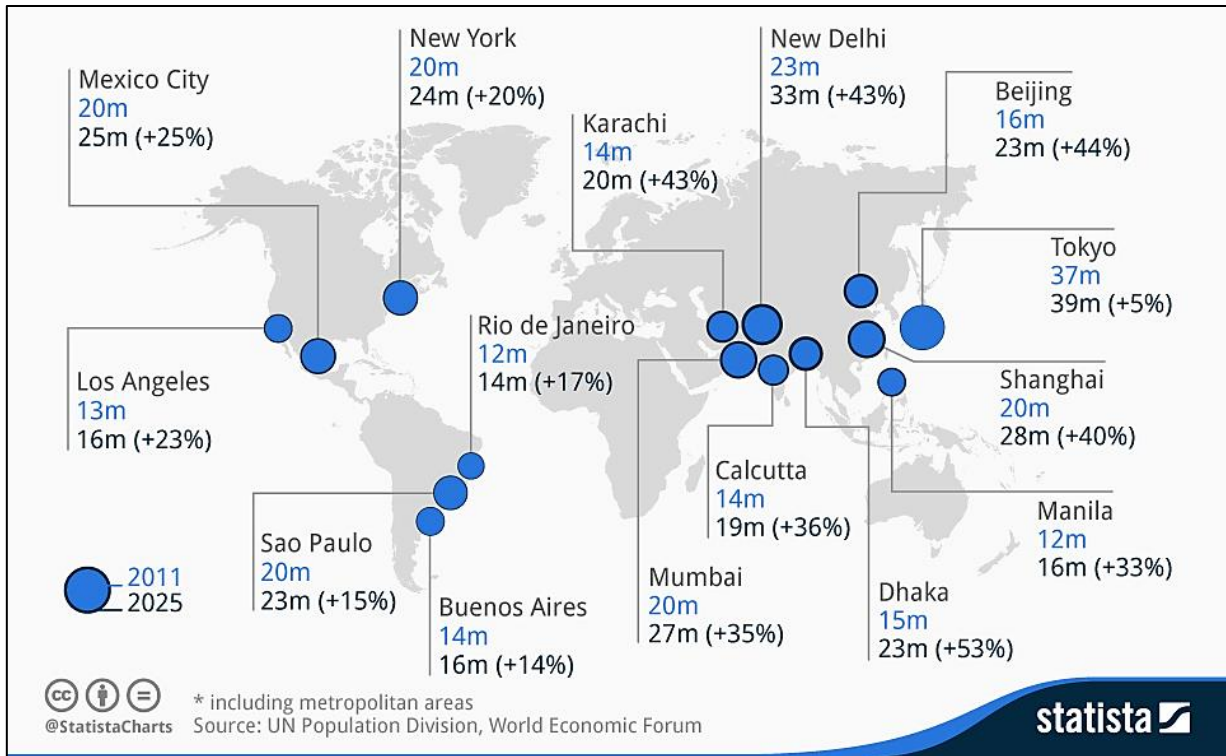
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 [2]

Section B [36 marks]

Answer all questions from this section.

- 2) Study Fig. 2 which shows the population growth of the world's top 15 megacities from 2011 to 2025 (projected).



Legend:

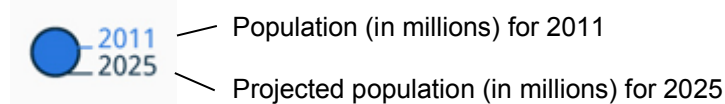


Fig. 2

- a) i) Describe the differences between the projected population growth of megacities in South America and Asia in Fig. 2.

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.....[4]

- ii) Explain two possible reasons to account for the differences described in Question 2(ai).

[4]

- b) Study Photograph A which shows informal housing in Rio de Janeiro, Brazil.

Photograph A



- i) State and explain a reason why someone might be forced to live in informal housing settlements.

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.....[2]

- ii) Why is the type housing shown in Photograph A considered unsafe?

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.....[2]

- c) Explain how public housing can be made inclusive.

