PIONEER JUNIOR COLLEGE
JC2 Preliminary Examination
Higher 1

GEOGRAPHY 8813/01

Paper 1 **11 September 2017**

3 hours

Additional Materials: Answer Paper
World outline map

READ THESE INSTRUCTIONS FIRST

Write your Name, Class and Index Number on the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a HB pencil for any diagrams or graphs.
Do no use staples, paper clips, glue or correction fluid.

Answer **four** questions in total.
Section A
Answer Question 1.
Section B
Answer Question 2.
Section C
Answer two questions, each from a different theme.

The Insert contains all the Resources referred to in the questions.
You should make reference to appropriate examples studied in the field or the classroom, even where such examples are not specifically requested by the question.
Diagram and sketch maps should be drawn whenever they serve to illustrate an answer.
The world outline map may be annotated and handed in with relevant answers.
You are reminded of the need for good English and clear presentation in your answers.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

Section A

Theme 3: Geographical Investigation

1 Your class was divided into groups of 4 to undertake a fieldwork exercise to investigate the influence of land use on infiltration rates in Singapore.

Your group chose to conduct the study at 2 sites of different landuse. Site A is a built up residential area in Bukit Batok whilst Site B is a nature park in Bukit Batok.

Your group identified one suitable point at each site to conduct the investigation and took measurements twice: on a Saturday morning and early afternoon in June 2017. Your group was given 3 hours to complete each measurement.

The following equipment were provided to measure infiltration rate at the two different land use sites:

- Single-ring infiltrometer comprising a tin can about 30cm tall with a diameter of 10cm with both ends of it removed.
- 1.5 litre bottle of water
- A ruler
- Hammer
- Wooden plank
- Stopwatch

At the respective sites, the tin can was driven into the soil to about 10cm deep by using a hammer onto a wooden plank placed on the rim of the can. A ruler was placed vertically inside the tin can to record the fall in water level.

Water was poured to a depth of 10cm. Measurements of the remaining depth of water was taken every 15 minutes to compute the infiltration rate. At the same time constant top-ups of water were carried out to maintain a regular head of water above soil.

Your group also collected soil samples from both sites. It was deduced that the soil collected from Site A was clay whilst the soil collected at Site B was sand.

Resource 1 shows photographs of Sites A and B where the study was conducted. Resource 2 shows data collected on infiltration rates at Sites A and B. Resource 3 shows photographs of the soil samples collected at both sites.

(a) With reference to Resource 1, suggest a suitable hypothesis for your group investigation. [1]

(b) Explain how your group would minimise the impact of your investigation differently at the two sites shown in Resource 1. [5]

(c) With reference to Resource 2, sketch a line graph to represent the infiltration rates for Site A and Site B over time respectively. Suggest 2 reasons why this method may be better than the one depicted in Resource 2. [5]

(d) Your group concluded that some of the infiltration data collected may not be completely reliable and/or accurate.
Explain how the process of data collection could be improved. [7]

(e) Evaluate the usefulness of Resource 2 and Resource 3 in helping to understand the influence of landuse on infiltration rates in Singapore. [7]

Section B

Theme 2: Urban Change

Urban Issues in Brazil

2 Favelas in Brazil refer to slums located within or on the outskirts of the country's large cities. Resource 4 depicts the location of favelas in Brazil. Resource 5 shows a photograph of a favela in Rio de Janeiro. Resource 6 shows changes in service provision in a favela in Rio de Janeiro. Resource 7 shows an article on the relocation of slum dwellers in Rio de Janeiro prior to the World Cup.

(a) Describe the location of favelas in Brazil as depicted in Resource 4. [3]

(b) Explain the characteristics of favelas as seen in Resource 5. [5]

(c) With reference to Resource 5, explain the potential hazards faced by slum dwellers. [4]

(d) Account for the changes in service provision in favelas as shown in Resource 6. [5]

(e) With reference to Resource 7, evaluate the Brazilian government's strategy of relocating slum dwellers. [8]

Section C

Answer two questions from this section. **Either** Question 3 **or** Question 4 and **Either** Question 5 **or** Question 6.

