

GEOGRAPHY PAPER 1

8:30 am – 11:00 am (2½ hours)
This paper must be answered in English

GENERAL INSTRUCTIONS

- This paper consists of **THREE** sections:
 - Section A** – consists of 20 multiple-choice questions. Answer **ALL** questions in this section.
 - Section B** – consists of an **OPTIONAL** fieldwork-based question (Question 1) and 4 data / skill-based structured questions (Questions 2 to 5). Attempt any **TWO** questions in this section.
 - Section C** – consists of 3 short essay questions (Questions 6 to 8). Attempt any **ONE** question in this section.
- Draw sketch maps and diagrams to supply additional, relevant information when appropriate.
- A map extract is provided and to be returned to the HKEAA at the end of the examination.
- 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)

- 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.
- 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.
- All questions carry equal marks.
- 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.
- You should mark only **ONE** answer for each question. If you mark more than one answer, you will receive **NO MARKS** for that question.
- No marks will be deducted for wrong answers.

Section A: There are 20 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 6.

1. The footpath from the secondary road at 938832 to the secondary road at 934825 passes through _____.
 - (1) woodland
 - (2) cultivated land
 - (3) temporary structures
 - A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)

2. The approximate length of the footpath mentioned in Question 1 is _____.
 - A. 420 m
 - B. 680 m
 - C. 840 m
 - D. 1 360 m

3. Which of the following are the factors favourable for agricultural activities in grid square 9381?
 - (1) flat relief
 - (2) presence of rivers
 - (3) presence of settlements
 - A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)

4. The drainage pattern in grid square 9281 is _____.

- A. trellis
- B. dendritic
- C. centripetal
- D. radial

5. _____ is/ are found in grid square 9481.

- (1) Restricted access
- (2) Power line
- (3) Mangrove

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

6. Which of the following statements about the country park management centre in grid square 9480 are correct?

- (1) The reduced bearing from it to the temple in Nam Hang Pai at 944821 is approximately $N75^{\circ}W$.
- (2) Tai Tong Tsuen (grid square 9382) is to its northwest.
- (3) The whole-circle bearing from it to spot height 62 at 942821 is approximately 337° .

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

7. The photograph below shows a tectonic landform feature.



Which of the following statements about the landform feature is/ are correct?

- (1) It results from compressional force.
- (2) It is associated with active vulcanicity.
- (3) It is located at the plate boundary.

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

8. Which of the following comparisons between the different layers of the earth's structure is/ are correct?

	Crust	Core
(1) Physical state	solid	liquid and solid
(2) Density	higher	lower
(3) Chemical composition	mainly silica	mainly iron and magnesium

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

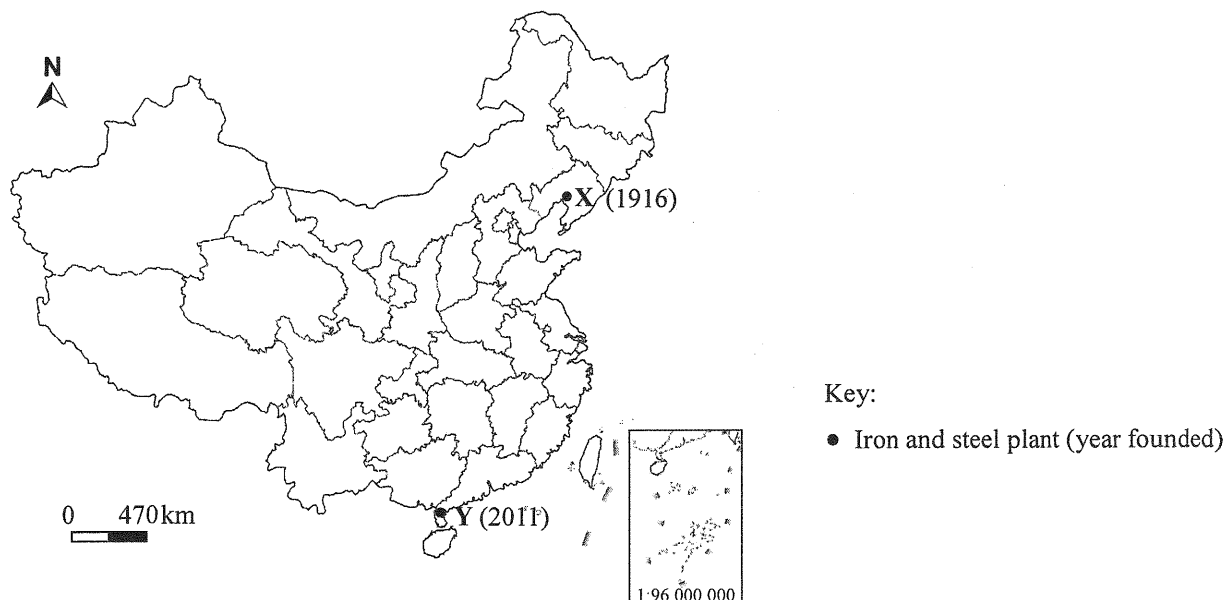
9. Refer to the photograph below which shows a section of a river.