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..... [3]

- d) Study the information below (Fig. 3) about the Tengah New Town in Singapore.

Tengah New Town is the 24th new housing estate being developed by the Housing Development Board (HDB). It is, however, the first with centralised cooling and a car-free town centre.

Instead of individual air-conditioners, each home can be cooled by chilled water piped from centralised chillers powered by solar power and installed on the rooftops. This technology enables the town to achieve a lower carbon footprint than similar HDB estates in Singapore.

“Roads are planned to run beneath the town centre, freeing up space at the ground level for retail and recreational use,” HDB said.

“Separated from roads and traffic, the heart of the town centre will be safe and friendly for residents to walk and cycle.”

Adapted from Channel News Asia and CNN

Fig. 3

With reference to Fig. 3, define the term ‘carbon footprint’ and describe the features of the town which can reduce carbon footprint.

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..... [3]

- 3 a) Why is it important for transport systems to improve people's mobility?

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..... [2]

- b) Fig. 4 (on page 11) shows a map of Bangkok, Thailand.

- i) With reference to Fig. 4, identify a mode of transport people can use to travel to the shopping area of Siam Square and MBK Centre from Victory Monument.

..... [1]

- ii) Account for the differences in the density of road networks in Bangkok between the eastern and western parts of Bangkok as seen in Fig. 4.

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..... [4]

- c) i) Describe the characteristics of traffic congestion.

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- ii) Describe the impacts of traffic congestion on people and the environment.

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- d) With the use of an example, discuss the effectiveness of the strategy of road pricing to manage road congestion.

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Fig. 4

2022/GEOGRAPHY/EOY/2E

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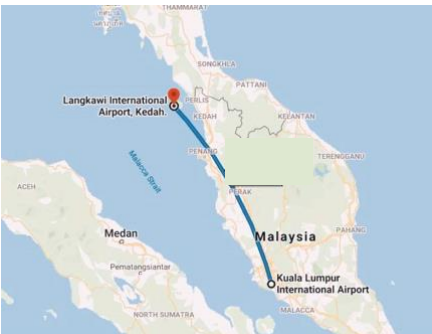
CLASS:

RIVERSIDE SECONDARY SCHOOL**END-OF-YEAR EXAMINATION 2022
ANSWERS**

SUBJECT : **Geography**
LEVEL/STREAM : **Sec 2 Express**
DURATION : **1 hour 15 minutes**

Section A

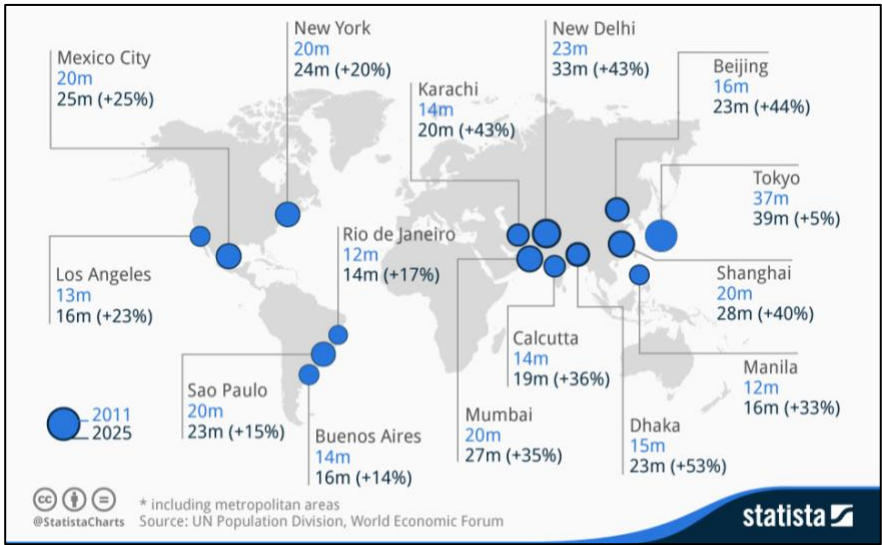
Answer all questions from this section.

