

GEOGRAPHY PAPER 1

8:30 am – 11:00 am (2½ hours)

This paper must be answered in English

GENERAL INSTRUCTIONS

1. This paper consists of **THREE** sections:

Section A – consists of 40 multiple-choice questions. Answer **ALL** questions in this section.

Section B – consists of 4 data / skill-based structured questions. Choose **TWO** questions only in this section.

Section C – consists of 3 short essay questions. Choose **ONE** question only in this section.

2. Draw sketch maps and diagrams to supply additional, relevant information when appropriate.
3. A map extract is provided and to be returned to the HKEAA at the end of the examination.
4. Answers to Section A should be marked on the Multiple-choice Answer Sheet. Answers to Sections B and C should be written in the Answer Book. In the Answer Book, start each question (not part of a question) on a new page. **The Answer Sheet for Section A and the Answer Book for Sections B and C must be handed in separately at the end of the examination.**

INSTRUCTIONS FOR SECTION A (MULTIPLE-CHOICE QUESTIONS)

1. Read carefully the instructions on the Answer Sheet. After the announcement of the start of the examination, you should first stick a barcode label and insert the information required in the spaces provided. No extra time will be given for sticking on the barcode label after the 'Time is up' announcement.
2. When told to open this book, you should check that all the questions are there. Look for the words '**END OF SECTION A**' after the last question.
3. All questions carry equal marks.
4. **ANSWER ALL QUESTIONS.** You are advised to use an **HB** pencil to mark all the answers on the Answer Sheet, so that wrong marks can be completely erased with a clean rubber. You must mark the answers clearly; otherwise you will lose marks if the answers cannot be captured.
5. You should mark only **ONE** answer for each question. If you mark more than one answer, you will receive **NO MARKS** for that question.
6. No marks will be deducted for wrong answers.

Not to be taken away before the
end of the examination session

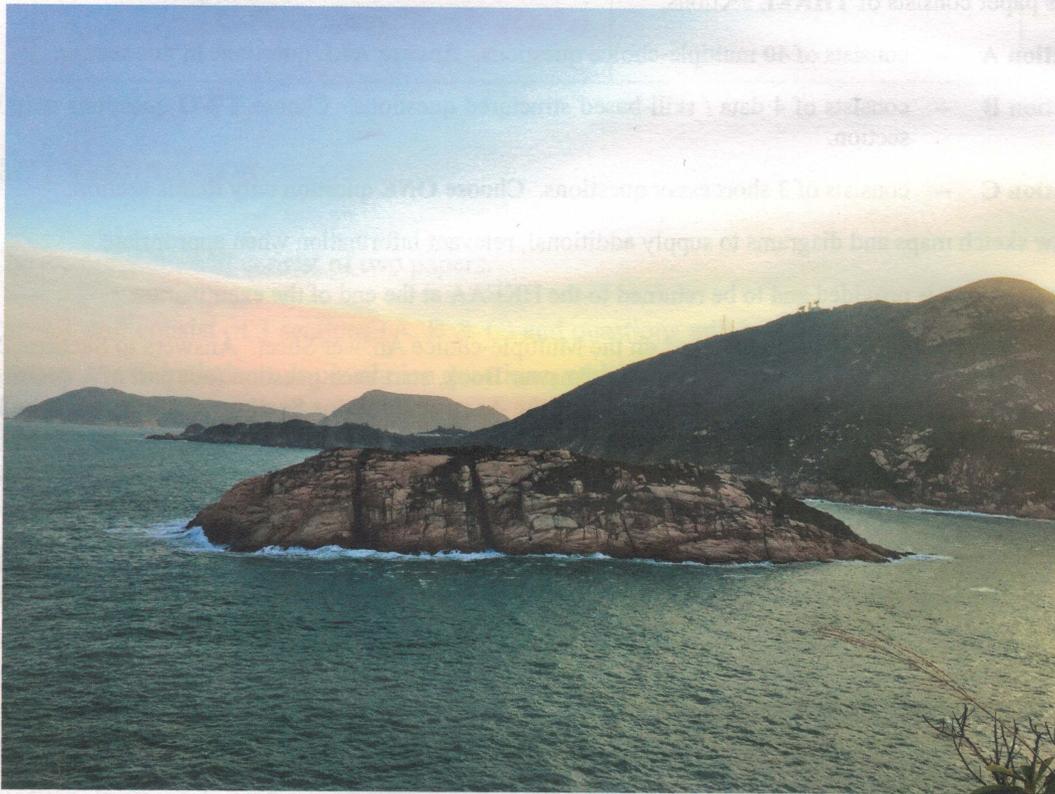
Section A: There are 40 questions in this section. Answer ALL questions in this section. All the answers must be marked on the Answer Sheet.

Refer to the map extract of Hong Kong (1:20 000) provided to answer Questions 1 to 8.

1. Which of the following facilities **cannot** be found in grid square 1366?

- A. church
- B. hospital
- C. post office
- D. government offices

2. The photograph below was taken from spot height 56 (174608) on Tai Tau Chau.



In which direction was the photograph taken?

- A. SE
- B. NW
- C. SSW
- D. NNE

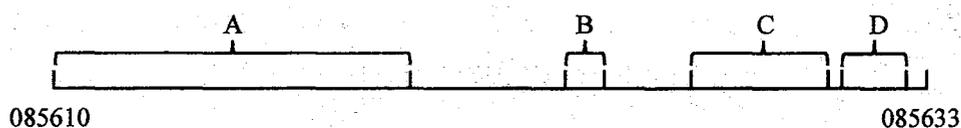
3. Which of the following is the average gradient of the section of Repulse Bay Road from the road junction at 103618 to the road junction at 107639?
- A. 1:12.7
 - B. 1:16.6
 - C. 1:20.5
 - D. 1:24.4
4. Which of the following places are intervisible with spot height 348 (150633)?
- (1) Big Wave Bay Beach (162627)
 - (2) Trigonometrical Station at Pottinger Peak (162636)
 - (3) Cape Collinson (173643)
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)
5. The drainage pattern shown in grid square 1363 is
- A. dendritic.
 - B. centripetal.
 - C. radial.
 - D. trellis.
6. Which of the following is (are) the factor(s) for the siting of Aberdeen Upper Reservoir (grid squares 0763, 0764 and 0864)?
- (1) flat relief
 - (2) location at river valley
 - (3) proximity to residential areas
- A. (1) only
 - B. (2) only
 - C. (1) and (3) only
 - D. (2) and (3) only

7. Which of the following are the correct descriptions of the settlement around Red Hill (Pak Pat Shan) (grid squares 1460 and 1461)?