Theme 1: Climate Change and Flooding

3 **(a)** Explain the possible effects of climate change on human activity. [9]

(b) 'Utilizing alternative energy sources is the most promising measure to combat against climate change.' To what extent do you agree with this statement? [16]

4 **(a)** Explain the atmospheric and surface conditions necessary for the development of tropical cyclones. [9]

(b) 'Soft-engineering strategies are the most effective protection against flooding.'To what extent do you agree with this statement? [16]

Theme 2: Urban Change

5 **(a)** Explain why the ecological footprint of cities vary at different levels of development. [9]

(b) 'The key to managing waste in cities sustainably is to reduce waste generation.' To what extent do you agree with this view? [16]

Commented [CKL1]: Same comment as above

6 **(a)** Explain how the issue of **either** crowding **or** fear is produced in cities in countries at high levels of development. [9]

(b) Assess the success of strategies used to mitigate the issue of **either** crowding **or** fear in the city. [16]

Commented [CKL2]: Following from the previous question, would it mean that the student need to evaluate the strategies undertaken by a city in countries of high development?

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Insert

3 hours

READ THESE INSTRUCTIONS FIRST

This Insert contains all the Resources referred to in the questions.

Resource 1 for Question 1

Site A

Site B

Resource 2 for Question 1

Data collected from Site A (Residential area)

Time	Infiltration rate (mm/hr)
15 mins	65
30mins	50
45 mins	30
60 mins	15
75 mins	10
90 mins	10
105 mins	10
120 mins	10

Data collected from Site B (Nature Park)

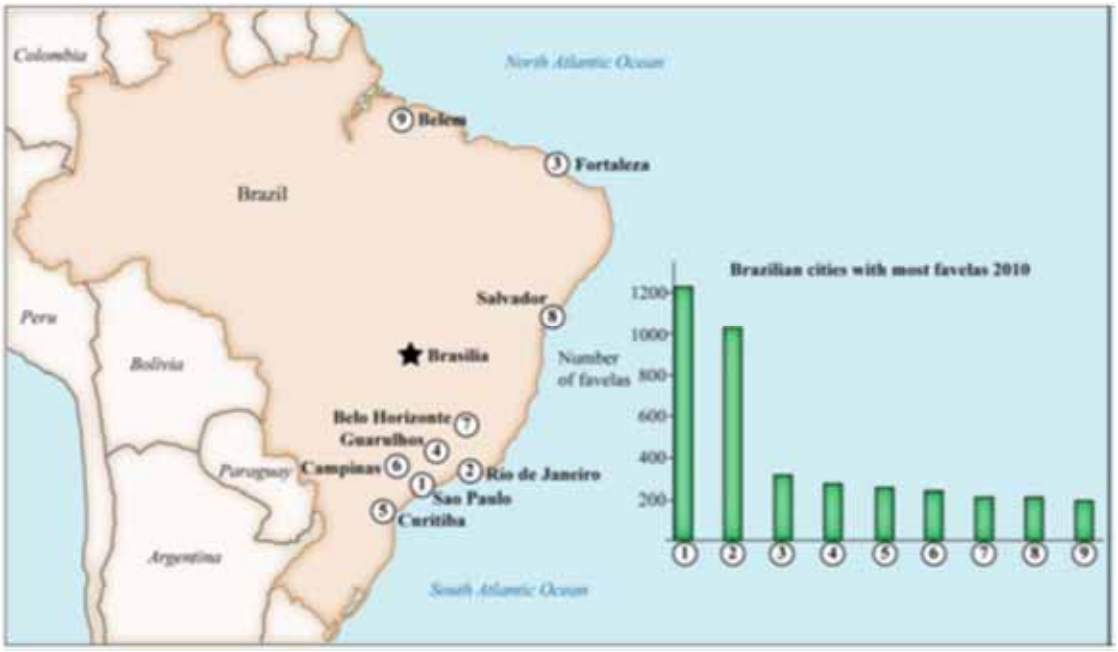
Time	Infiltration rate (mm/hr)
15 mins	125
30mins	110
45 mins	85
60 mins	80
75 mins	75
90 mins	70
105 mins	70
120 mins	70

Resource 3 for Question 1

Photograph of soil sample at Site A

Photograph of soil sample at Site B

Resource 4 for Question 2
Location of favelas in Brazil



Resource 5 for Question 2
Photograph of a favela in Rio de Janeiro

Resource 6 for Question 2
Service provision in a favela in Rio de Janeiro, Brazil

	2000	2010
households with:	%	%
electricity	32	80
piped water	71	75
main sewers (sanitation)	11	51

Resource 7 for Question 2
Article on relocation of slum dwellers

The World Cup and the Olympics are being used as a pretext for "social cleansing" as tens of thousands of Rio slum dwellers are driven out to the city periphery, favela residents say. While millions of eyes turn to north-eastern Brazil for the World Cup draw on Friday, poor communities in Rio de Janeiro are still struggling to be heard as they fight against evictions they say are related to the city's mega sporting events.