QUESTION		AO1 +2	AO1 +3															
1) a)	Identify one main function of rural settlements.	1																
<p><i>Students generally were able to identify one key function of rural settlements though not all were precise enough to state 'agriculture' or the other functions.</i></p> <ul style="list-style-type: none">• Agriculture OR• Forestry OR• Fishing																		
b)	The table below shows the population and land area of four countries. Which country is the least densely populated?		1															
<table><tr><th>Country</th><th>Population (million)</th><th>Total land area (sq km)</th></tr><tr><td>A</td><td>9.5</td><td>7 560 000</td></tr><tr><td>B</td><td>16</td><td>9 520 000</td></tr><tr><td>C</td><td>3</td><td>653 000</td></tr><tr><td>D</td><td>25</td><td>10 315 000</td></tr></table>		Country	Population (million)	Total land area (sq km)	A	9.5	7 560 000	B	16	9 520 000	C	3	653 000	D	25	10 315 000		
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A	9.5	7 560 000																
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<ul style="list-style-type: none">• A																		
c)	Study Fig. 1 which shows a journey taken from Kuala Lumpur to Langkawi in Malaysia.																	
 <p>Fig. 1</p>																		
Is the journey shown a unimodal or intermodal connection? Why do you say so?			2															
<p><i>While students were generally able to identify the journey as being unimodal, not all were able to explain correctly that it was</i></p>																		

<p><i>due to there being only one mode of transport. Many reasoned it as having no stops in between.</i></p> <ul style="list-style-type: none"> Unimodal [1] It involves travel by only one mode of transport which is by plane [1] 		
TOTAL MARKS	1	3

Section B

Answer all questions from this section.

QUESTION	AO1 +2	AO1 +3
2)		
<p>Study Fig. 2 which shows the population growth of the world's top 15 megacities from 2011 to 2025 (projected).</p>  <p>Legend:</p> <p>● 2011 — 2025</p> <p>Population (in millions) for 2011</p> <p>Projected population (in millions) for 2025</p> <p>Fig. 2</p>		
a) i) Describe the differences between the projected population growth of megacities in South America and Asia in Fig. 2.		4
<p><i>Some students failed to focus their answers on projected population growth, instead describing distribution of the cities or counting the number of megacities in one continent versus the other.</i></p>		

For some who described population growth, answers were not detailed enough to meet the mark allocation, describing only two differences. Some selected certain cities to describe but their intent is not clear (for e.g. were those cities selected because they had the highest growth amongst cities in the continent?). Thus, it came across as mere listing of data.

Students also need to be reminded that 'cities' and 'countries' are not the same and cannot be used interchangeably.

Some students erroneously describe the growth of North American cities instead.

Most though were able to provide data evidence to support their description.

General difference [1]	Data Evidence [3]
<ul style="list-style-type: none"> The projected growth in megacities in Asia is expected to be larger compared to South American cities [1] 	<ul style="list-style-type: none"> Growth in Asian cities such as Dhaka and Beijing are expected to be as high as 53% and 44% respectively [1]. The anomaly amongst Asian cities though is Tokyo which is expected to have the lowest growth of 5% amongst all Asian cities and even the South American cities [1] The highest growth for the South American cities is that of Rio de Janeiro at 17% growth (while the lowest is Buenos Aires at an expected 14% growth) [1]

- *Descriptions must be about differences only*
- *Anomaly of Tokyo must be identified*

ii) Account for two possible reasons for the differences described in Question 2(ai).

Most of the reasons given for the growth of Asian megacities were about a higher rate of rural-urban migration (due to a faster growing economy in these cities). Some astute students highlighted the fact that Tokyo likely had a larger population of elderly, thus accounting for a slower rate of growth when compared to others.

Weaker responses also stated the reason without elaborating how the reason could contributed to the population growth. For e.g. some stated that a possible reason is that these 'megacities were more technologically advanced' without explaining how this


leads to population growth. Quite a few also gave the reason as Asia having more land/space and therefore can support more people. This reason was not accepted, given that not every part of the land is habitable.

