

Section D: Answer ONE question from this section, which must be in a different elective from that chosen in Section E. Each question carries 18 marks.

1. Elective: Dynamic Earth

Candidates attempting this question are NOT allowed to choose Question 5 in Section E.

Photograph 1a shows rock type X in Hong Kong. Photograph 1b shows rock type Y and its landform feature. Figure 1c shows the simplified geological map of Hong Kong.

Photograph 1a



Photograph 1b

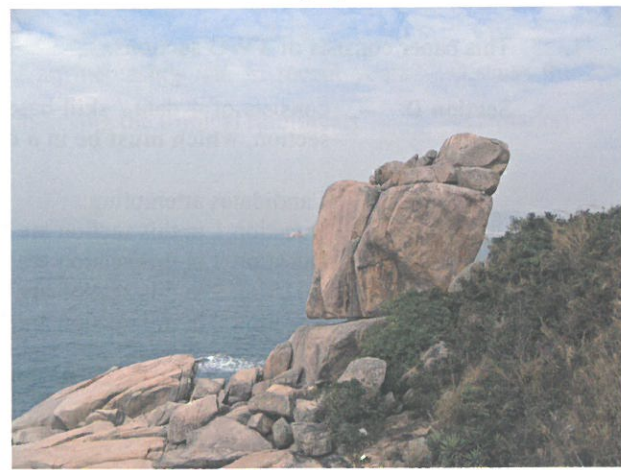
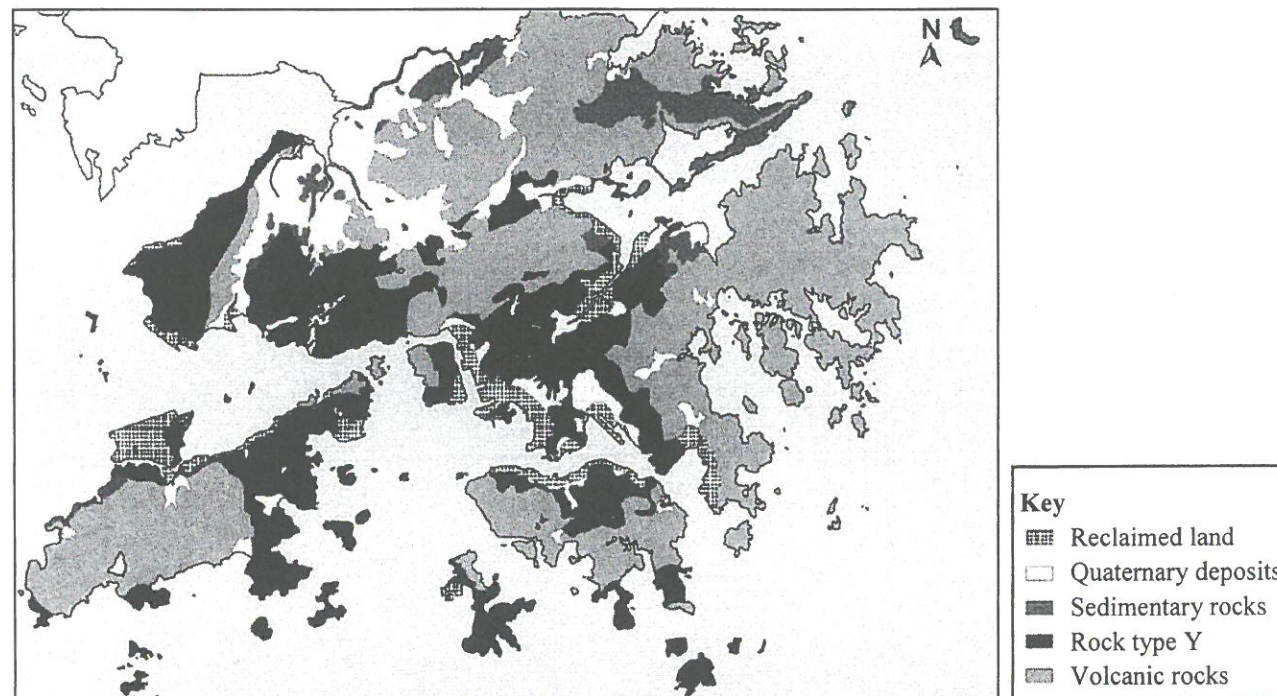