- (1) linear pattern
- (2) distributed along contour lines
- (3) part of the settlement located on reclaimed land

- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)

8. Refer to the transect from 085610 to 085633 below.



Which of the following labels in the above transect is **INCORRECT**?

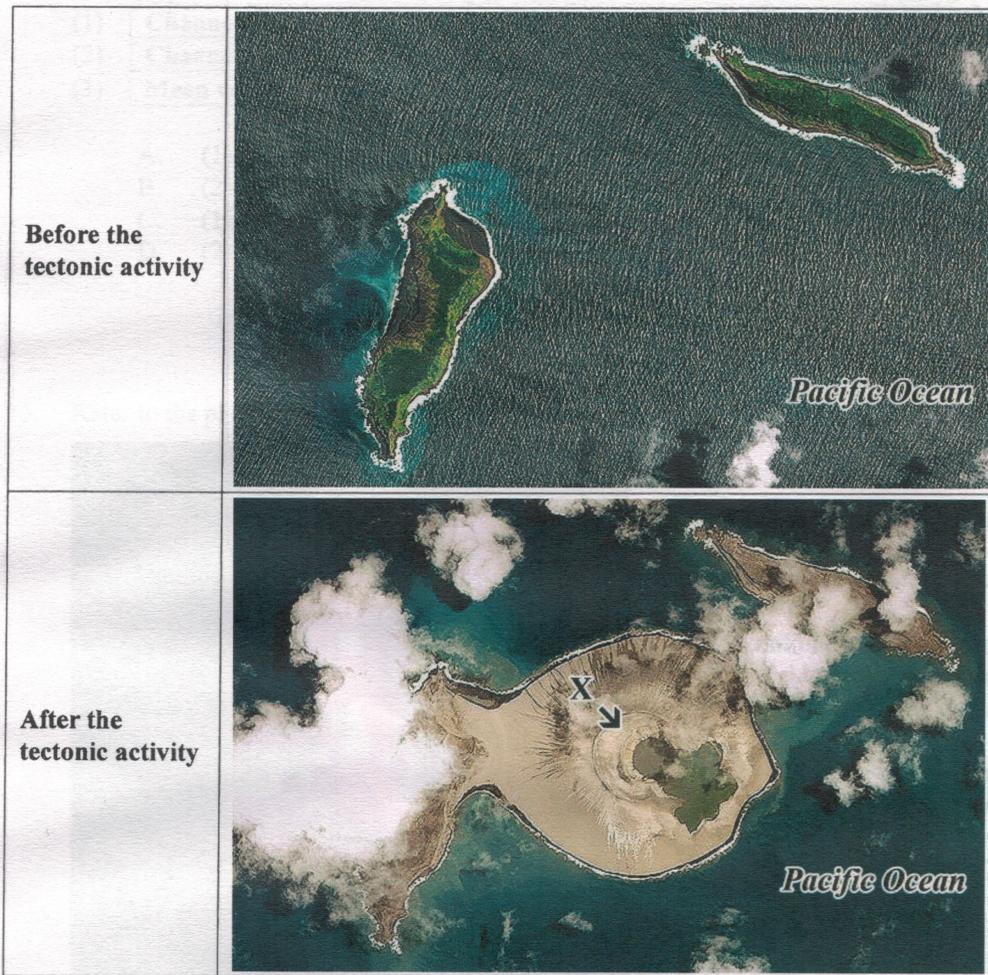
- A. Recreational land use
- B. Woodland
- C. Institutional land use
- D. Industrial land use

9. Which of the following pairs of comparison between continental crust and oceanic crust are correct?

	Continental crust	Oceanic crust
(1) Area	smaller	larger
(2) Density	higher	lower
(3) Thickness	thicker	thinner

- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)

Refer to the satellite images below to answer Questions 10 and 11. The images show an area before and after a tectonic activity.



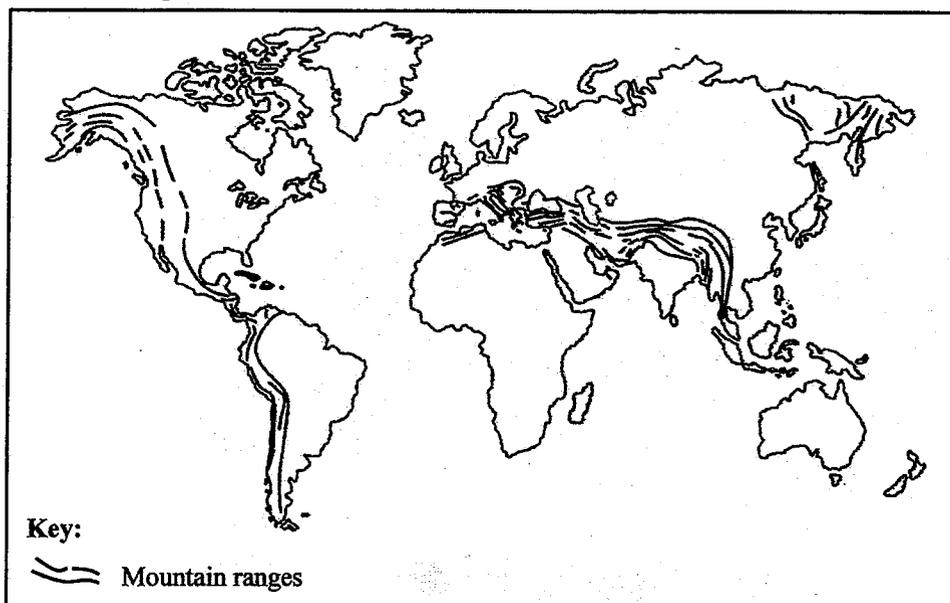
10. Feature X formed after the tectonic activity is

- A. a volcano.
- B. an ocean trench.
- C. a fold mountain.
- D. a block mountain.

11. Which of the following is (are) the consequence(s) of the tectonic activity?

- (1) rise in sea-level
 - (2) new land formation
 - (3) great loss of life and property
- A. (1) only
 - B. (2) only
 - C. (1) and (3) only
 - D. (2) and (3) only

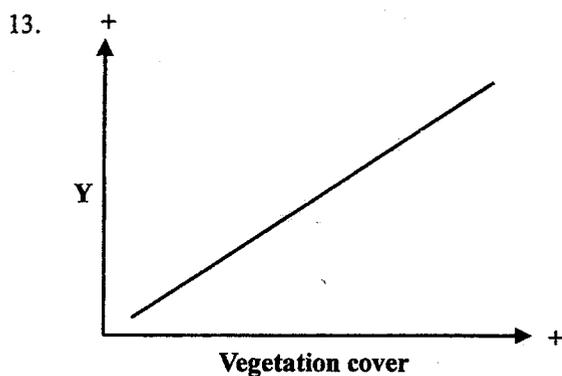
12. Refer to the figure below.