Which of the following statements about this river section are correct?

- (1) It is the lower course of the river.
 - (2) Both erosion and deposition take place at this river section.
 - (3) The river channel has been widened and straightened.
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)
10. Which of the following is/are positively related with the amount of channel flow in a drainage basin?
- (1) slope gradient of the drainage basin
 - (2) rock permeability in the drainage basin
 - (3) density of vegetation cover in the drainage basin
- A. (1) only
 - B. (3) only
 - C. (1) and (2) only
 - D. (2) and (3) only

Refer to the figure below to answer Questions 11 and 12.



11. Plant X is still a major iron and steel plant in China because _____.

- (1) there is agglomeration of heavy industries
- (2) its production facilities have been upgraded
- (3) there is abundant cheap labour supply

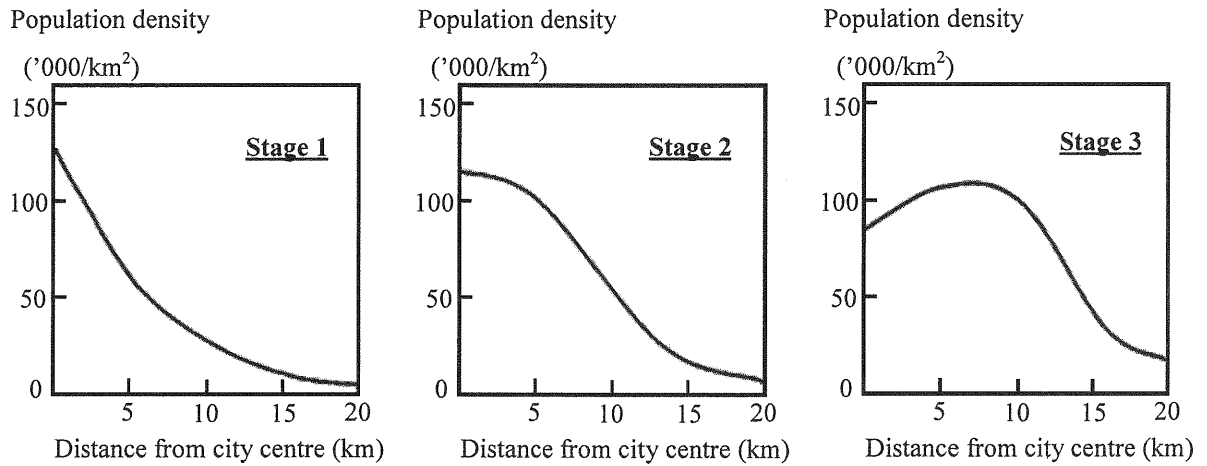
- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)

12. Which of the following are the locational advantages of iron and steel plant Y?

- (1) coastal location facilitates the import of raw materials
- (2) proximity to high quality coal mines
- (3) high local demand for steel products

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

13. The graphs below show the changes in population density at different stages of development of a city.



Which of the following statements is/ are correct?

- (1) Population density decreases with the distance from the city centre at the different stages of development.
- (2) More people move back to the city centre at the later stage of development.
- (3) The city experiences urban growth.

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

14. Under scheme X, vehicles are not allowed to enter some streets in a commercial area.

How may scheme X help promote sustainable development?

- (1) It improves pedestrian safety.
- (2) It lowers private car ownership.
- (3) It improves the air quality of the area.

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

15. Which of the following are the favourable conditions for developing agriculture in the Central Valley of Southern California?
- (1) long frost-free period
 - (2) flat relief in the area
 - (3) concentration of precipitation in summer
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)
16. Which of the following are the possible consequences of inappropriate use of chemical fertiliser in Southern California?
- (1) underground water pollution
 - (2) eutrophication
 - (3) salinization of soil
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)
17. What are the major causes of the high rate of deforestation in the rainforest in the Brazilian Amazon?
- (1) high population growth
 - (2) poverty
 - (3) rapid urbanisation
- A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)

18. Which of the following comparisons between the two types of commercial logging in tropical rainforests are correct?

	Selective logging	Clear-cutting
(1) Scale of logging	smaller	larger
(2) Degree of rainforest destruction	higher	lower
(3) Environmental impact	smaller	greater

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

19. Which of the following is/ are the impact of climate change?

- (1) coral bleaching
- (2) intensification of acid rain
- (3) frequent extreme weather

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

20. Which of the following are the difficulties related to international cooperation in tackling climate change?

- (1) Countries fail to reach a consensus on the responsibilities they bear.
- (2) Current international agreements fail to force all countries to implement measures accordingly.
- (3) Some countries are reluctant to bear the extra costs brought about by the relevant measures.

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

END OF SECTION A

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

1. This fieldwork-based question is OPTIONAL.

A group of students conducted a geography fieldwork in Hong Kong. Tables 1a and 1b show some fieldwork instructions and some data collected, respectively.