Figure 1c



- (a) (i) Identify rock types X and Y shown in Photographs 1a and 1b respectively. (2 marks)
- (ii) Compare the characteristics of rock types X and Y. (4 marks)
- (iii) Refer to Figure 1c. Describe the distribution of rock type X in Hong Kong. (2 marks)
- (iv) Using an annotated diagram, describe the formation of rock type Y. (3 marks)
- (b) Refer to Photograph 1b and Figure 1c.
- (i) Name two major processes that shaped the landform feature shown in Photograph 1b. (2 marks)
- (ii) Explain how climatic and rock characteristics affect the two processes in (b) (i). (5 marks)

2. Elective: Weather and Climate

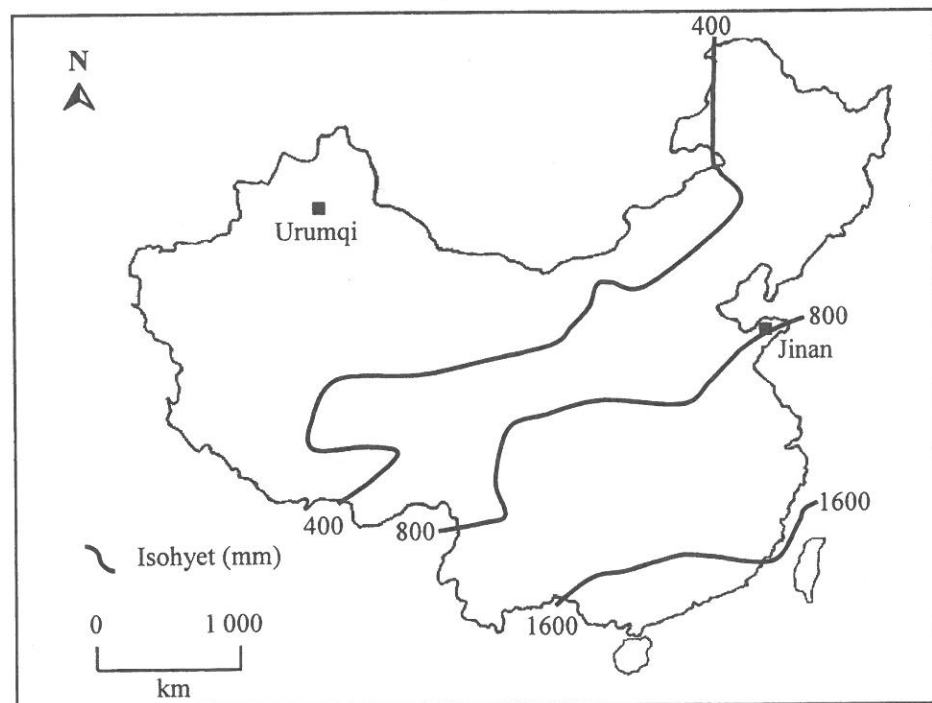
Candidates attempting this question are NOT allowed to choose Question 6 in Section E.

Table 2a shows the temperature information of Urumqi and Jinan. Figure 2b shows the distribution of annual rainfall in China and the location of Urumqi and Jinan.

Table 2a

Urumqi: 43°N; mean elevation: 800 m												
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean temperature (°C)	-13	-11	-1	11	18	23	25	24	18	9	-2	-10
Jinan: 36°N; mean elevation: 200 m												
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean temperature (°C)	-1	1	5	11	16	21	24	26	22	17	9	2

Figure 2b



(a) Refer to Table 2a and Figure 2b.

(i) Draw a graph to show the annual temperature patterns of Urumqi and Jinan on a piece of graph paper. (4 marks)

(ii) Contrast the annual temperature patterns of Urumqi and Jinan. (2 marks)

(iii) Explain the differences in temperature patterns of the two places in (a) (ii). (4 marks)

(b) Refer to Figure 2b.