Which of the following statements of the mountain ranges shown in the above figure are correct?

- (1) They are formed by tensional force.
- (2) They are formed by folding.
- (3) Faulting occurs during their formation.

- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)



Which of the following are possible labels for the Y-axis in the above graph?

- (1) Interception
- (2) Infiltration
- (3) Surface runoff

- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)

14. Which of the following pairs of comparison between the upper and lower courses of a river is (are) correct?

	Upper course	Lower course
(1) Channel width	narrower	wider
(2) Channel depth	deeper	shallower
(3) Mean velocity	higher	lower

- A. (1) only
- B. (2) only
- C. (1) and (3) only
- D. (2) and (3) only

15. Refer to the photograph below which shows a river section.



Which of the following statements of the photograph are correct?

- (1) The photograph was taken at the upper course.
- (2) Hydraulic action is strong at this site.
- (3) A plunge pool is present at this site.

- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)

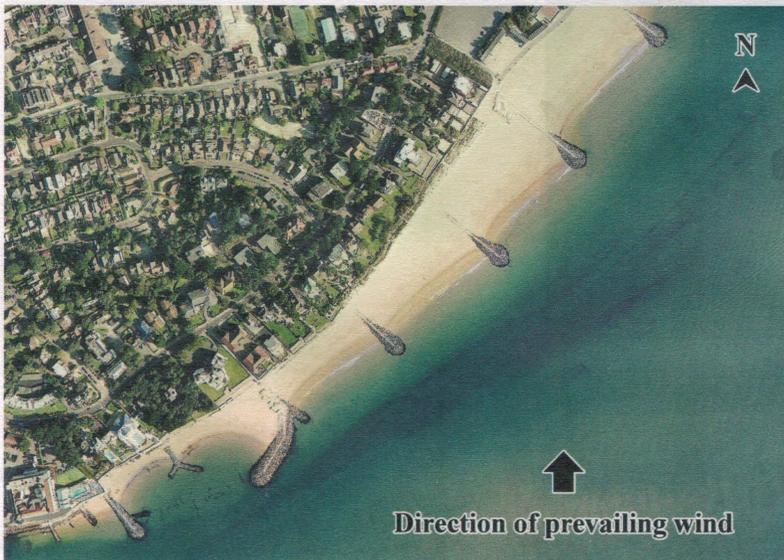
16. Refer to the photograph below which shows a river channel management strategy in Hong Kong.



How may the river channel management strategy achieve the purpose of flood prevention?

- (1) by increasing river velocity
 - (2) by increasing bankfull discharge
 - (3) by reducing channel friction
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)

17. Refer to the aerial photograph below which shows a coastal area.



Which of the following is the correct direction of longshore drift in this area?

- A. from northwest to southeast
- B. from southwest to northeast
- C. from south to north
- D. from east to west

Refer to the following statement to answer Questions 18 and 19.

'The manufacturing industry in Hong Kong was relocated to Mainland China in the 1980s.'

18. Which of the following was (were) the push factor(s) of such industrial relocation?

- (1) higher wages
 - (2) higher land rent
 - (3) poorer transport network
- A. (1) only
 - B. (3) only
 - C. (1) and (2) only
 - D. (2) and (3) only

19. What impact did such an industrial relocation have on Hong Kong?

- (1) reduction in the labour force
 - (2) improvement to the environment
 - (3) leading to economic restructuring
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)

20. Which of the following is the correct description of the newspaper printing industry?

- A. labour-oriented
- B. market-oriented
- C. power-oriented
- D. raw material-oriented

21. Which of the following government policies help attract the manufacturing industry to return to the more developed countries?

- (1) tax concessions
 - (2) increasing tariffs on manufacturing products
 - (3) training of industry talents
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)

22. Which of the following practices would facilitate multi-point production of industry?

- (1) establishment of free trade zones
- (2) development of telecommunication technology
- (3) outsourcing production

- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)

23. Refer to the table below which shows the population composition of country X in 1965 and 2015.

	1965	2015
Rural population	3 500 000	5 500 000
Urban population	400 000	500 000

Which of the following processes has (have) taken place in country X?

- (1) urbanisation
- (2) suburbanisation
- (3) urban growth

- A. (1) only
- B. (3) only
- C. (1) and (2) only
- D. (2) and (3) only

24. Which of the following are the purposes of rehabilitation?

- (1) preventing urban decay
- (2) improving living environment
- (3) changing land uses

- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)

25. Which of the following are the causes of heat island effect in urban areas?

- (1) heavy road traffic
- (2) dense and high-rise buildings
- (3) lack of green areas

- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)

26. Which of the following measures may improve air quality at street level?

- (1) promoting electric vehicles
- (2) tightening vehicle emissions standards
- (3) reducing the number of bus stops

- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)

27. Refer to the photograph below.



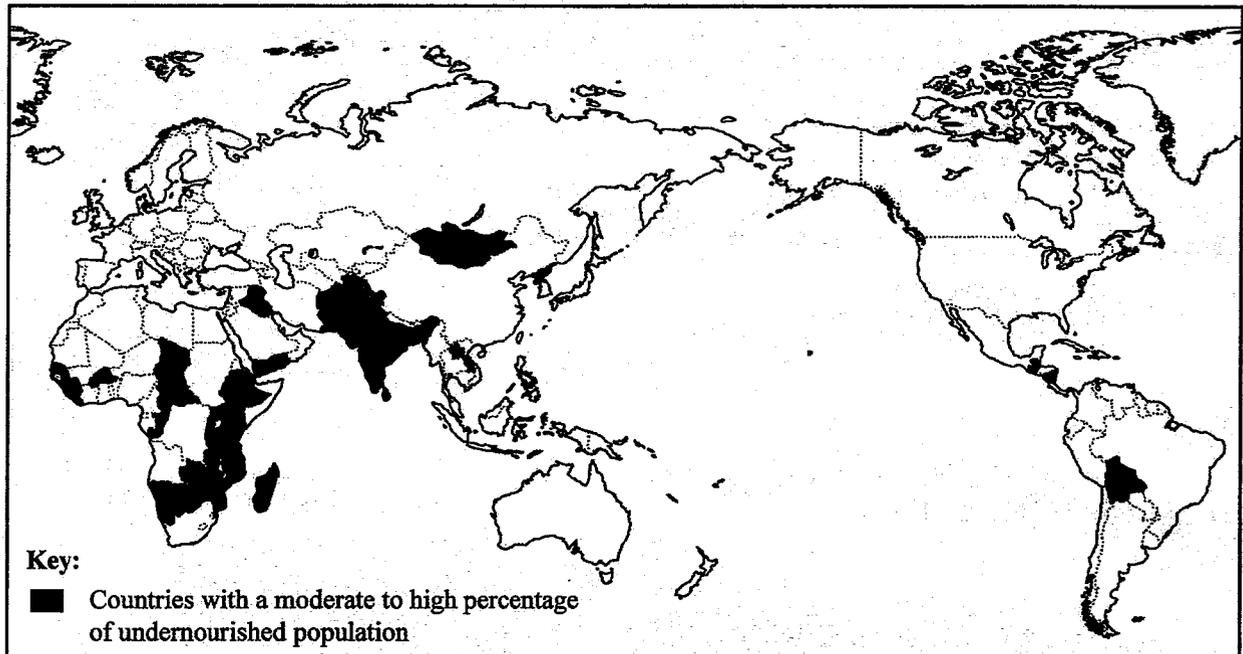
What is the farming method shown in the photograph?