Table 1a

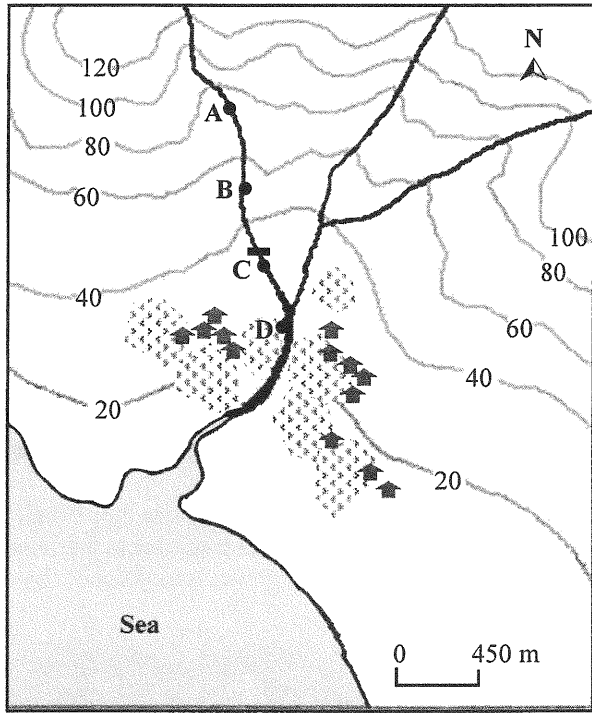
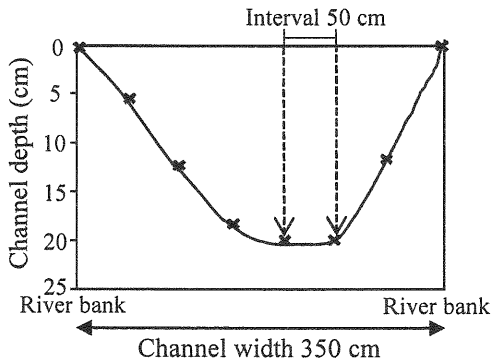
Fieldwork topic	The relationship between river courses and river discharge
Fieldwork date	A day in July
Sites for data collection	Use systematic sampling to select 4 sites, A, B, C and D with an interval of approximately 450 m to collect data of the river channel 
Tools for collecting the data of channel depth and width	A measuring tape, a ruler and two ranging poles
An example of a river channel cross section	

Table 1b

		Site for data collection			
		A	B	C	D
Velocity (m/s)	Record 1	0.18	0.20	0.68	0.89
	Record 2	0.23	0.23	0.12	0.92

- (a) Refer to Table 1a. State one merit and one demerit of the date for conducting the fieldwork. Explain your answer. (4 marks)
- (b) Refer to Tables 1a and 1b.
- (i) Describe how to use the tools listed in Table 1a to collect the data of channel depth and width in order to draw the river channel cross section. (4 marks)
- (ii) The students compiled a fieldwork report with the hypothesis: 'River discharge increases downstream'.

How should the students process and utilise the data collected before hypothesis testing?

(4 marks)

- (c) Refer to Tables 1a and 1b.

Evaluate the data collection methods used in this fieldwork and suggest ways for further improvement.

(6 marks)

2. Figure 2a shows the location of Cheung Chau. Figure 2b shows area P and landform feature Q on Cheung Chau. Photograph 2c shows the aerial view of landform feature Q.