At least 19,000 families have been moved to make way for roads, renovated stadiums, an athletes' village, an ambitious redevelopment of the port area and other projects that have been launched or accelerated to prepare the city for the world's two biggest sporting events. Countless communities are affected. As was the case in Beijing, London and South Africa before their mega events, the government says such programmes are necessary to modernise the city. Among the best known is Vila Autódromo, which will be the site of the main Olympic stadium and athletes' village.

The authorities insist that due process has been followed and no residents have been forcibly relocated. In Vila Autódromo the mayor said he would move people to a new place and build nice housing projects for people to move to a new area. “People started protesting, saying you couldn't evict people because of the Olympics. So after some time, the city admitted they should not have forced them to go. They talked to each one of the people living in that area, roughly half said they wanted to move and the other half wanted to stay," he said. "Then when they started to see the project going up they realised it was very nice and so they came here to demonstrate and demand to be moved to the new housing! The city talked to everyone."

This is refuted by residents. And in less prominent cases, residents complain of being harassed by officials and engineers who tell them their homes are not safe. In some cases, this is true. Thousands have died over the years in the floods and landslides that affect many river and hillside favelas during the annual rainy season.

Adapted from: https://www.theguardian.com/world/2013/dec/05/world-cup-favelas-socially-cleansed-olympics

END

H1 GEOGRAPHY PRELIMS 2017 MARKING GUIDE

Theme 3: Geographical Investigation

1 **(a)** **With reference to Resource 1, suggest a suitable hypothesis for your group investigation.** **[1]**

Possible responses can include:

- Site A would have a lower infiltration rate than Site B
- The residential area in Bukit Batok would have a lower infiltration rate than the nature park.

Award 1 mark for a suitable hypothesis.

(b) **Explain how your group would minimise the impact of your investigation differently at the two sites shown in Resource 1.** **[5]**

Indicative content:

- At the nature park→ minimize impact on the ecosystem through measures such as:
  - Minimize the removal of vegetation when driving the tin can into the soil
  - After removing the tin can at the end of investigation, ensure soil is evened out
  - Avoid littering at the nature park
- At the residential area→greater concern will be minimizing social impacts
  - Minimize disturbance to residents by conducting investigation away from pathways/ avoid obstructing pathways
  - Minimize noise when conducting investigation as residential blocks are within close proximity

Level	Marks	Descriptors
3	5	Response demonstrates accurate knowledge of geographical investigation methods and potential damage they might cause at both sites with a thorough explanation of strategies used to alleviate these. Reflects a good understanding of the context of the investigation and of work in the field.
2	3–4	Response demonstrates good knowledge of geographical investigation methods and their potential damage to the fieldwork sites. Provides an explanation of ways to minimise this damage, which may be limited in depth and detail or apply mostly to only one site. Some of the response may address generic fieldwork problems not relevant to the context of the investigation.
1	1–2	Response shows some knowledge of relevant geographical investigation methods and the ways in which they may cause damage at the two fieldwork sites. Strategies mentioned in the response may be generic to fieldwork but of limited relevance to the given context.
0	0	No creditworthy response.

(c) **With reference to Resource 2, sketch a line graph to represent the infiltration rates for Site A and Site B over time respectively. Suggest 2 reasons why this method may be better than the one depicted in Resource 2.** **[5]**

- Award 3 marks for a valid line graph depicting the infiltration rates for both sites. Marks awarded for title, accurate proportion, accurate labelling of axis and line graphs.

