INDEX NUMBER

Anglo-Chinese School

(Independent)

FINAL EXAMINATION 2017
INTEGRATED PROGRAMME
YEAR 2

GEOGRAPHY
MARKING SCHEME

Wednesday   11 October 2017   1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Write your index number in the boxes at the top of this page.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams and graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Section A
Answer all the questions.

Section B
Answer all the questions.

Write all answers in the spaces provided.
Candidates should support their answers with the use of relevant examples.
Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

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

For examiner's use	
Question No	Marks obtained
1	/5
2	/4
3	/5
4	/3
5	/6
6	/2
7	/3
8	/3
9	/4
10	/5
Total	/40

This marking scheme consists of **15** printed pages.

[Turn over

Section A: Topographical Map [5 marks]

1. Fig. 1 shows a 1:32,000 map of the downtown area in Singapore.
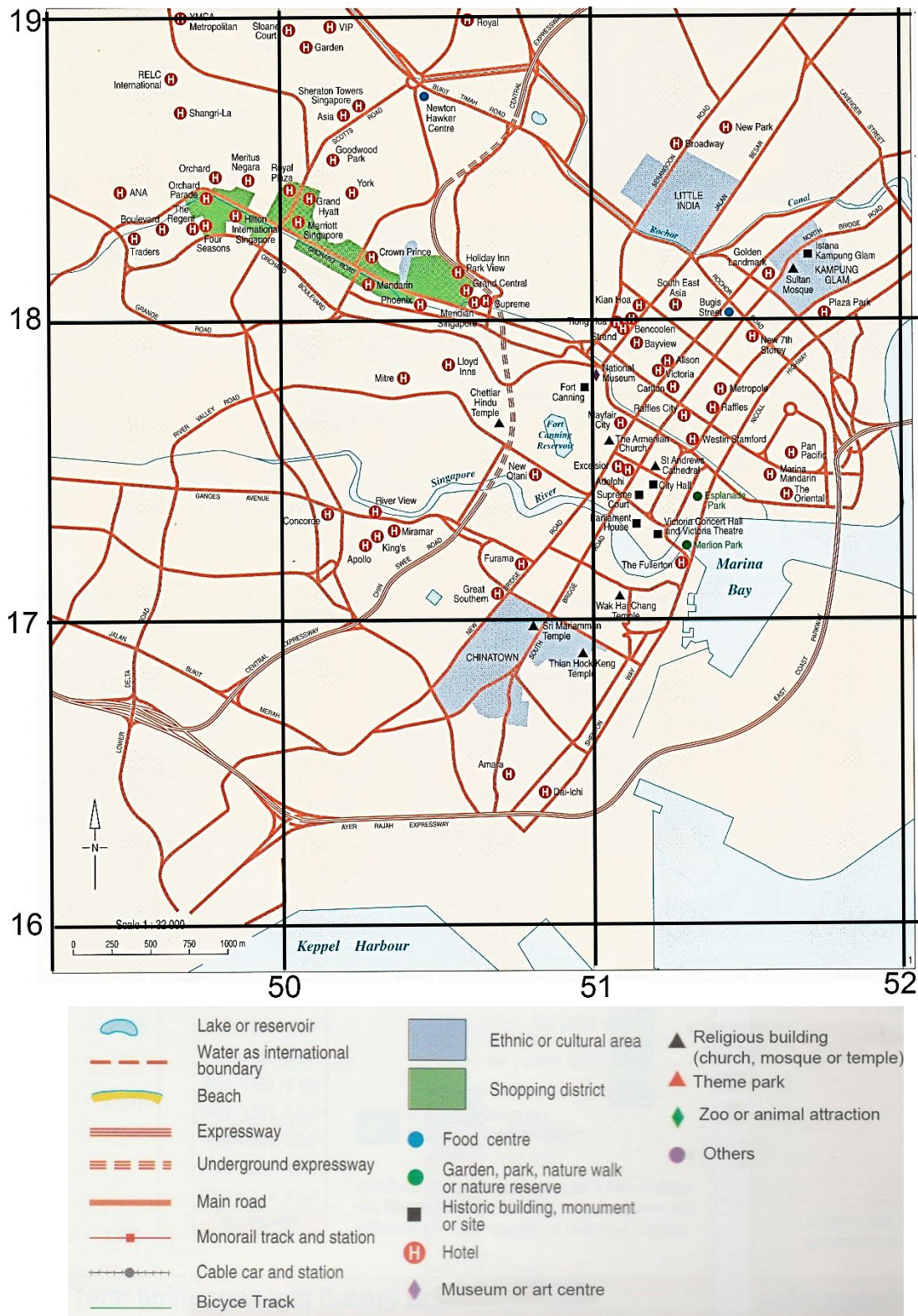

Fig. 1

Source: Longman Atlas

(a) What is the six-figure grid-reference of the New Park hotel near Little India? [1]

<u>514186</u>

<u>(+/- 1 513186, 513185, 513187, 514185, 514187)</u>

(b) Calculate the distance from the Chettiar Hindu Temple in the middle of the map to Fort Canning. [1]

<u>0.48km (0.44-0.51) / 480m</u>

(c) Describe the road network found in the map. [3]

- <u>roads arranged in a grid,</u>
- <u>dense network of roads, especially in the eastern part of the map near the mouth of the Singapore River, near Marina Bay area.</u>
- <u>Road density is low / fewer roads found on the western part of the map.</u>