Figure 2a

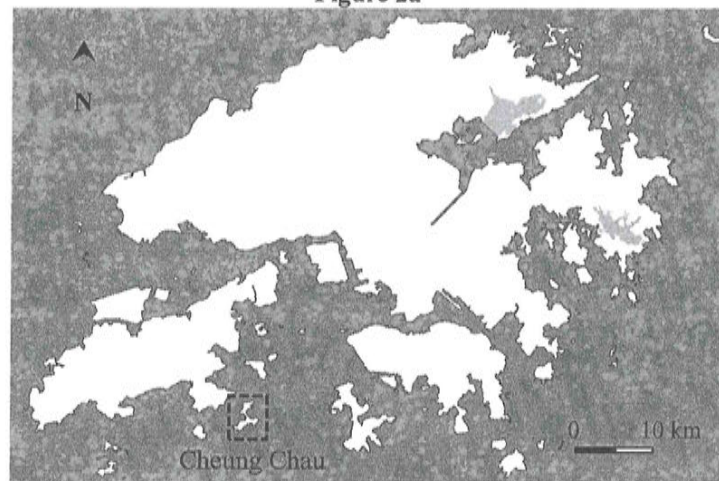
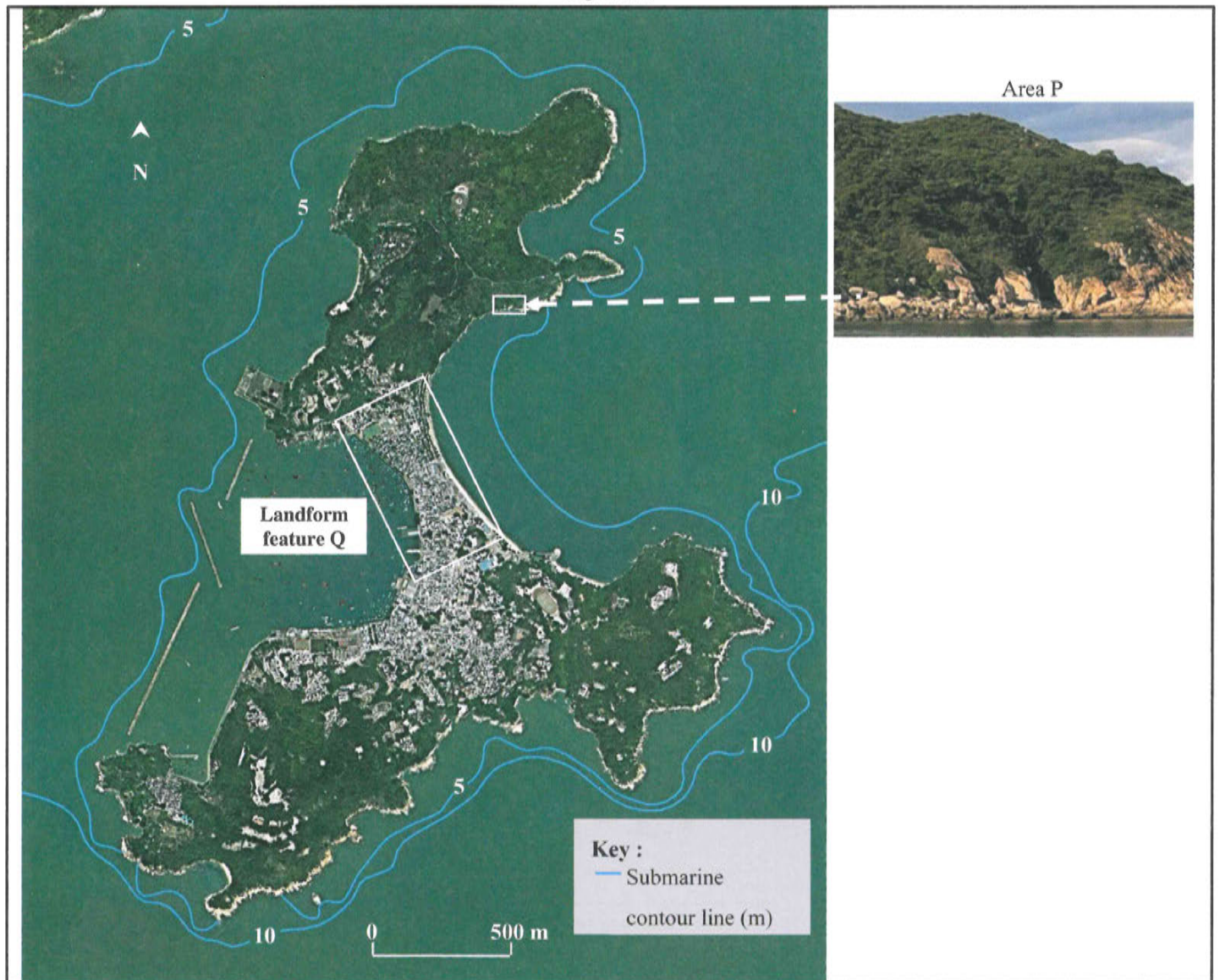
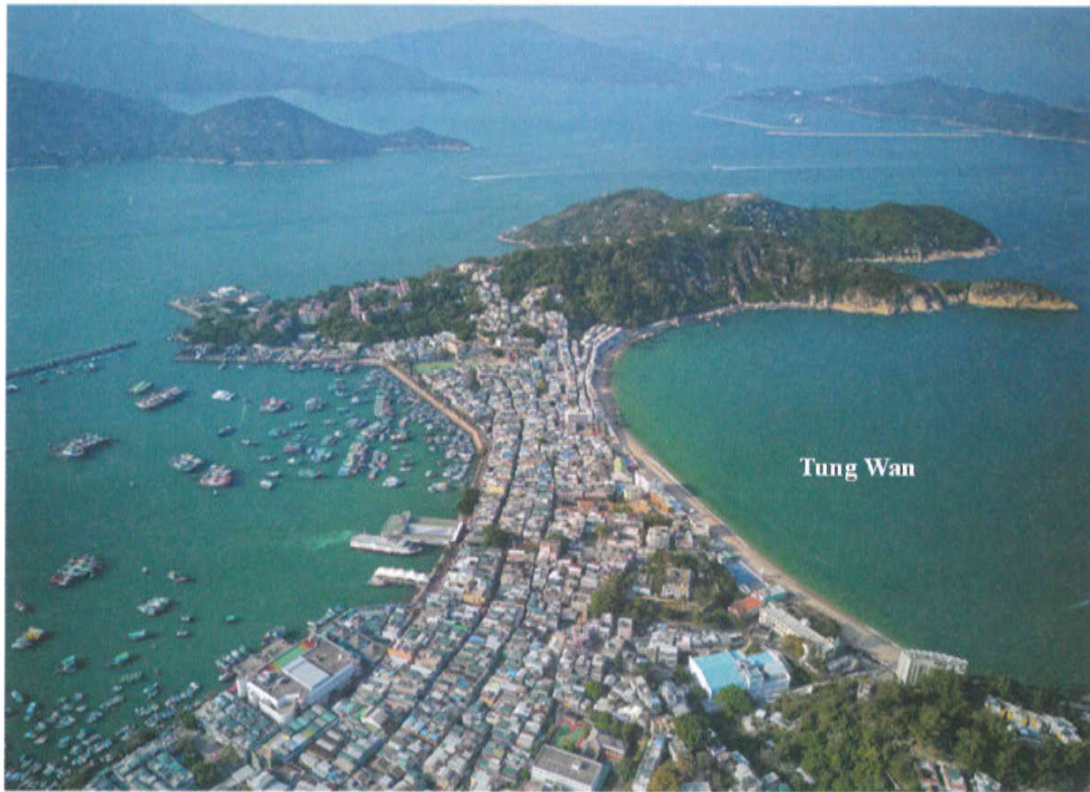