- A. hydroponics
- B. intercropping
- C. mixed farming
- D. extensive farming

28. Which of the following is the advantage of crop rotation?

- A. conserving soil fertility
- B. facilitating mechanisation
- C. reducing pollution
- D. saving labour cost

29. Refer to the figure below which shows the countries with a moderate to high percentage of undernourished population in 2015.



Which of the following statements are correct?

- (1) Food shortage was most serious in Southeast Asia.
 - (2) Food shortage was present mainly in less developed countries.
 - (3) Food shortage was present mainly within the tropics.
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)

30. How do nomadic herders in the Sahel region adapt to the climatic environment?

- (1) practising transhumance
- (2) controlling the number of herds
- (3) shifting to sedentary farming

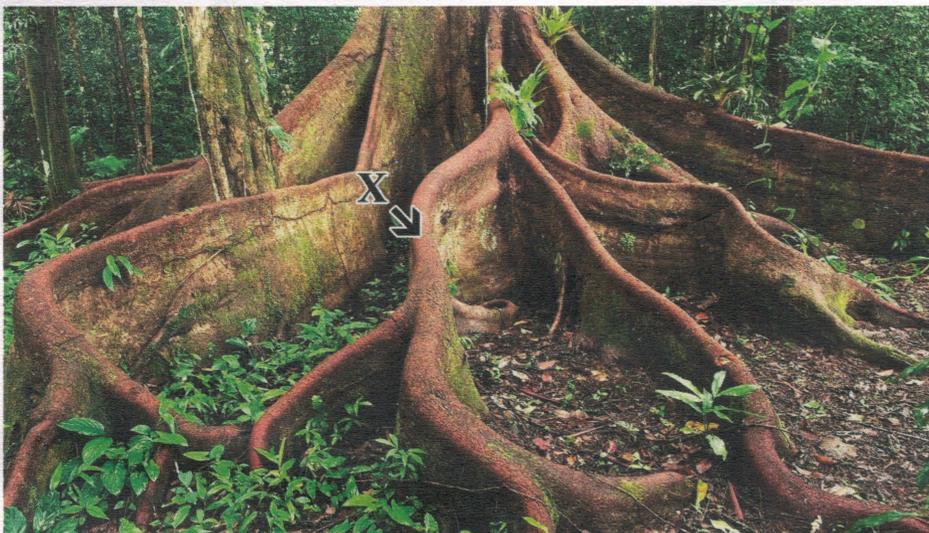
- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)

31. Farmers in Southern California may improve farm productivity by

- (1) drip irrigation.
- (2) organic farming.
- (3) pest control.

- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)

32. Refer to the photograph below which shows part of a tree in the tropical rainforest.



The major function of feature X shown in the photograph is to

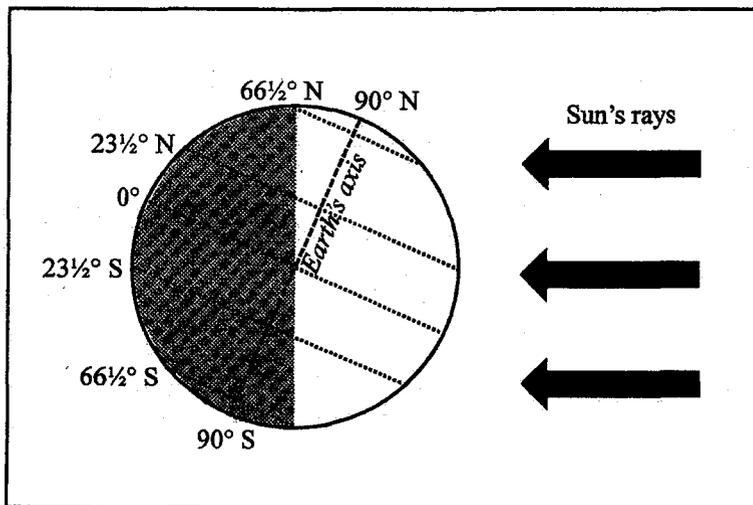
- A. absorb water.
- B. absorb nutrients.
- C. support tall tree trunks.
- D. slow down surface runoff.

33. Which of the following are the possible impact on the ecosystem brought about by the development of cattle ranching in the tropical rainforest?
- (1) reduction in surface runoff
 - (2) reduction in biodiversity
 - (3) increase in soil compaction
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)
34. Which of the following ways may help restore the tropical rainforest?
- (1) reforestation (reforestation)
 - (2) developing ecotourism
 - (3) selective logging
- A. (1) only
 - B. (2) only
 - C. (1) and (3) only
 - D. (2) and (3) only
35. Which of the following factors may affect the effectiveness of setting up a nature reserve to conserve a tropical rainforest?
- (1) quality of management
 - (2) support of the local community
 - (3) size of the reserve
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)
36. Which of the following factors may affect the air temperature of a place?
- (1) altitude
 - (2) latitude
 - (3) cloud cover
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)

37. Which of the following is (are) the way(s) of heat transfer from the earth's surface to the atmosphere?

- (1) short wave radiation
 - (2) long wave radiation
 - (3) counter-radiation
- A. (1) only
B. (2) only
C. (1) and (3) only
D. (2) and (3) only

38. Refer to the figure below which shows the earth at a certain time of the year.



Which of the following statements of the above figure are correct?