- <u>combination of main roads, expressways and underground expressways</u>

Section B: Structured Questions [35 marks]

2.   Fig. 2 shows a photograph of a slum.

Fig. 2

(Source: https://www.pinterest.com/bettykemp70/slums/?lp=true)

In the box provided below, draw a sketch of the slum shown in Fig. 2 and annotate four typical characteristics of the slum. [4]
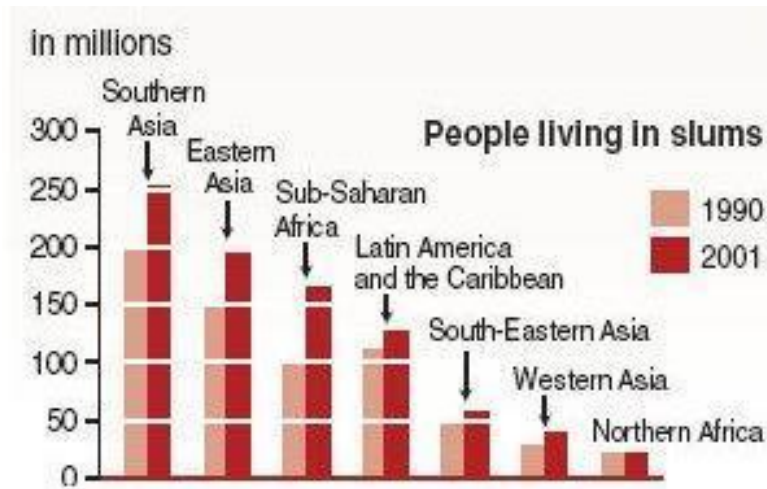
Sketch   -   1m

2 annotations   -   1m

- o   Scrap materials used for building
- o   Wood, zinc and makeshift canvas which are flimsy and do not provide much protection from harsh weather.
- o   Pipes drain water out of the homes onto the street/river due to lack of proper sewage
- o   Homes are built very close together and cramped
- o   Lack of proper electricity seen by the loose wires dangling everywhere
- o   Stagnant water leading to unhygienic living conditions and spread of water borne diseases/dengue
- o   Rubbish and litter strewn all over the place

9-square grid   -   1m

Title   -   1m

3. Fig. 3 shows information on number of people living in slums in different regions of the world.

Fig. 3

(Source: http://pubs.sciepub.com/ajcea/2/2/3/)

(a) Which region experienced the greatest increase in the population of people living in slums between 1990 and 2001? [1]

<u>Sub-Saharan Africa</u>

(b) Suggest two reasons for the growth of slums in a city. [2]

- <u>shortage of housing due to limited land supply and high competition for land use,</u>
- <u>cannot afford housing due to high price of housing in the city,</u>
- <u>rapid population growth and high rates of migration leading to high demand for housing</u>