Figure 2b



Photograph 2c



(a) Refer to Figures 2a and 2b.

- (i) Identify the major coastal process in area P. (1 mark)
- (ii) Explain how the physical settings of area P favour the above major coastal process. (5 marks)

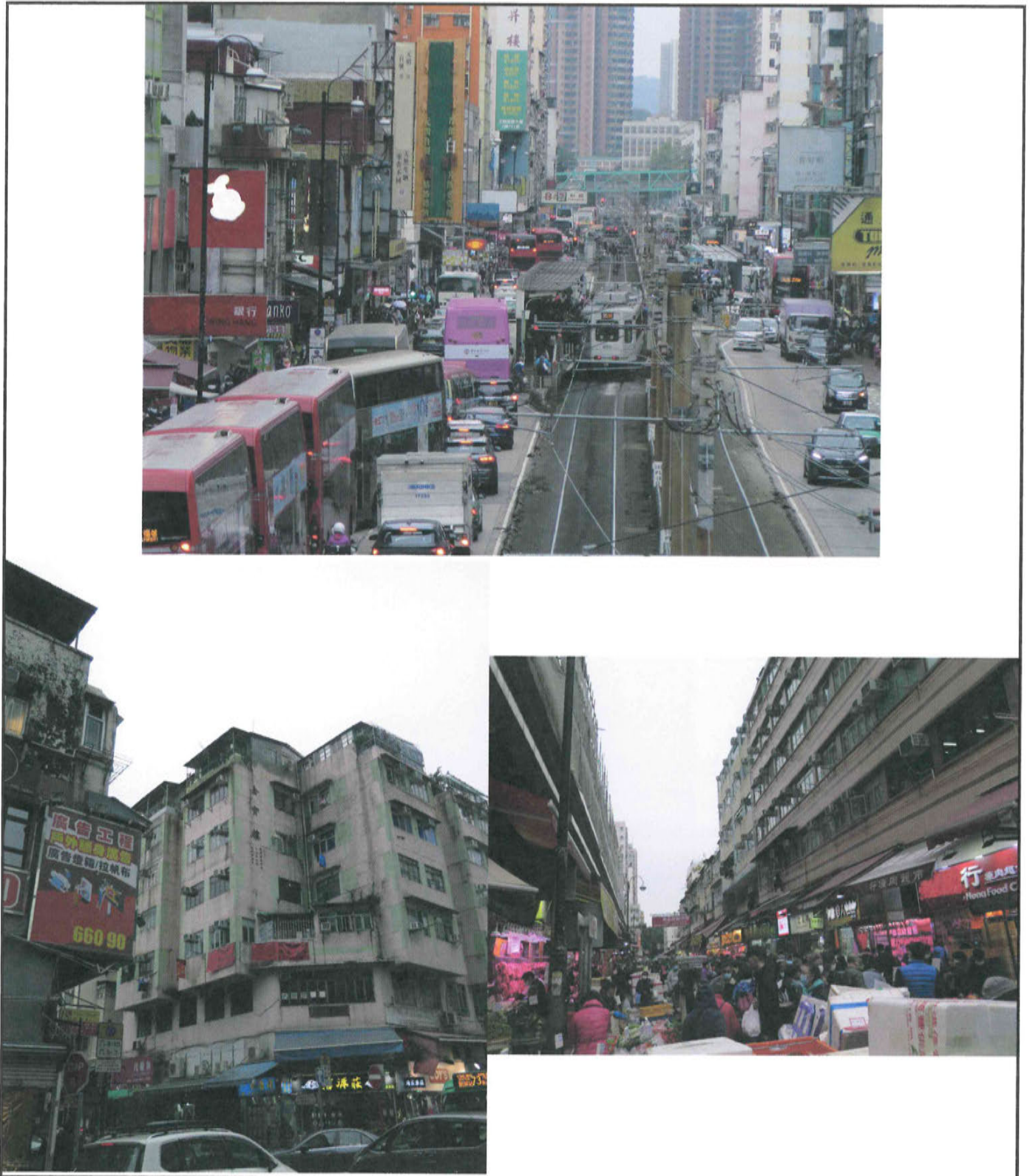
(b) Refer to Figure 2b and Photograph 2c.