- (1) The duration of daylight is 12 hours at the Equator.
 - (2) The angle of the sun is the largest at the Tropic of Cancer.
 - (3) It is winter in the southern hemisphere.
- A. (1) and (2) only
B. (1) and (3) only
C. (2) and (3) only
D. (1), (2) and (3)

39. Which of the following are major benefits of global warming for farmers in high latitudinal regions?

- (1) reduction in pest problems
- (2) increase in crop varieties
- (3) longer growing season

- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)

40. Which of the following is (are) the consequence(s) of global warming?

- (1) inundation of island countries
- (2) reduction in short-term fresh water supply
- (3) spread of tropical diseases

- A. (1) only
- B. (2) only
- C. (1) and (3) only
- D. (2) and (3) only

END OF SECTION A

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Section B: Answer any TWO questions from this section. Each question carries 18 marks.

1. Figure 1a shows the locations of earthquakes that occurred in areas X and Y in April 2016. Figure 1b shows the photographs of areas X and Y before the earthquake. Table 1c shows information about the two earthquakes.

Figure 1a

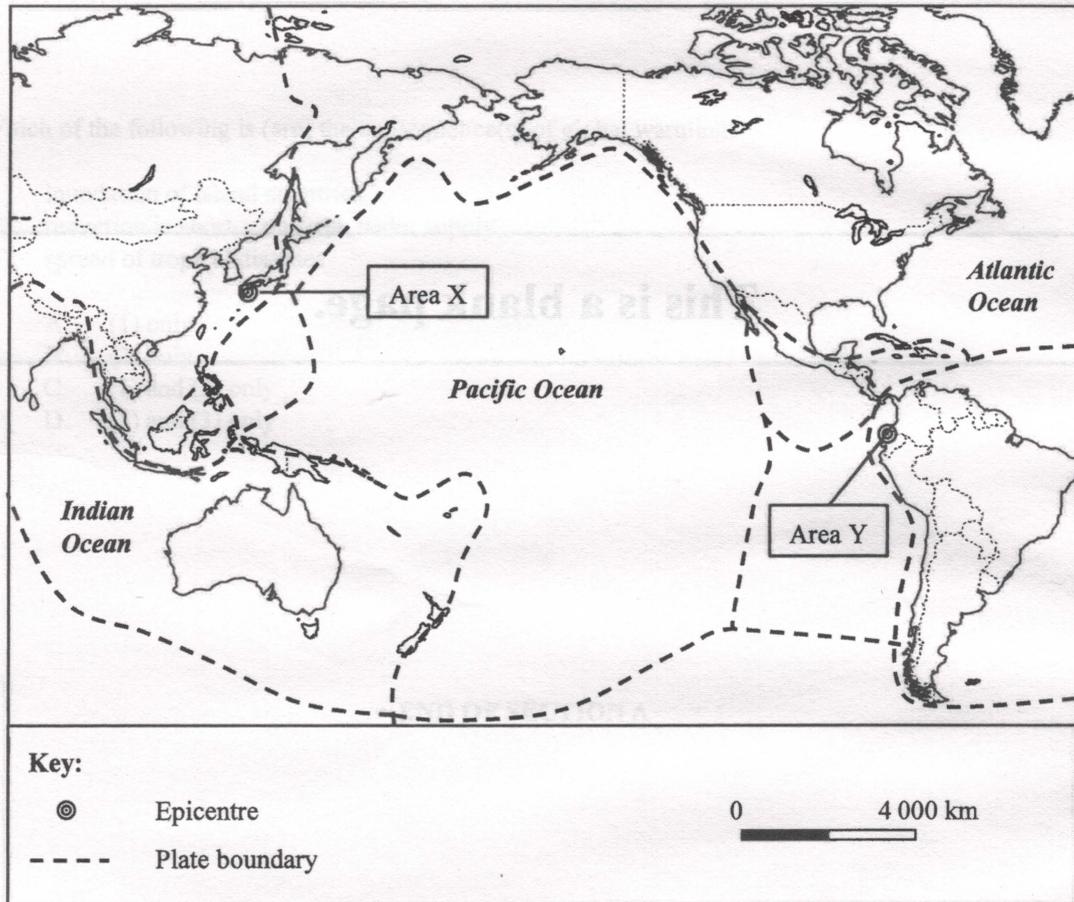


Figure 1b



Table 1c

Area	Date	Magnitude (Richter scale)	Depth of focus (km)	Death toll	Economic loss (billion USD)	*GDP per capita (USD)	*Number of earthquakes measured above 7 on the Richter scale in the last 10 years
X	15 April 2016	7.0	10.0	41	3.5	38 895	13
Y	16 April 2016	7.8	20.6	676	3.0	5 969	2

* Data of the country

- (a) Refer to Figure 1a. Answer the following questions with reference to the plate tectonics theory.
- (i) Compare the locations of earthquakes in areas X and Y. (2 marks)
 - (ii) Account for the occurrence of the earthquake in area Y. (4 marks)
- (b) Refer to Figure 1b and Table 1c.
- (i) Describe the differences in losses between the earthquakes of areas X and Y. (2 marks)
 - (ii) Quoting evidence from Figure 1b and Table 1c, explain the differences mentioned in (b) (i). (6 marks)
- (c) Refer to Figure 1a and Table 1c. The earthquakes in areas X and Y occurred on two consecutive days.
- Discuss whether the earthquake in area X might have triggered the earthquake in area Y. (4 marks)

2. Refer to the map extract (1:20 000) of Hong Kong which shows part of Hong Kong Island. Figure 2a is an outline map of Hong Kong, indicating the area covered by the map extract with a broken line. Figure 2b shows coastal landforms P (171606) and Q (166607) found at area X in Figure 2a. Photograph 2c shows coastal management strategy R located at 168610.