<u>(any two)</u>
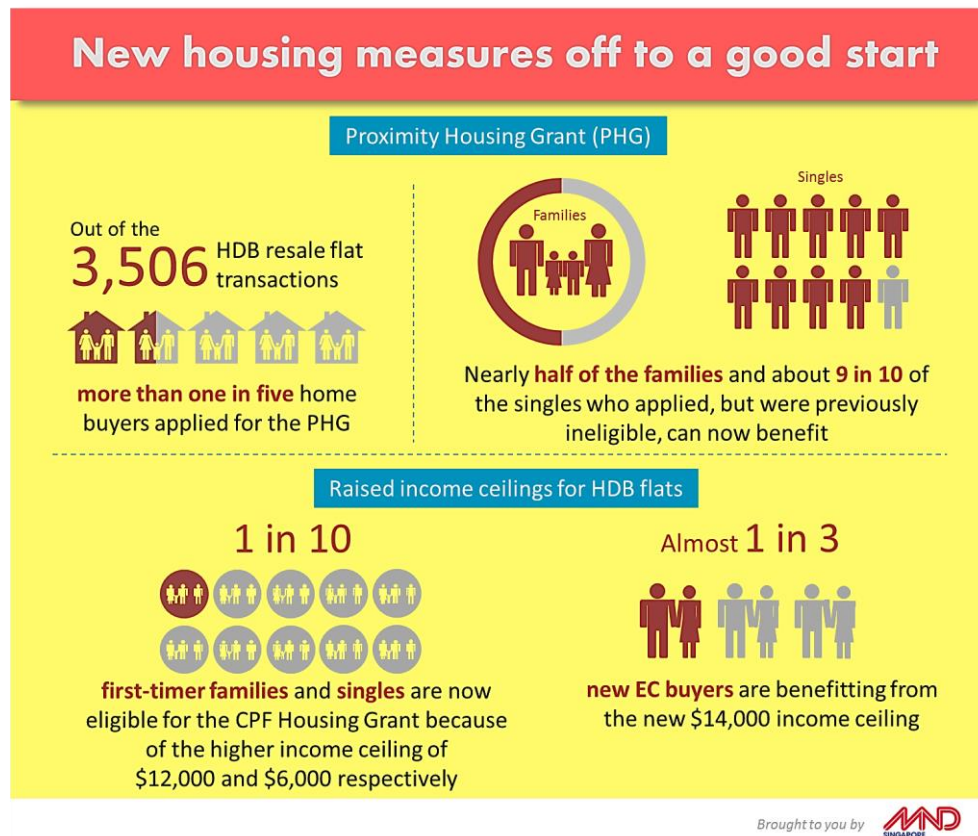
(c)   Describe how the health of residents living in slums would be affected
       by their living conditions.   [2]

- Stagnant water may lead to breeding of mosquitoes and spread of malaria and dengue fever
- Pollution and lack of safe drinking water leads to water-borne diseases such as cholera and dysentery.
- Overcrowded living conditions lead to the spread of diseases among the community.

4.   Explain how the self-help scheme helps to improve the housing
       conditions in Brazil.   [3]

- Self-help scheme involves the participation of low income households to improve their housing conditions in the Rocinha Project in Rio de Janeiro.
- The governments provide the assistance in the form of construction materials and training as well as basic services.
- The residents continue to stay in the house and work on building their homes themselves during their free time.
- As a result, most of the wooden houses have been replaced by concrete houses and 75% of homes have electricity.

5. Fig. 4 shows an infographic on housing in Singapore.

Fig. 4

(Source: https://mndsingapore.wordpress.com/2015/10/30/more-affordable-to-buy-a-resale-flat/)

(a) How many percent of home buyers applied for the Proximity Housing Grant? [1]

More than 20%.

(b) Describe how the Additional CPF Housing Grant helps to make housing more affordable for Singaporeans. [2]

- Low-income households earning not more than $5,000 per month (or $6,000)
- can qualify for a grant of up to $40,000 which is used to pay for their first flat.