- For reasons, point marked. Award 1 mark for each valid reason
  - Able to see infiltration over time better visually
  - Able to provide a better comparison across both sites as it is represented in 1 diagram

(d) **Your group concluded that some of the infiltration data collected may not be completely reliable and/or accurate.**
Explain how the process of data collection could be improved. **[7]**

Indicative content:

- Conduct investigation on more than one day as conditions may change based on rainfall events
- Repeat experiment at 2 different sampling points to increase reliability
- Use a double ring infiltrometer instead as it can minimize lateral flow of water
- Pick a shaded spot to conduct investigation to minimize water loss through evaporation which can affect accuracy of data

Level	Marks	Descriptors
3	6-7	Response demonstrates accurate knowledge of infiltration data collection methods. Issues with both accuracy and/or reliability of these and relevant improvements. Reflects a good understanding of context of the investigation and of data collection techniques
2	3—5	Response demonstrates good knowledge of infiltration data collection methods. Provides an explanation of issues relating to reliability and/or accuracy with some reference to possible improvements. Description may be limited in depth and detail. Some of the response may focus on generic fieldwork issues and improvement and not relevant to the context of investigation.
1	1-2	Response shows some knowledge of relevant data collection methods. Some reference is made to issues with accuracy and reliability but may recommend inappropriate or irrelevant improvement or provide incorrect explanation of methods. Response may be of limited relevance to the given context.

(e) **Evaluate the usefulness of Resource 2 and Resource 3 in helping to understand the influence of landuse on infiltration rates in Singapore.** **[7]**

Indicative content:

- Opinion/stand?
- How has it improved understanding?
  - Data collected has shown that landuse has a significant impact on infiltration rate as depicted in Resource 2. For nature park, infiltration took place for a longer time before reaching capacity whilst for the residential area, it took a much shorter time. (105 mins vs 90mins). Infiltration rate was also higher for nature park (max of 125mm/hr) compared to residential area (max of 65mm/hr)
  - Collecting soil samples as shown in Resource 3, has shown that soil type can also play a significant role in affecting infiltration at different landuses. Sandy soil collected in the nature park allows more water to pass through as it has larger pore spaces, allowing more infiltration to take place. On the other hand, clay has small pore spaces and swells up when it absorbs water, slowing down the entry of water into the soil attributing to the low infiltration rate as well as reaching of infiltration capacity.
- However, there are limitations….
  - Other factors may also have affected the infiltration rate (compaction, slope, previous rainfall events)

- In terms of data collection scale (too few locations), location (choice of landuses), frequency
- Sum up, reiterate stand.

Level	Marks	Descriptors
3	6-7	Response demonstrates accurate knowledge and understanding of geographical investigation skills and methods relevant to the given context. provides a logical and well-developed evaluation, which may include perceptive insights for the strongest responses. Reflects strong critical thinking skills and a good understanding of the requirements of the question.
2	3-5	Response demonstrates good knowledge and understanding of geographical investigation skills and methods relevant to the given context. provides an evaluation, which may be limited in depth and detail. Response reflects critical thinking skills in general but may not always be relevant to the question.
1	1-2	Response shows inadequate knowledge and understanding of geographical investigation skills and methods. Response has some, though limited, relevance to the given context. Provides little or no evaluation. May include material that is irrelevant to the question.

Section B

Theme 2: Urban Change

Urban Issues in Brazil

2 (a) Describe the location of favelas in Brazil as depicted in Resource 4. **[3]**

Possible responses:

- Cities with the most favelas are concentrated in the eastern coast of Brazil.
- Largest concentration of favelas are in Sao Paulo and Rio de Janeiro which have about 1200 and 1000 favelas respectively
- Most of the favelas are located in a cluster in SE Brazil with 6 of them in close proximity to each other

Point marked. 1 mark for each valid point.

(b) Explain the characteristics of favelas as seen in Resource 5. **[5]**

Indicative content:

- Overcrowded with houses located at very close proximity to each other due to large population sizes
- Located on steep hillside (hazardous/unfavourable land) as favela dwellers are probably unable to afford proper housing
- Haphazard structure of houses with lack of proper roofing due to lack of finances of slum dwellers

Level	Marks	Descriptors
3	**5**	Response demonstrates accurate knowledge of characteristics of favelas. Explanation is detailed, thorough and relevant. Reference made to resource in response and information from resource used to substantiate response.
2	**3-4**	Response demonstrates adequate knowledge and understanding of characteristics of favelas. Explanation is valid but may be somewhat limited in relevance and detail. Some of the response may not fully address the context of the question. Limited reference made to resource,
1	**1-2**	Response demonstrates limited or no knowledge and understanding of characteristics of favelas. Explanation lacks detail. Overall the response does not the address the context of the question. No reference made to resource.