Figure 2a

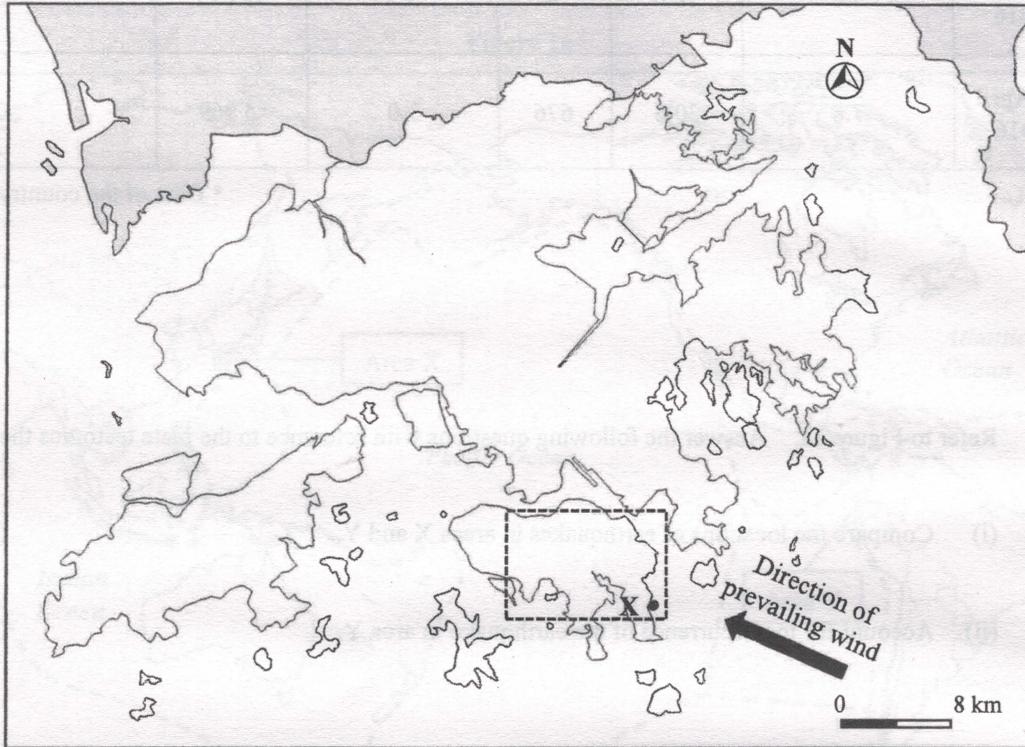
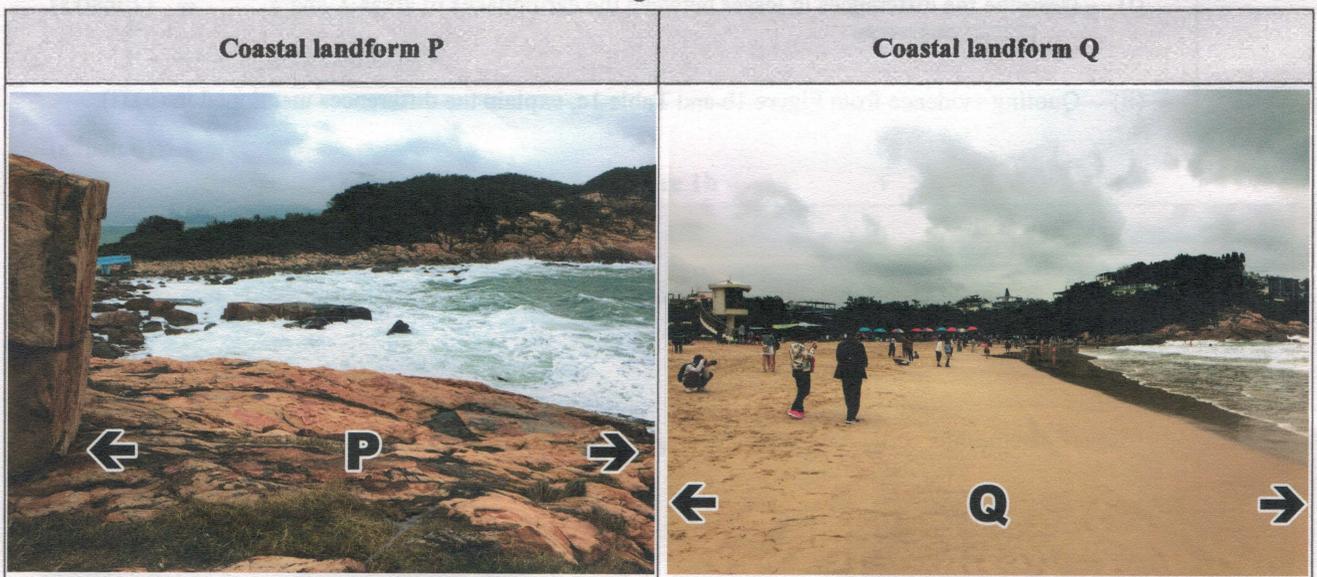
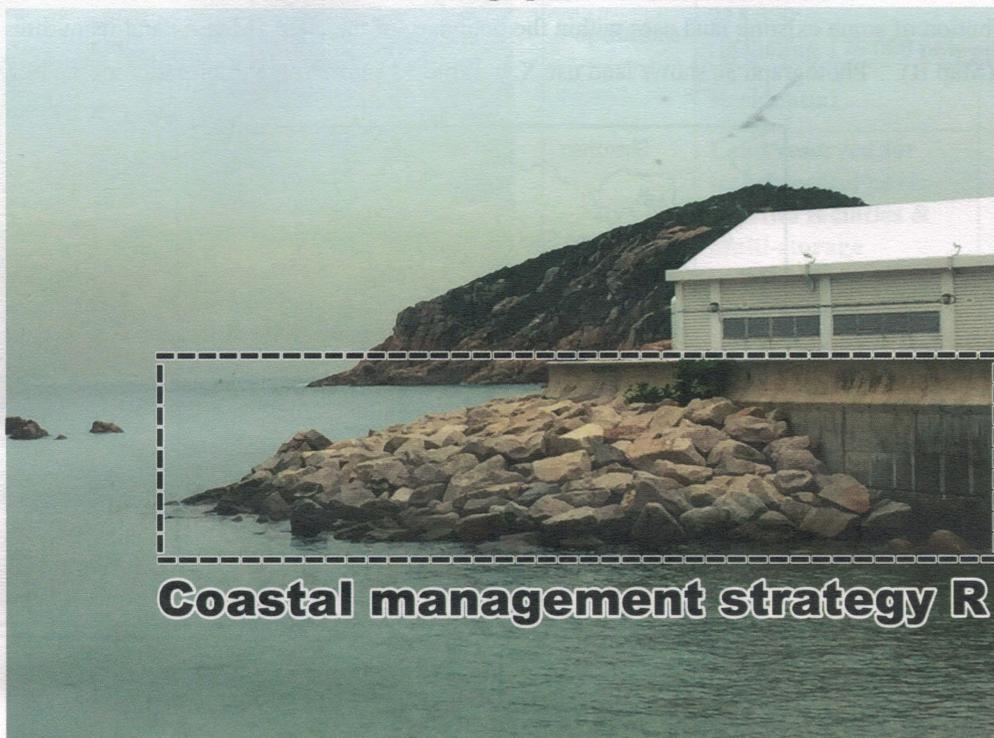


Figure 2b



Photograph 2c



- (a) Refer to Figure 2a, Figure 2b and the map extract (1:20 000) of Hong Kong.
- (i) Identify coastal landforms P and Q. (2 marks)
 - (ii) Quoting map evidence, suggest the physical factors favouring the formation of coastal landforms P and Q respectively. (6 marks)
 - (iii) Describe and explain the formation of coastal landform P. (3 marks)
- (b) Refer to Figure 2b, Photograph 2c and the map extract (1:20 000) of Hong Kong.
- (i) Identify coastal management strategy R shown in Photograph 2c. Explain how the strategy protects the coast. (3 marks)
 - (ii) Assume there is a need to protect coastal landform Q.
With regard to the present use of coastal landform Q, discuss whether coastal management strategy R is appropriate. (4 marks)

3. Figure 3a shows the location of the Hung Shui Kiu New Development Area (NDA). Figure 3b shows the distribution of some existing land uses within the boundary of the NDA (Map A) and its outline development plan (Map B). Photograph 3c shows land use X. Table 3d shows some information of the NDA.