(c) Besides improving affordability of housing, describe one other way the Singapore government has tried to provide inclusive housing. [3]

The government has tried providing facilities and amenities for all ages so that the needs of everyone is catered for, therefore being an inclusive society. [1]
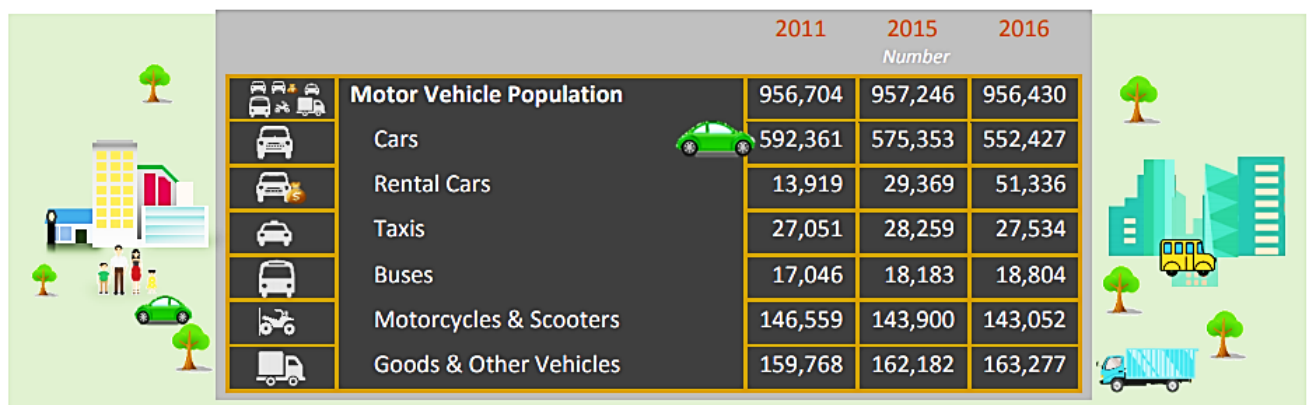
There are retail shops, clinics and parks for everyone in all neighbourhoods. There are 3-Generation Facilities such as playground for children, adult fitness corners, wellness stations for seniors. [1]

The government has also provided wheelchair-friendly facilities such as ramps and wider corridors. [1]

There are also Seniors Activity Centres set up near or below the HDB blocks. [1]

6. Fig. 5 shows information on the motor vehicle population in Singapore.

Motor Vehicle Population *

		2011	2015 Number	2016
	Motor Vehicle Population	956,704	957,246	956,430
	Cars	592,361	575,353	552,427
	Rental Cars	13,919	29,369	51,336
	Taxis	27,051	28,259	27,534
	Buses	17,046	18,183	18,804
	Motorcycles & Scooters	146,559	143,900	143,052
	Goods & Other Vehicles	159,768	162,182	163,277