(c) **With reference to Resource 5, explain the potential hazards faced by slum dwellers.** **[4]**

Possible responses can include:

- Destruction to property and loss of lives due to landslides as steeper hillslopes are more susceptible
- Overcrowded conditions can lead to easy transmission of diseases (health hazards)
- Exposed cabling wires can pose fire/electrocution hazard

Point marked. Any 2 well explained hazards for 2 marks each.

(d) **Account for the changes in service provision in favelas as shown in Resource 6.** **[5]**

Indicative content:

- In 10 years, there has been significant improvement in service provision where households with electricity has more than doubled from 32% to 80%, households with sewers have increased by more than 4x from 11% to 51%
- However, though households with piped water was the highest in 2000 at 71%, there was only a minimal increase of 4%
- The significant improvement to service provision could be due to government efforts to upgrade slums (due to increase in funds available from rapid economic development), NGO/international organizations efforts in recent decades to embark on bottom up initiatives to improve the quality of slums.
- However, with increasing demands of water as well as water scarcity, piped water provision could have seen the least improvement though the % are relatively high for a favela.

Level	Marks	Descriptors
3	**5**	Response demonstrates accurate knowledge of service provision in favelas. Explanation is detailed, thorough and relevant. Reference made to resource in response and information from resource used to substantiate response.
2	**3-4**	Response demonstrates adequate knowledge and understanding of service provision in favelas. Explanation is valid but may be somewhat limited in relevance and detail. Some of the response may not fully address the context of the question. Limited reference made to resource,
1	**1-2**	Response demonstrates limited or no knowledge and understanding of service provision in favelas. Explanation lacks detail. Overall the response does not the address the context of the question. No reference made to resource.

(e) **With reference to Resource 7, evaluate the Brazilian government's strategy of relocating slum dwellers.** **[8]**

Indicative content:

- Opinion/stand?
- Benefits of relocation: improves the image of the city, modernises the city to attract more tourists/investments in events such as the World Cup and Olympics. Relocates residents from hazardous areas which are exposed to floods and landslides which can improve their living environment and quality of living.
- Drawbacks: However, residents are forcibly evicted from these areas and economic concerns are prioritised over social needs. Relocation may affect their way of lives as new housing may be located at the outskirts/unfamiliar areas.
- Sum up and weigh points, reiterate stand.

5

Level	Marks	Descriptors
3	**7-8**	Response demonstrates clear knowledge and understanding of the context in the question. Uses relevant, detailed and accurate factual information and conceptual understanding. Reflects strong critical thinking skills. Source(s) is well used to support the response. • Provides a logical and well-developed evaluation well founded on evidence and/or different viewpoints. **OR** • Makes a decision which clearly addresses different elements of the issue and/or interests of different stakeholders.
2	**4-6**	A satisfactory response which is generally sound and contains relevant points, but may not always focus on the context in the question. Uses factual information and conceptual understanding that is generally relevant to the given context but lacks detail and may contain some inaccuracies. Displays general critical thinking skills. Source(s) is used to support parts of the response. • Provides and evaluation, which may be limited in depth and insufficient evidence and support used. **OR** • Shows some attempt to address different elements of the issue and/or views of different stakeholders when making a decision but is not well-developed or exemplified.
1	**1-3**	Response shows a poor understanding of the context in the question. Uses basic factual information and conceptual understanding which has some, but limited, relevance to the question. Source(s) is not used or not accurately used to support the response. • Provides little or no evaluation. **OR** • Evidence of decision-making, if present, are simple and may be flawed and contains no reference to views of stakeholders.
0	**0**	No creditworthy response.

Section C
H1 generic level descriptors for 9m SEQ sub-part (a)

Level	Marks	Descriptors
3	7-9	Response is consistently analytical and explanatory rather than descriptive. There is a clear focus on the question. Depth of relevant knowledge and understanding exemplified throughout. The response is coherent and the use of terminology is accurate.
2	4-6	Response includes analysis and explanation but is generally dominated by description for weaker responses. Response reflects relevant knowledge and understanding of the question. Response is structured and organised satisfactorily but may be unclear in parts. Use of terminology is generally accurate.
1	1-3	Response does not address the requirements of the question fully. Depth of knowledge and understanding shown is limited. Response is generally fragmentary and lacks a clear structure and organisation. There may be many unsupported, brief or incomplete assertions and/or arguments with some inaccurate use of terminology.
0	0	No creditworthy response

H1 generic level descriptors for 16m SEQ sub-part (b)