- (i) Identify landform feature Q. Draw a series of annotated diagrams to explain its physical formation. (4 marks)
- (ii) Account for the human modifications of landform feature Q for development. (4 marks)
- (iii) *Some hard coastal management strategies have been adopted on Cheung Chau.*

Discuss whether they are appropriate strategies to manage both the eastern and western coasts of landform feature Q. (4 marks)

3. The map extract of Hong Kong (1:20 000) shows area X in Yuen Long and area Y in Tin Shui Wai. Area X was developed earlier than area Y. Figure 3 shows some scenes in grid squares 9484 and 9485 of area X.

Figure 3



- (a) Refer to Figure 3 and the map extract (1:20 000) of Hong Kong.
- (i) What are the urban problems in area X as shown in Figure 3? (3 marks)
- (ii) Account for the occurrence of the urban problems mentioned in (a) (i). (4 marks)
- (b) Land use zoning is implemented in area Y. Refer to the map extract (1:20 000) of Hong Kong.
- (i) Describe the spatial distribution of residential land use and recreational land use in area Y. (3 marks)
- (ii) What are the merits of the above land use distribution in area Y? (4 marks)
- (c) Refer to Figure 3 and the map extract (1:20 000) of Hong Kong.

With reference to the land use zoning in area Y, discuss whether it is an appropriate strategy to tackle the urban problems in area X.

(4 marks)

4. Figure 4a shows the structure of a tropical rainforest. Table 4b shows some data of the microclimate in a tropical rainforest before and after clear-cutting. Figure 4c shows the canopy cover development of different sites using restoration strategies M and N, implemented in a tropical rainforest.