Fig. 5

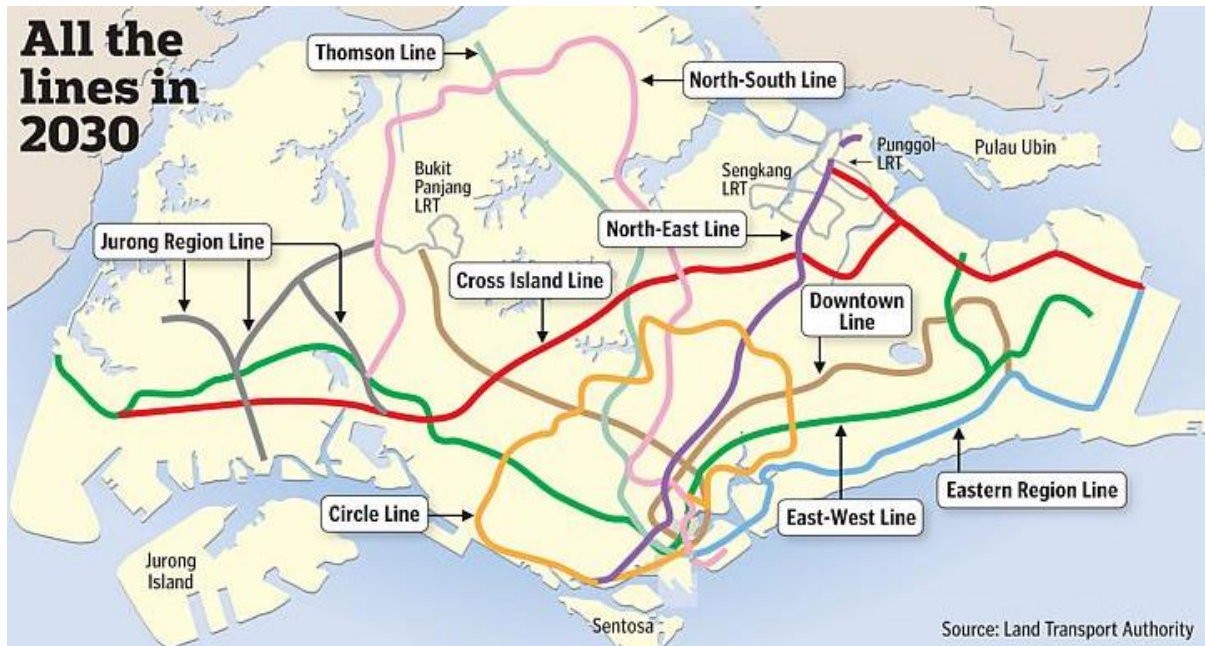(Source: https://www.singstat.gov.sg/publications/singapore-in-figures)

(a) Calculate the percentage change in the population of cars between 2011 and 2016. [1]

-6.74%

(b) Suggest a reason for the increase in population of rental cars from 2011 to 2016. [1]

Increase in the number of people renting cars for GRAB or UBER.

7.   Fig. 6 shows the proposed expansion of the rail network in Singapore by 2030.

Fig. 6

(Source : http://ifonlysingaporeans.blogspot.sg/2013/01/mrt-network-size-to-double-by-2030.html)

Discuss the advantages and disadvantages of expanding the rail network in Singapore as shown in Fig. 6.   [3]

Advantages

Trains have high capacity to transport more people each time.

People can travel to more destinations with increased rail network.
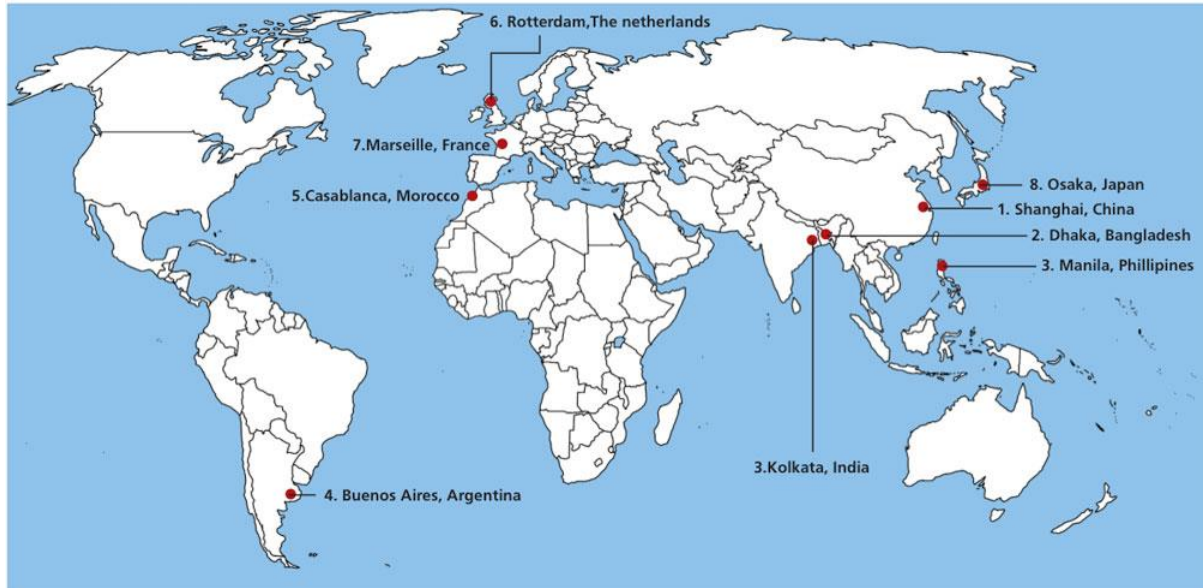
Disadvantages

Expensive to expand and maintain more railway lines.