Level	Marks	Descriptors
4	13 – 16	Response shows strong evaluative elements. Evaluation is relevant and comprehensive. Response fully addresses the question and features accurate knowledge, reflecting depth of understanding. The argument or discussion is coherent and well support by relevant material. Use of terminology is accurate.
3	9 – 12	Response displays a sound evaluative element. Response addresses the question and features accurate knowledge, reflecting depth of understanding. The argument or discussion is coherent and supported by relevant material. Use of terminology is relevant and mostly accurate.
2	5 – 8	Response has some elements of evaluation but is broadly descriptive. Response exemplifies knowledge and understanding of the question and is generally relevant. The weakest responses may lack balance and/or depth. Response structure is broadly coherent but may lack clarity. Use of terminology is inconsistent though generally accurate.
1	1 – 4	Response shows little or no evaluation. Response lacks focus on the question and may largely irrelevant to it. Response is fragmentary and lacks clarity. There may also be unsupported assertions and/or arguments with limited or no use of terminology.
0	0	No creditworthy response.

Theme 1: Climate Change and Flooding

3 (a) Explain the possible effects of climate change on human activity. **[9]**

Indicative content:
Candidates should demonstrate an understanding of impacts of climate change on human activities in terms of economic, social and environmental aspects. Economic aspects can include effects on livelihoods such as agriculture and fishing. Social aspects can include damages to property, loss of lives, increased prevalence of diseases like malaria etc. Environmental aspects can include quality of living environment which may be affected by heatwaves/droughts/floods etc

A higher level response will acknowledge spatial variations in these effects, where people living in lower income countries are likely to be more susceptible to the effects of climate change due to increased vulnerability and risk.

Levels marked using H1 generic level descriptors for 9m SEQ sub-part (a).

(b) 'Utilizing alternative energy sources is the most promising measure to combat against climate change.' To what extent do you agree with this statement? **[16]**

Indicative content:
Candidates should evaluate the use of alternative energy sources such as solar and wind energy and demonstrate an understanding of both benefits and limitations. Candidates should acknowledge that utilising alternative sources of

energy may be just one solution and it needs to be complemented with other measures as well for managing climate change such as international agreements to cur carbon emissions or adaptation measures such as drought resistant crops or managing coastline retreat.

A higher level response would acknowledge spatial and temporal variations in tackling climate change with financing and technology as a key concern for lower income countries. Candidates can also question whether it is even possible to combat against climate change.

Levels marked using H1 generic level descriptors for 16m SEQ sub-part (b).

4 (a) Explain the atmospheric and surface conditions necessary for the development of tropical cyclones. **[9]**

Indicative content:

- In explaining the development of tropical cyclone, atmospheric conditions need to be explained clearly and should be clearly delineated from surface conditions.
- A well-annotated diagram of tropical cyclone showing the structure and various atmospheric and surface conditions for its development is a must for this question.
- A higher level response will analyse how these conditions lead to spatial differences in where cyclones develop or how these conditions are exacerbated due to climate change and greater warming of ocean bodies.

Levels marked using H1 generic level descriptors for 9m SEQ sub-part (a)

(b) 'Soft-engineering strategies are the most effective protection against flooding.'To what extent do you agree with this statement? **[16]**

Indicative content:

- Soft engineering strategies include flood abatement (the afforestation of watersheds, contour ploughing in the river basin, etc.) and flood diversion (diversion spillways into floodplains and wetlands).
- Besides evaluating the effectiveness of such strategies, other strategies can be expected (choose) to develop the evaluation. Other strategies (both in the urban area and its catchment) include prediction e.g. using past events to indicate scale of threat, preventative planning - e.g. avoid building on flood plains, adaption (e.g. build settlements on stilts), early warnings (improved communications) and evacuation drills, hard engineering strategies which include the construction of embankments (levees), channel deepening and straightening, use of gabions, overflow or relief channels, storage areas, dam construction.
- A higher level response should consider a diverse range of strategies. Candidates could agree with the statement and provide justification where soft engineering strategies were successful and highlight instances where other strategies failed. Alternatively, candidates could explain how hard engineering strategies work and in instances where they don't, these are often exceptions than the norm. Candidates could also disagree with the statement and emphasise how successful

examples of flood management always include both hard and soft engineering strategies.

Levels marked using H1 generic level descriptors for 16m SEQ sub-part (b).