Figure 4a

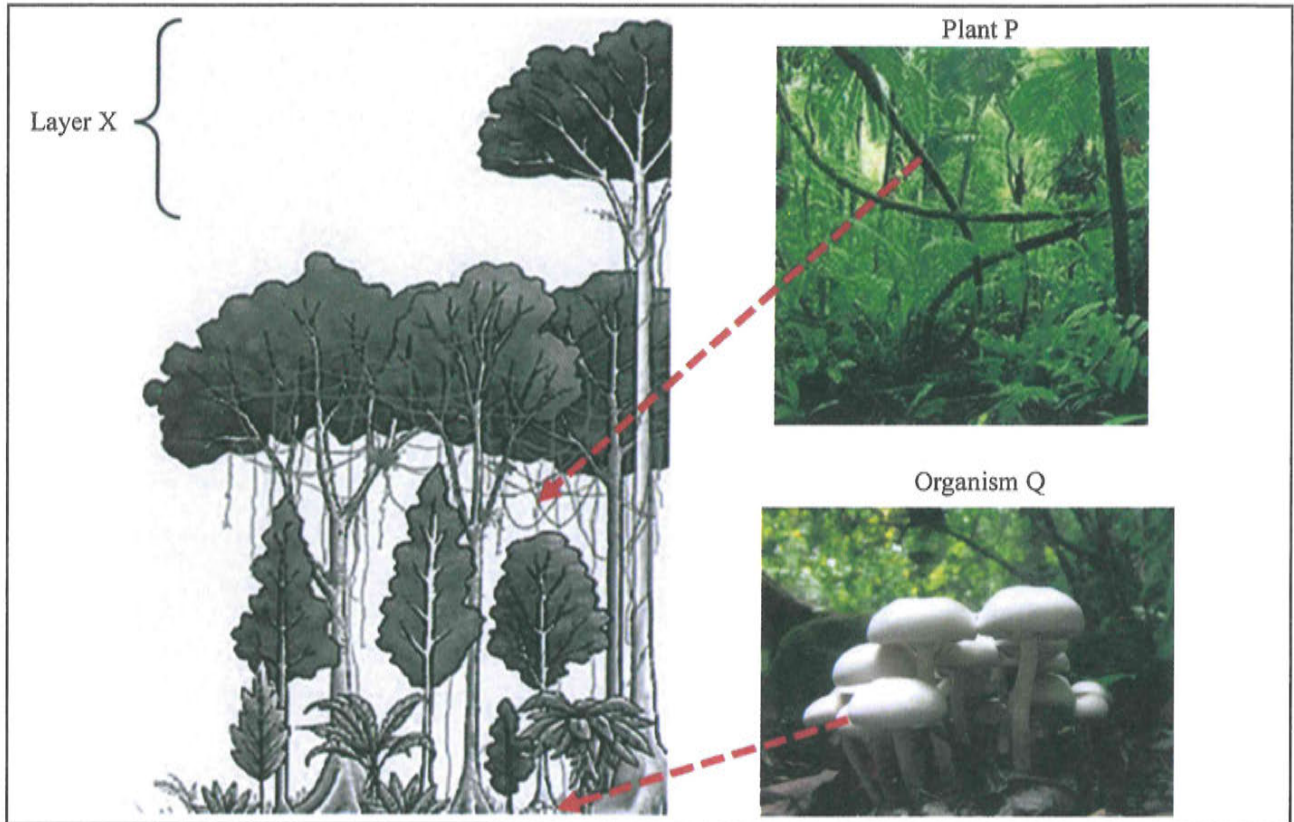
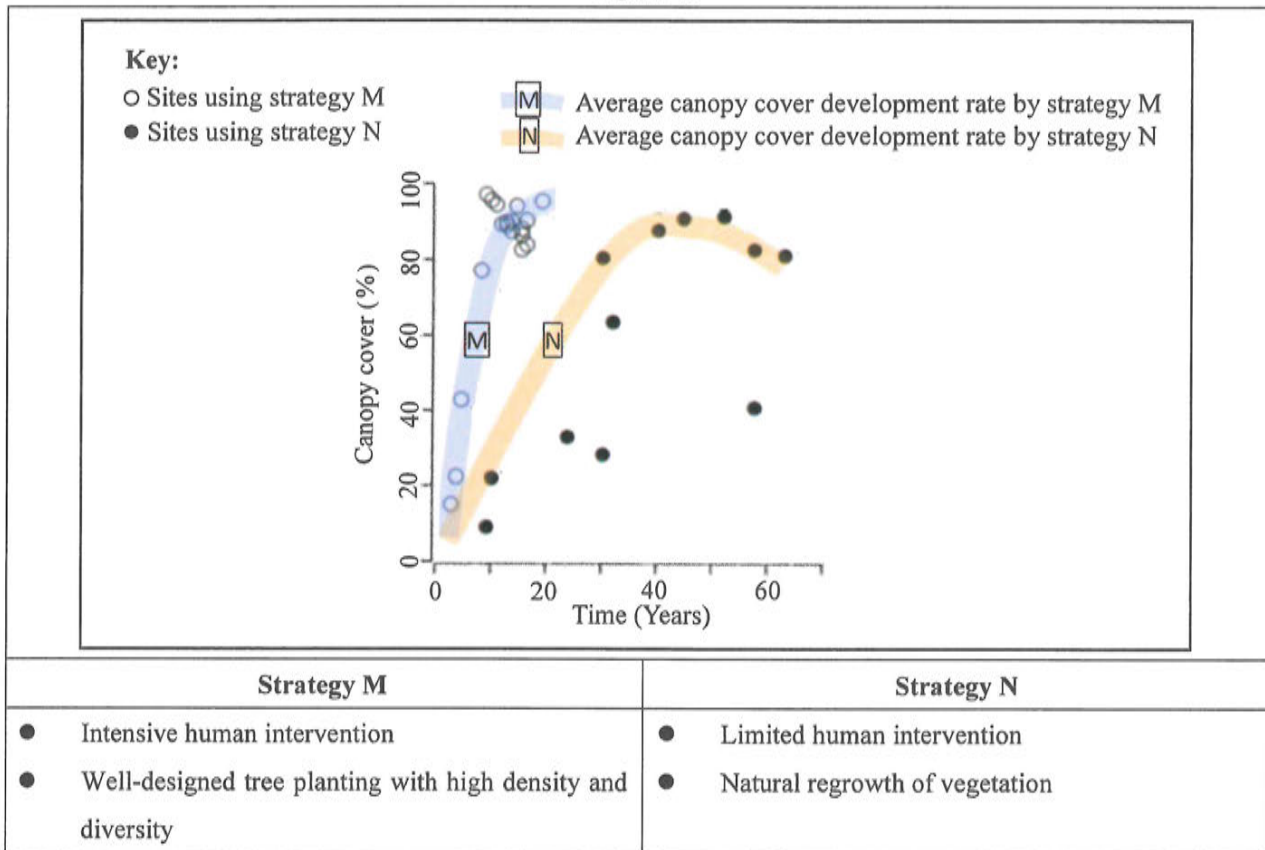


Table 4b

	Before clear-cutting	After clear-cutting
Temperature (°C)	24.4	29.9
Light intensity (lux)	3 856	20 960
Relative humidity (%)	97.2	92.3
Wind speed (m/s)	0.3	2.9

Figure 4c



(a) Refer to Figure 4a.