Figure 3a

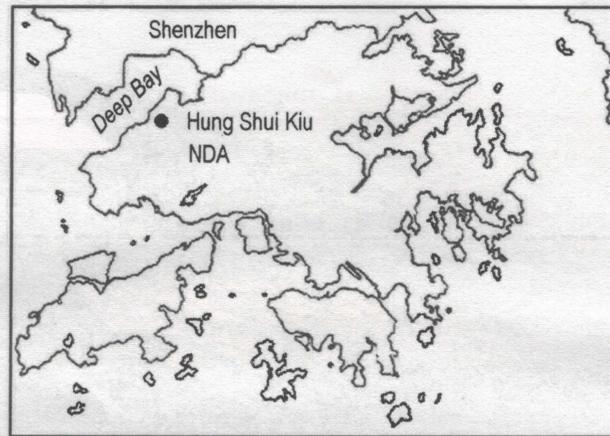
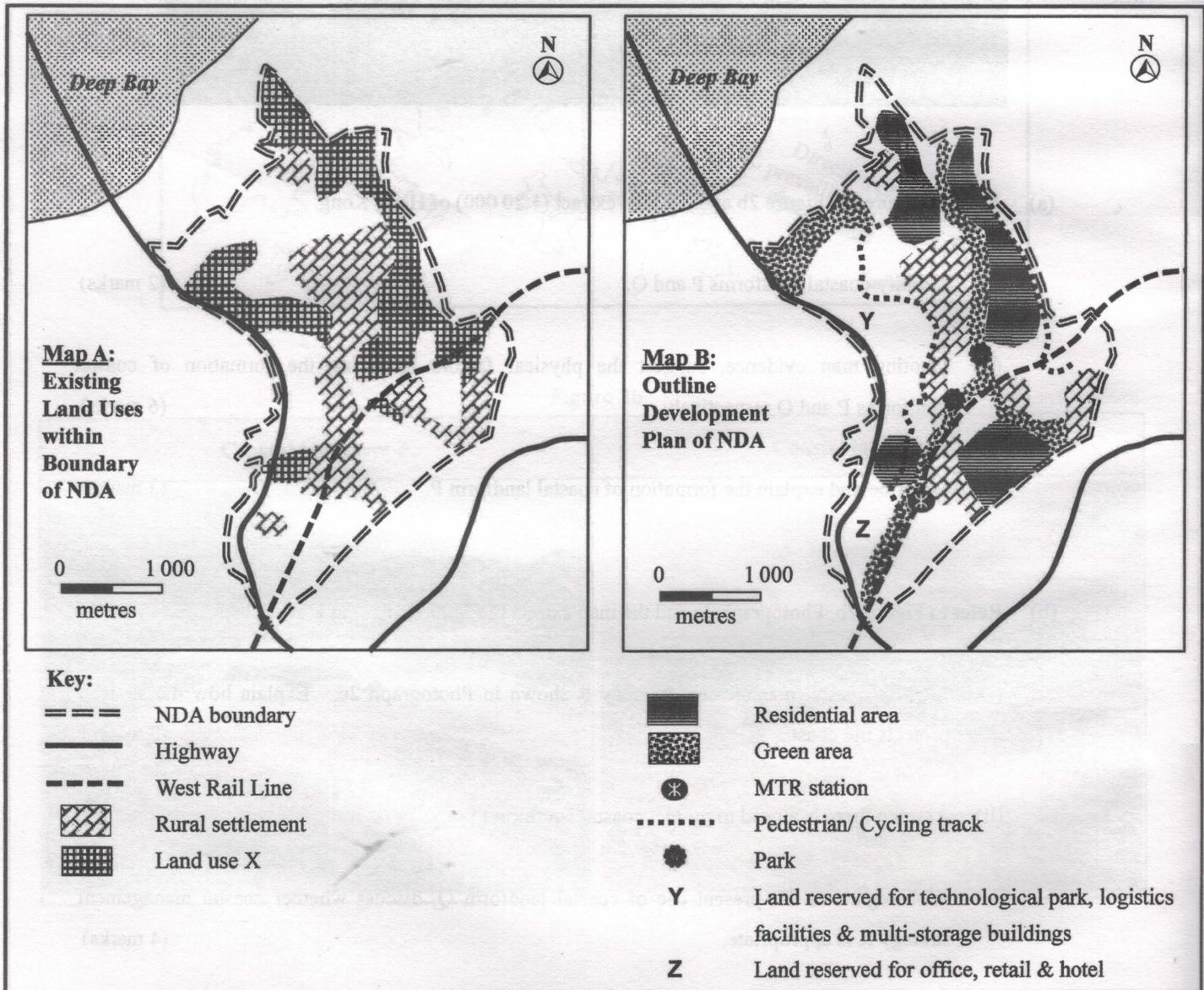


Figure 3b



Photograph 3c

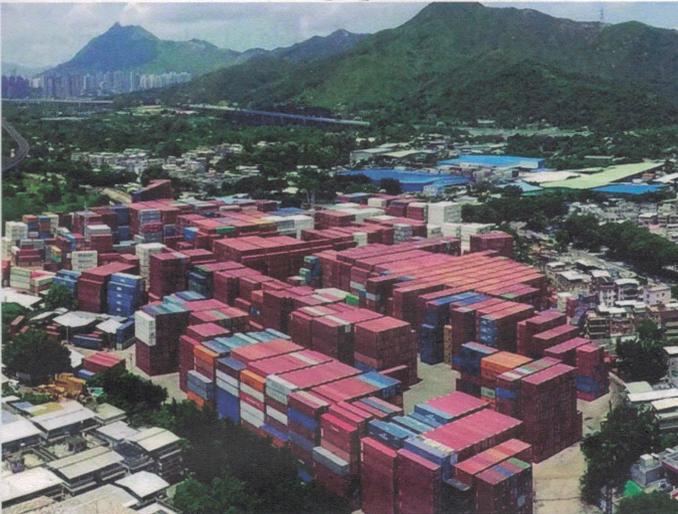


Table 3d

Population	218 000 (including 176 000 new population)	
Types of land uses	Residential	18%
	Land reserved for technological park, logistics facilities & multi-storage buildings	19%
	Land reserved for office, retail & hotel	5%
	Public utilities	20%
	Others	38%
Types of housing	Public:	51%
	Private:	49%

(a) Refer to Map A in Figure 3b and Photograph 3c.