Theme 2: Urban Change

5 (a) Explain why the ecological footprint of cities vary at different levels of development. **[9]**

Indicative content:

- Candidates should be able to explain the concept of ecological footprint which is a quantitative assessment of all the biophysical resources needed to support the consumption of particular groups of people, a country, or city, for example, in terms of the raw materials and energy used to extract, produce and transport manufactured goods and for their disposal. It is typically expressed in terms of hectares of biologically productive area (of world average productivity) that are required to support that activity.
- Ecological footprint of cities show variations at different levels of development. London's ecological footprint for instance is estimated to be 125 times its actual size and in Calgary, Canada estimated footprint is a high of 9.8 hectares. City-based consumers and industries based in wealthy nations have the capacity to draw resources from far beyond their immediate regions and have increasingly appropriated the carrying capacity of rural regions in other nations, with little apparent regard for the environmental impact of their actions.
- Among developing countries, the urban imprint is generally less far-reaching, but nevertheless exerts a fundamental influence on ecosystems within the city region e.g Jakarta overabstracting water
- Therefore due to increased waste generation as well as resource consumption, cities in developed countries tend to have a larger ecological footprint.
- A higher level response could draw on examples of cities at different levels of development and analyse/weigh the causal factors behind these variations and include spatial variations

Levels marked using Hl generic level descriptors for 9m SEQ sub-part (a)

(b) 'The key to managing waste in cities sustainably is to reduce waste generation.' To what extent do you agree with this view? **[16]**

Commented [CKL1]: Same comment as above

Indicative content:

- Candidates should be able to discuss strategies of waste management and consider the benefits and drawbacks as well as limitations posed in reducing waste generation.
- Answers should draw on cities at different levels of development to analyse the effectiveness of strategies.
- Besides, reducing waste generation through recycling/takeback programmes, answers can also include landfills and incineration as a complementary strategy to waste management.
- Link must be made to concepts of sustainability (is it sustainable in the long run?, is it environmentally pollutive?, is it feasible? etc)
- A higher level response could look at the spatial variations when managing waste sustainably as countries at different levels of development are likely to face differing issues/concerns

6 (a) Explain how the issue of either crowding or fear is produced in cities in countries at high levels of development. **[9]**

Indicative content:

For fear in the city:

- Answers may consider how cities at high levels of development (e.g. economic, social, environmental) may host factors which contributes to fear. There are several sources of fear in the city (e.g. crime and terrorism).
- Fear may be derived from known or actual risk, for example in relation to the experience of crime or the interpretation of published crime statistics, or in terms of the perception of crime. Perception depends on the interplay of elements including the characteristics of the individual, the physical environment, past experience, the representation of crime in the media, etc.
- Fear of terrorism may be associated with particular strategic locations, such as government buildings or airports; with certain religious or cultural activities; or be identified with certain groups of city residents or city visitors.
- Fear in the city may also be defined in part in relation to gender, such as for a woman travelling around or living in the city on her own, and age, where the young and the elderly may be less secure and more vulnerable to fear.
- A higher level response will identify traits or characteristics associated with cities at high levels of development and make explicit links to how these contribute to fear in cities. For instance, a city with a high level of economic development may raise the international profile of the city and makes it a possible target for terrorists and hence increased fear amongst residents in the city.

Levels marked using HI generic level descriptors for 9m SEQ sub-part (a)

(b) Assess the success of strategies used to mitigate the issue of either crowding or fear in the city. **[16]**

Commented [CKL2]: Following from the previous question, would it mean that the student need to evaluate the strategies undertaken by a city in countries of high development?

Indicative content:
Having established the factors which contribute to fear in the city in part (a), candidates would now explain how to better cope with fear.

- For fear in the city, strategies to cope with fear include public information services, and control of the media; enhanced legal powers and law enforcement; and public safety strategies, from a visible presence of armed police on city streets and at airports and seaports, to investment in 'safe' living environments such as the provision of street lighting/street cameras to reduce crime or strengthened border controls to seek to reduce the threat of terrorism.
- Answers should include a discussion of both successes and failures in mitigating the chosen issue (crowding or fear).
- A higher level response could look at the effectiveness of strategies with reference to 1-2 specific case studies. Another possible approach could be to analyse the application of selected strategies in different cities and account for their success(es) and failure(s).

Levels marked using H1 generic level descriptors for 16m SEQ sub part (b)