(i) Describe and explain the spatial change of annual rainfall in China from Urumqi to Jinan. (4 marks)

(ii) State a climatic hazard faced by Urumqi. (1 mark)

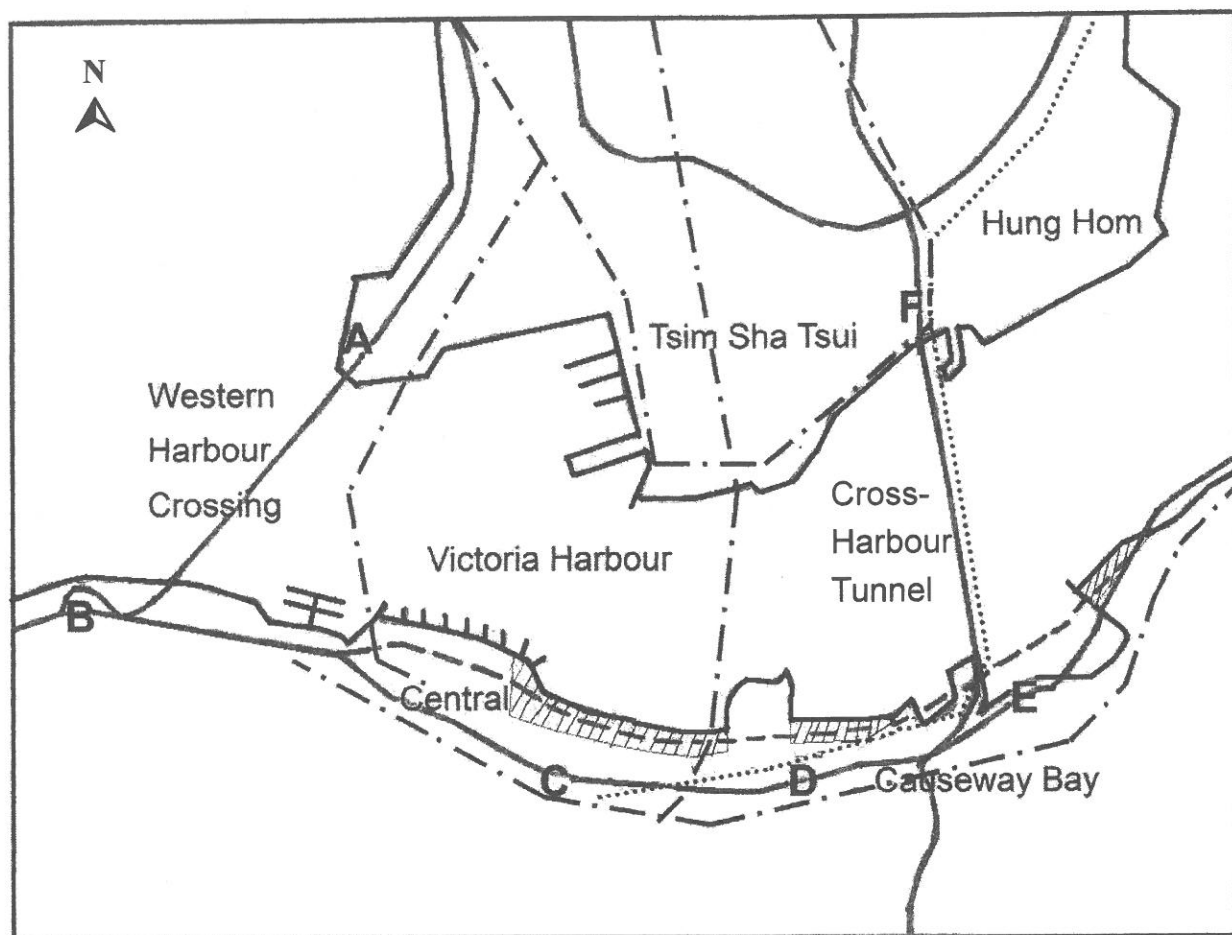
(iii) Evaluate the effectiveness of afforestation in solving the climatic hazard in (b) (ii). (3 marks)

3. Elective: Transport

Candidates attempting this question are NOT allowed to choose Question 7 in Section E.

Figure 3a shows some major transport routes and traffic counting stations in parts of Hong Kong. Table 3b shows the information of daily traffic at these counting stations in 2009.