Misconceptions about South America and Asia need to also be addressed. There were responses that were very 'Asia-centric', dismissing South America as being backward, poorly developed and thus, not a place where anybody would want to live in.

Erroneous responses describe how there were more attractions in Asian cities, thus attracting more to live there; some discussed in terms of population densities. Again, some used the term 'countries' instead of 'cities'.

Reasons	Explanation
One possible reason is that there is a larger rate of rural-urban migration occurring in Asian cities compared to South American cities [1]	<ul style="list-style-type: none"> This adds to the existing large urban population already in cities [1]
Cities in Asia are developing (economically) at faster rates compared to South American cities [1]	<ul style="list-style-type: none"> More people move to these cities to seek opportunities to improve their lives (standard of living/quality of life/job opportunities/better education) [1] This could explain why Tokyo's population growth is much smaller as it is already at high levels of development and already had a large population (compared to other Asian cities) [1]
<ul style="list-style-type: none"> Greater improvement in healthcare/sanitation services in Asia compared to South American cities (South American cities were already at higher levels in terms of provision or healthcare/sanitation) [1] 	<ul style="list-style-type: none"> This helps contribute to natural population growth in cities (due to longer life expectancy/decline in infant mortality rates) [1]

- Accept other plausible differences

b)	Study Photograph A which shows informal housing in Rio de Janeiro, Brazil.	
<p style="text-align: center;">Photograph A</p> 		
i)	State and explain a reason why someone might be forced to live in informal housing settlements.	2
<p><i>Generally able to give plausible reasons. They need to make clear link between land prices and housing prices to be credited marks.</i></p> <p><i>Some students also made wrong assumptions that these were homes for only foreign workers.</i></p> <ul style="list-style-type: none"> Formal housing cost is too expensive and thus they are unable to afford it [1] There is not enough formal housing available so they have to live in informal housing [1] OR supply for formal housing unable to meet demand therefore they have to live in informal housing [1] 		
ii)	Why is the type housing shown in Photograph A considered unsafe?	2
<p><i>Some reasons given were not related to the unsafe nature of informal housing (e.g. legal rights) and these were not credited marks.</i></p> <p><i>Some responses also made no reference to the photograph.</i></p> <p><i>Students should also be reminded that they need to elaborate/explain their points. For e.g. 'unstable materials', 'treacherous conditions' were mentioned with elaborating what they meant by unstable materials or treacherous conditions.</i></p> <ul style="list-style-type: none"> The houses are built on a hill slope, making the area vulnerable to landslides (especially during heavy rains) which would destroy the homes/lead to loss of lives [1] 		

	<ul style="list-style-type: none"> • The houses are also densely packed and infectious diseases can easily spread due to the close interactions amongst residents [1] • Houses do not appear to be built according to safety regulations with additional levels added/flimsy or poor construction materials [1] • Accept other reasons related to safety 		
c)	Explain how public housing can be made inclusive.	3	
	<p><i>Responses generally focused on describing the various infrastructure and amenities that made an area more inclusive. While the intent of the question was to be a broader discussion on inclusivity in public housing, these were also awarded marks. There still however needs to be an explanation of how the presence of such amenities made for more inclusive public housing still needed to be explained. This was not effectively explained by most students.</i></p> <ul style="list-style-type: none"> • *Inclusive public housing involves design features to enable residents to feel a sense of belonging and at ease in their housing estate as there are <u>equal opportunities for all (despite their varying needs)</u> [1] • A range of housing can be available to cater for different family sizes/income levels e.g. larger apartments can be available for extended families → these will ensure everyone can have access to the basic need of housing (shelter) • Inclusiveness also involves providing facilities and amenities for residents of different ages and physical abilities e.g. inclusive playgrounds or 3G playgrounds which allow different age groups to use the area for leisure activities, promoting interaction [1] 		
d)	Study the information below (Fig. 3) about the Tengah New Town in Singapore.		
	<div> <p>Tengah New Town is the 24th new housing estate being developed by the Housing Development Board (HDB). It is, however, the first with centralised cooling and a car-free town centre.</p> <p>Instead of individual air-conditioners, each home can be cooled by chilled water piped from centralised chillers powered by solar power and installed on the rooftops. This technology enables the town to achieve a lower carbon footprint than similar HDB estates in Singapore.</p> </div>		

"Roads are planned to run beneath the town centre, freeing up space at the ground level for retail and recreational use," HDB said.