(i) Describe and explain the characteristics of the trees in layer X. (3 marks)

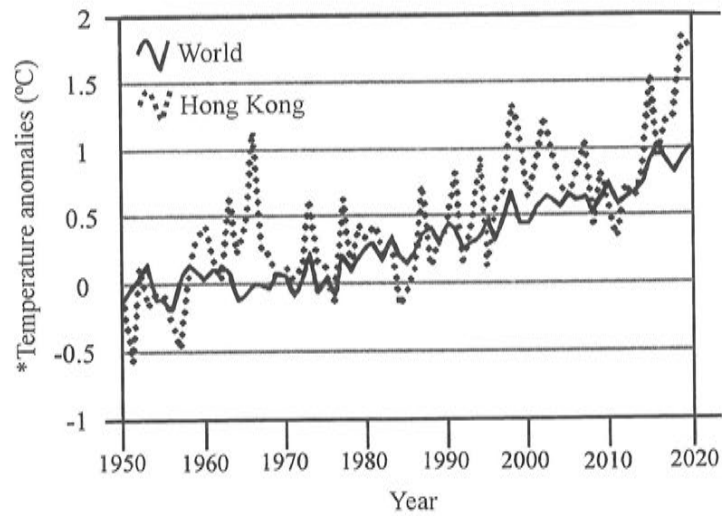
(ii) With reference to the specific environmental conditions of different layers, account for the growth of plant P and organism Q. (6 marks)

(b) Refer to Table 4b. Explain how the changes in vegetation structure after clear-cutting affect the microclimate in a tropical rainforest. (5 marks)

(c) Refer to Figure 4c. Discuss whether strategy M or N is more preferable in restoring a cleared tropical rainforest area. (4 marks)

5. Figure 5a shows the temperature anomalies of the world and Hong Kong from 1950 to 2020. Figure 5b shows two urban landscapes in Hong Kong. Figure 5c shows some environmentally friendly building designs in a city.

Figure 5a



(*Based on the mean temperatures from 1901 to 2000)

Figure 5b

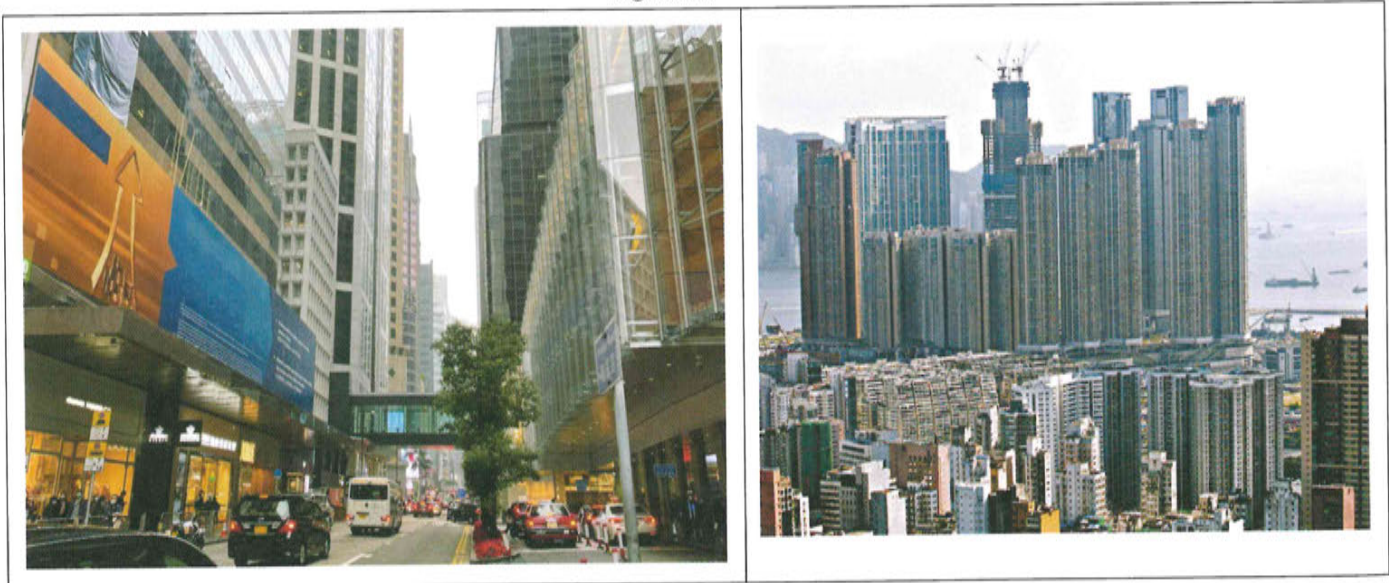


Figure 5c



(a) Refer to Figure 5a. Describe and explain the overall trend of temperature changes of the world from 1950 to 2020. (6 marks)

(b) Refer to Figures 5a and 5b.

(i) How is the magnitude of temperature changes in Hong Kong different from that of the world? (2 marks)

(ii) Explain the above difference. (6 marks)

(c) Refer to Figures 5a, 5b and 5c.

Discuss whether Hong Kong should adopt the building designs shown in Figure 5c as a measure to tackle local temperature changes. (4 marks)

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

6. Account for the occurrence of earthquakes and volcanic eruptions along divergent plate boundaries. Explain why the earthquakes and volcanic eruptions that occur along divergent plate boundaries usually bring less socio-economic losses to the local areas when compared with those that occur along convergent plate boundaries.

(12 marks)

7. Account for the locational factors of the headquarters of the IT industry in the US. Why does the IT industry in the US at present commonly adopt the mode of multi-point production?

(12 marks)

8. Account for the physical and human factors of low food production in Sahel. Explain how local people may change their farming methods to produce enough food in the long run.

(12 marks)

END OF PAPER

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