Proposed railway lines may cut through housing estates which cause inconvenience to residents and noise pollution. Natural environments may also be cut down or damaged during construction.

[Either (2 adv + 1 disadv) or (1 adv + 2 disadv)]

8. Fig. 7 shows a map with the world's nine most flood-prone coastal cities.

World's nine most flood-prone coastal cities

Fig. 7

(Source: http://www.downtoearth.org.in/news/kolkata-among-worlds-most-floodprone-coastal-cities-study-38959)
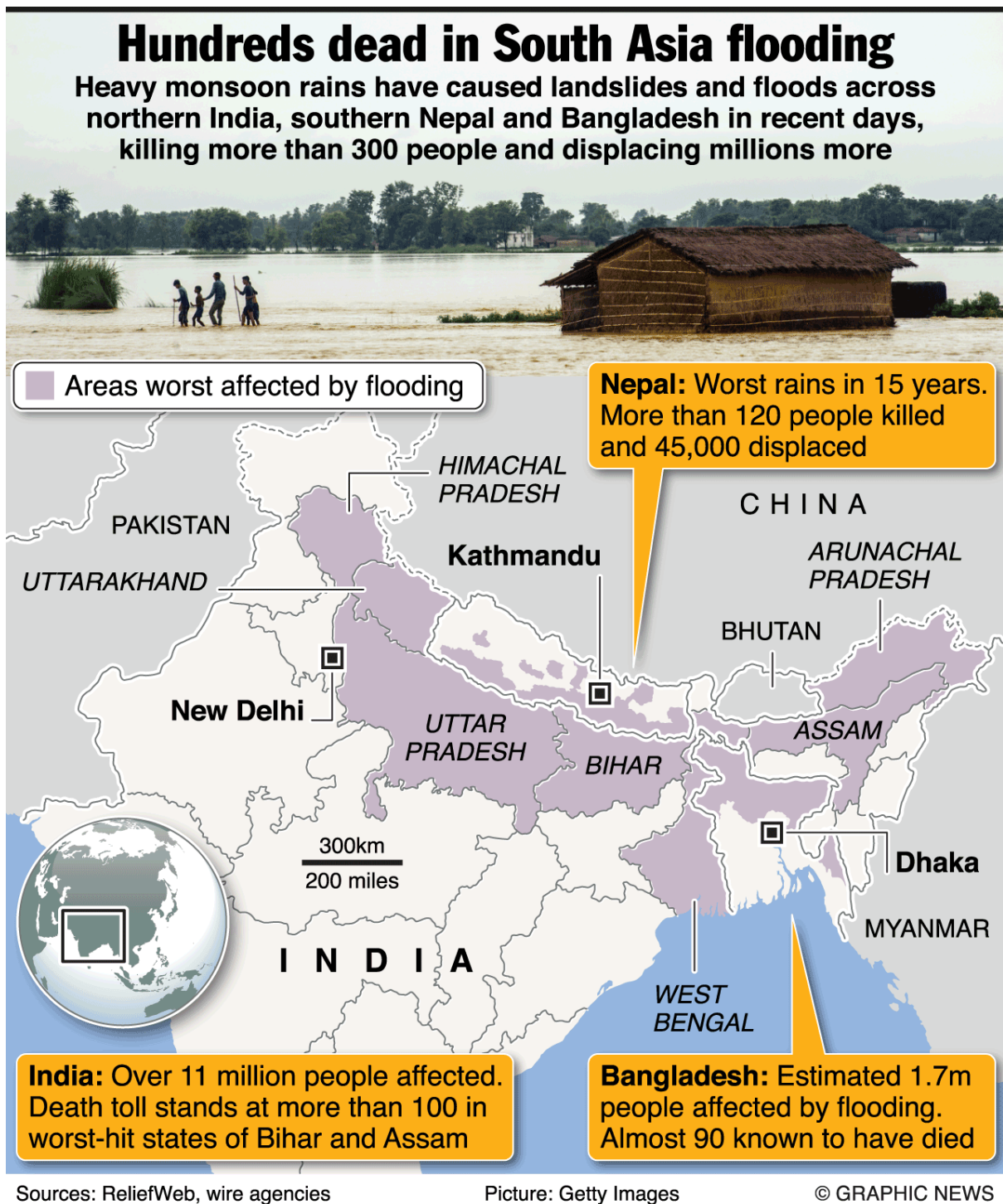
With reference to Fig. 7, suggest why these cities are prone to flooding.   [3]