"Separated from roads and traffic, the heart of the town centre will be safe and friendly for residents to walk and cycle."

Adapted from Channel News Asia and CNN

Fig. 3

With reference to Fig. 3, define the term 'carbon footprint' and describe the features of the town which can reduce carbon footprint.

3

Weaker responses merely repeated the various features as stated in the article without making the link to them helping in the reduction of carbon footprint. Some responses were also unsure or were unable to explain how a car-free town centre would contribute to the reduction of carbon footprint.

Definition:

- Carbon footprint is the measure of greenhouse gases emitted to **support human activities by individuals/communities**, measured in carbon dioxide equivalents [1]

Features	Describe
Centralised cooling	Reduces the need for individual homes to operate their own air conditioners which will require more electricity which is generated by fossil fuels [1]
Use of solar power	Reduces the need to use/burning of fossil fuel which would contribute more GHG to the atmosphere [1]
Car-free town centre/ pedestrian-friendly/ cyclist-friendly	Reduces the need for transport which produce GHG emissions as more can take advantage of non-motorised mobility options [1]

- Definition [1] + 2 features described [2]
- Description needs to include why it is a low carbon footprint option

TOTAL

5

13

Section C

Answer Question 3 from this section.

Question		AO1 +2	AO 1 +3
3	a) Why is it important for transport systems to improve people's mobility?	2	
	<p>[Mobility is NOT the same as accessibility</p> <ul style="list-style-type: none"> • Mobility is the ability of people/freight to move (see TB pg 128) • Accessibility is the ease of reaching destinations/activities (see TB pg. 104)] <p><i>Weak responses tended to lack explanation. E.g. "it is important to improve people's mobility so that there is high inclusivity" or "it is important for transport systems to improve people's mobility so that people have increased productivity and a better quality of life".</i></p> <p><i>Students did not appear to know the difference between mobility and accessibility and thus instead explained why there is a need to improve accessibility e.g. for e-commerce, productivity.</i></p> <ul style="list-style-type: none"> • Mobility allows access to basic goods and services [1] • It also facilitates social interactions that are necessary for our emotional well-being [1] 		
	b) Fig. 4 (on page 11) shows a map of Bangkok, Thailand.		
	i) With reference to Fig. 4, identify a mode of transport people can use to travel to the shopping area of Siam Square and MBK Centre from Victory Monument.		1
	<ul style="list-style-type: none"> • Skytrain / car / taxi • 1 mark each • Answer should be based on map 		
	ii) Account for the differences in the density of road networks in Bangkok between the eastern and western parts of Bangkok as seen in Fig. 4.		4

Most were able to identify the point that there is greater density of road networks in the west compared to the east. In general, most were also able to point out the fact there were more attractions in the west compared to the east (but few saw the other activities in the area other than that). However, evidence from Fig. 4 was hardly cited and explanation linking the presence of attractions and resulting need for accessibility was missing from many answers.

Weaker responses contrasted the difference in density between the eastern and western parts and explained the reason as there being more roads in one area compared to another, which is a repetition of the earlier point.

It is also possible that some forgot what the instruction word 'account for' involved. These answers failed to explain possible reasons for the patterns seen. These answers mainly described the patterns.