(i) Identify land use X. (1 mark)

(ii) What adverse environmental impact may be brought about by land use X? (3 marks)

(b) Refer to Figure 3b.

(i) According to Map B, describe how the land occupied by land use X is to be developed. (3 marks)

(ii) Explain how the above development may help alleviate the adverse environmental impact mentioned in (a) (ii). (3 marks)

(c) Refer to Figure 3a and Map B in Figure 3b.

Explain how the transport system may foster economic development in Hung Shui Kiu NDA. (4 marks)

(d) Refer to Figure 3b and Table 3d.

Discuss whether the planning of Hung Shui Kiu NDA may help achieve social sustainability. (4 marks)

4. Figure 4a shows the global distribution of tropical rainforests in 2010 and the percentage loss of rainforest cover from 1990 to 2010. Figure 4b shows the photographs of a tropical rainforest and an oil palm plantation in Indonesia. Table 4c shows some information of Indonesia from 2000 to 2015.

Figure 4a

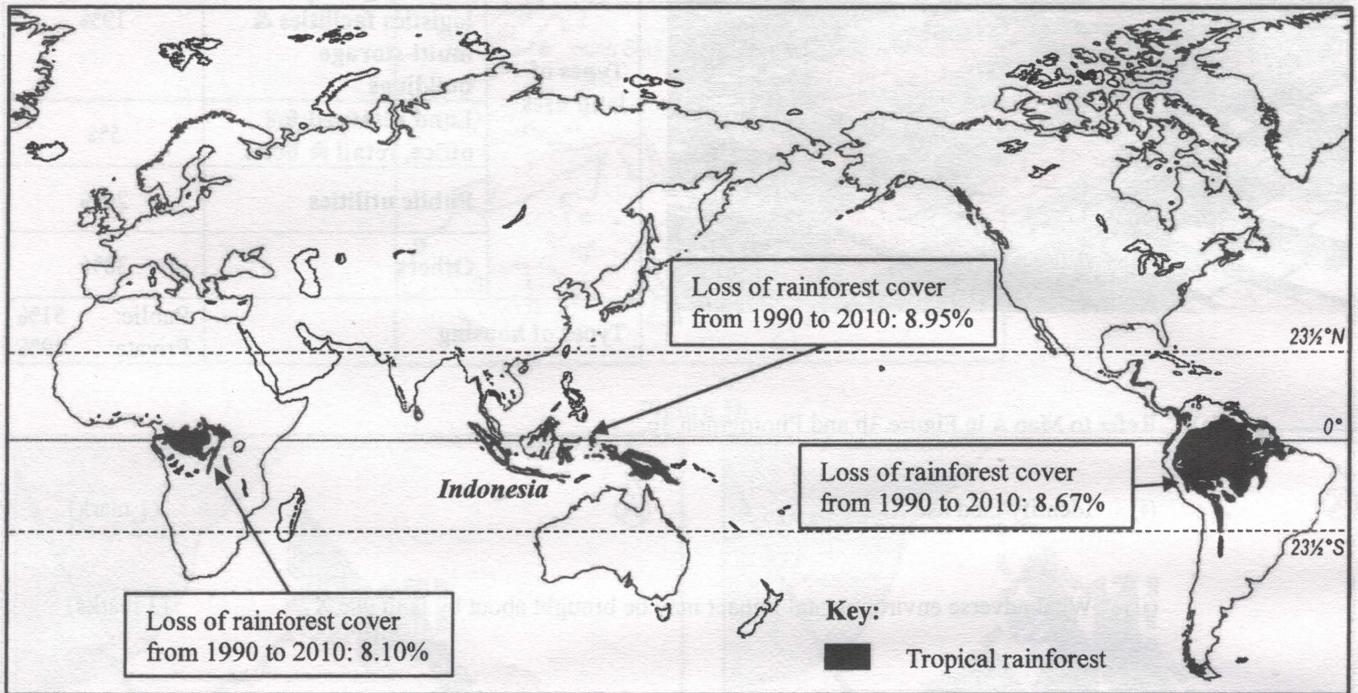


Figure 4b



Table 4c

		Year			
		2000	2005	2010	2015
Population (million)		211.5	226.3	241.6	257.7
Rainforest area (km²)		994 000	978 000	944 000	910 000
Total area of oil palm plantations (km²)		41 500	54 500	83 800	113 000
Domestic consumption of *palm oil (million tonnes)		3.3	3.7	6.3	9.4
Export of *palm oil (million tonnes)		4.8	11.7	16.4	22.9
GDP per capita (USD)	Indonesia	780	1 261	3 113	3 336
	World average	5 482	7 271	9 509	10 130

* Uses of palm oil: food processing, cleaning and personal care, industrial raw material, biofuel

- (a) Refer to Figure 4a. Describe and explain the global distribution of tropical rainforests. (4 marks)
- (b) Refer to Figure 4b.
- (i) Compare the characteristics of vegetation between a tropical rainforest and an oil palm plantation. (4 marks)
- (ii) Describe and explain how the energy flow within the oil palm plantation ecosystem differs from that of the tropical rainforest. (3 marks)
- (c) Refer to Table 4c. Account for the decreasing rainforest area in Indonesia from 2000 to 2015. (3 marks)
- (d) Refer to Figure 4a and Table 4c. Discuss whether limiting the area of oil palm plantations in Indonesia may help conserve tropical rainforests in the world. (4 marks)

Section C: Answer any ONE question from this section. Each question carries 12 marks.

5. Account for the locational factors leading to the clustering of the iron and steel industry in China after the 1970s. Explain how these locational factors affected the clustering of the IT industry in the US. (12 marks)

6. Describe and explain the physical factors leading to frequent famine in the Sahel region. Discuss whether the growing of genetically modified crops may alleviate the famine problem in this region. (12 marks)

7. Account for the increasing greenhouse gas emissions in less developed countries. Discuss the constraints encountered by less developed countries in reducing greenhouse gas emissions. (12 marks)

END OF PAPER

Sources of materials used in this paper will be acknowledged in the booklet *HKDSE Question Papers* published by the Hong Kong Examinations and Assessment Authority at a later stage.