Near the sea, prone to storm surge. Especially some cities which are in the paths of tropical storms or hurricanes.

The strong winds may blow seawater high up and splash into coastal inland areas, flooding and damaging property.

Some of the coastal cities are also low-lying, making it more prone to flooding when sea levels rise due to storms.

9. Fig. 8 shows information on the floods in South Asia.

Fig. 8

(Source: https://oss.adm.ntu.edu.sg/chalim001/2015/08/)

With reference to Fig. 8, describe one social and one economic impact of flooding in South Asia. [4]

Social impact

Loss of lives due to people drowning or being hit by falling debris from collapsing infrastructure such as in Nepal where more than 120 people were killed.

In Bangladesh, 1.7 million people were affected, probably from losing their homes and being left homeless.

Economic impact

Damage to factories and machinery from the floodwaters and failed powerlines may cause factories to cease production. This will result in the loss of productivity and lost profits.

A lot of money is also needed to rebuild the damaged infrastructure.

10. Fig. 9 is an article on Singapore's efforts to deal with the problem of flooding.

Singapore

Measures taken to ensure Singapore can cope with higher intensity storms: MEWR

Flood-prone areas in the Republic have been reduced from 3,200 hectares in the 1970s, to 32 hectares today. However, with the unpredictable weather, PUB will continue its efforts to minimise the risk of flooding, says Dr Amy Khor.

SINGAPORE: Since the start of 2014, measures have been taken to ensure the Republic can cope with storms of higher intensity, said Senior Minister of State for Environment and Water Resources Amy Khor in Parliament on Monday (Mar 14).

There are minimum platform level requirements for all developments, particularly for critical ones like underground MRT stations. This prevents flood water from entering these facilities and disrupting essential services.

"PUB has a network of about 200 water level sensors and 170 CCTVs installed to remotely monitor drain and flood conditions.

The national water agency is also maintaining a drainage improvement programme, which enhances the capacities of drains and canals. Since August 2011, PUB has implemented a free SMS alert system to provide the public with early warnings of heavy rain and rising water levels in canals.

Flood-prone areas in the Republic have been reduced from 3,200 hectares in the 1970s, to 32 hectares today, she added.

However, with the unpredictable weather brought about by climate change, PUB will continue its efforts to minimise the risk of flooding, Dr Khor said.

Fig. 9
(Source: http://www.channelnewsasia.com/news/singapore/measures-taken-to-ensure-singapore-can-cope-with-higher-intensit-8135580)

With reference to Fig. 9, discuss your opinion on the effectiveness of [5] flood prevention measures in Singapore. Support your opinion with reasons.

Level 1	1-2 marks	Strategiy/Opinion is not explained clearly Reasons/Pro/Cons and examples are not evident in support of the discussion Conclusion is not convincing
Level 2	3-4 marks	Strategy/Opinion is explained clearly Reasons/Pros/Cons and examples are evident in support of the discussion. Conclusion is well discussed by evaluating the strategy from the short-term and long-term point of view
Level 3	5 marks	Strategy/Opinion is explained very clearly Reasons/Pros/Cons and examples are well used in support of the discussion. Conclusion is well discussed, besides evaluating the strategy from the short-term and long-term point of view, effective alternative suggestions are provided.

Answers would include an explanation of the flood prevention measures with reference to statistical examples from the article to demonstrate success. Answers should also provide a discussion on the limitations of the measures as seen from the flooding events that we still experience.

END OF PAPER