Difference [1]	<ul style="list-style-type: none"> • The area in the west of Bangkok has a greater density of road networks compared to other parts of Bangkok
Reason [1]	<ul style="list-style-type: none"> • This is because this is also the area where a variety of activities are found <p>OR</p> <ul style="list-style-type: none"> • There is a lack of alternative transport modes in the western parts compared to the eastern parts
Examples/ Evidence from map [1] (any 2 from map for 1 mark – 0 marks if only 1 is mentioned)	<ul style="list-style-type: none"> • This includes tourist sites such as Bangkok National Museum and Democracy Monument • This area is also closer to the Chao Phraya River where many piers are found • There are also many temples here such as Wat Chana Songkharam <p>OR</p> <ul style="list-style-type: none"> • As seen in the eastern half, other than roads there are railways passing through the area connecting to the north and further east • Skytrains connecting various shopping areas

	<table><tr><td>Explanation [1]</td><td><ul style="list-style-type: none">Thus, it is important for the area to be accessible so that visitors know how to get there<p>OR</p><ul style="list-style-type: none">The presence of these alternative modes meant that there need not be as many roads to connect areas</td></tr></table>	Explanation [1]	<ul style="list-style-type: none">Thus, it is important for the area to be accessible so that visitors know how to get there <p>OR</p> <ul style="list-style-type: none">The presence of these alternative modes meant that there need not be as many roads to connect areas				
Explanation [1]	<ul style="list-style-type: none">Thus, it is important for the area to be accessible so that visitors know how to get there <p>OR</p> <ul style="list-style-type: none">The presence of these alternative modes meant that there need not be as many roads to connect areas						
c) i)	Describe the characteristics of traffic congestion.	2					
	<p>Characteristics of traffic congestion:</p> <ul style="list-style-type: none">Long queue of slow-moving vehicles [1]High volume of vehicles [1]Tend to occur during peak periods [1] <p>Impacts of traffic congestions are not accepted</p> <ul style="list-style-type: none">Any 2 points						
ii)	Describe the impacts of traffic congestion on people and the environment.	4					
	<p>Students were generally able to provide appropriate responses. However some responses were related to economic impact instead of on people and the environment.</p> <table><tr><td>Impact on people (2 marks)</td><td>Impact on environment (2 marks)</td></tr><tr><td><ul style="list-style-type: none">Long travelling times tires out drivers and passengers [1]May then become frustrated and display aggressive behaviour or lose concentration, increasing the risk of accidents [1]</td><td><ul style="list-style-type: none">The repeated acceleration after stopping burns more fuel [1]This leads to higher carbon dioxide emissions, worsening air quality [1]ORcontributing to climate change [1]</td></tr></table>	Impact on people (2 marks)	Impact on environment (2 marks)	<ul style="list-style-type: none">Long travelling times tires out drivers and passengers [1]May then become frustrated and display aggressive behaviour or lose concentration, increasing the risk of accidents [1]	<ul style="list-style-type: none">The repeated acceleration after stopping burns more fuel [1]This leads to higher carbon dioxide emissions, worsening air quality [1]ORcontributing to climate change [1]		
Impact on people (2 marks)	Impact on environment (2 marks)						
<ul style="list-style-type: none">Long travelling times tires out drivers and passengers [1]May then become frustrated and display aggressive behaviour or lose concentration, increasing the risk of accidents [1]	<ul style="list-style-type: none">The repeated acceleration after stopping burns more fuel [1]This leads to higher carbon dioxide emissions, worsening air quality [1]ORcontributing to climate change [1]						
d)	With the use of an example, discuss the effectiveness of the strategy of road pricing to manage road congestion.	5					

A number of responses were about vehicle quota which is not what the question asked. Those who discussed road pricing did not clearly define or described what road pricing entailed clearly.

Many also did not describe the challenges of the strategy and/or provide examples of where this strategy has been enacted.

'ERP' (Electronic Road Pricing) should be written in full first.

Description of road pricing	This involves charging drivers a fee for use of <u>certain roads during specific time periods</u> [1]
Why it works	This would make driving costlier compared to public transport, deterring some from driving [1] Thus, congestion will be reduced with fewer vehicles on the road [1]
Why it may not work	Traffic might be diverted elsewhere and cause congestion there [1]
Example	Stockholm, Sweden saw a 20% drop in traffic in and out of city centre / traffic delays decreased by 30 to 50% after they implemented congestion pricing [1]

TOTAL MARKS

13

5