Figure 3a



Key:
 - - - MTR
 Proposed MTR Link
 ~~~~~ Main roads  
 - - - Central - Wan Chai Bypass  
 //// Reclamation

Table 3b

| Traffic counting station | Annual average daily traffic (Number of vehicles) | Lanes of road | Annual average daily traffic per lane (Number of vehicles) |
|--------------------------|---------------------------------------------------|---------------|------------------------------------------------------------|
| A                        | 47 830                                            | 6             | 7 972                                                      |
| B                        | 46 360                                            | 8             | 5 795                                                      |
| C                        | 146 700                                           | 8             | 18 338                                                     |
| D                        | 172 560                                           | 10            | 17 256                                                     |
| E                        | 144 790                                           | 9             | 16 088                                                     |
| F                        | 122 980                                           | 4             | X                                                          |

- (a) Refer to Figure 3a and Table 3b.
- (i) Calculate X in Table 3b. (1 mark)
  - (ii) Describe the spatial distribution pattern of daily traffic in 2009 in the area. (3 marks)
  - (iii) Account for the major transport problem at counting stations C and D. (3 marks)
- (b) The Central - Wan Chai Bypass currently under construction is a dual three-lane trunk road that runs mainly underground.
- (i) How could the Central - Wan Chai Bypass help alleviate the problem in (a) (iii)? (4 marks)
  - (ii) With reference to the information given, discuss the environmental issues arising from the construction of the Central - Wan Chai Bypass. (3 marks)
  - (iii) Both the Central - Wan Chai Bypass and the proposed MTR link are under construction. Why can the transport problem in (a) (iii) NOT be solved by constructing either the Bypass or the proposed MTR link only? (4 marks)

4. Elective: Regional Study of Zhujiang Delta

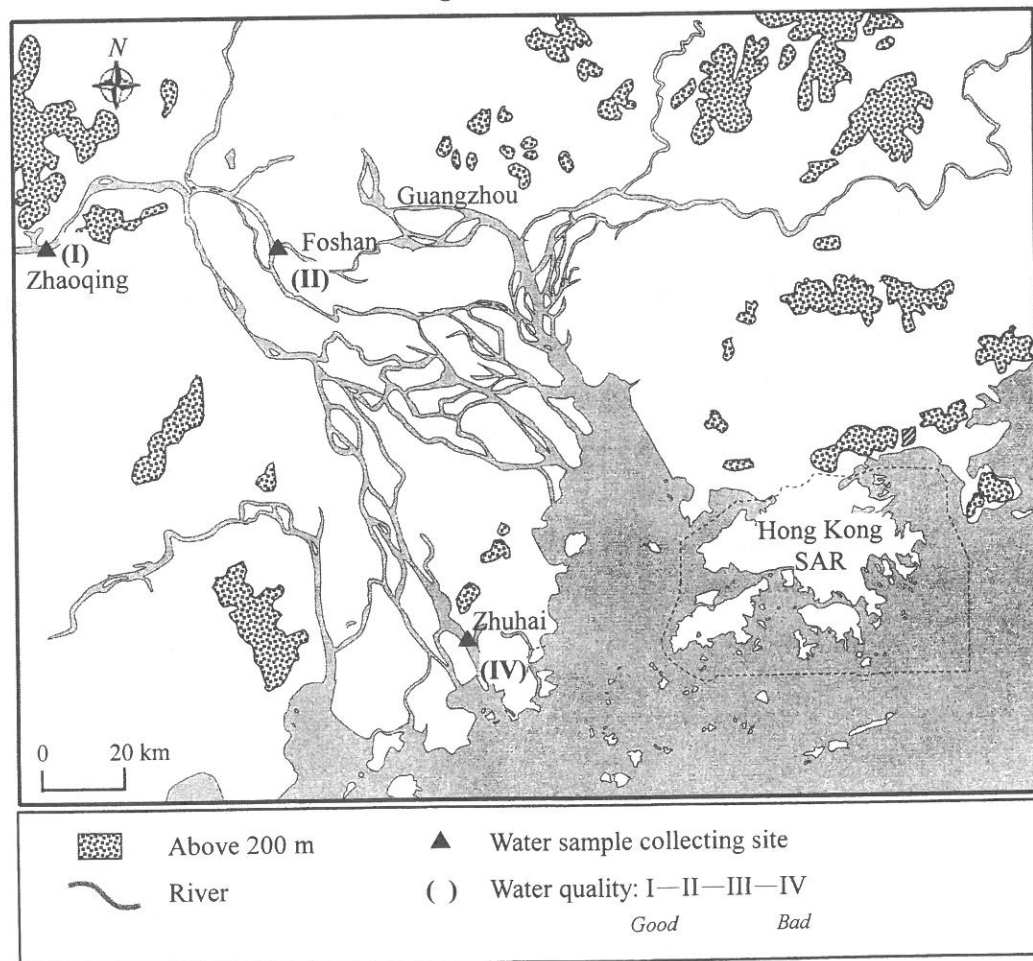
Candidates attempting this question are NOT allowed to choose Question 8 in Section E.

Table 4a shows the information of three cities in the Zhujiang Delta region in 2009. Figure 4b shows the different water sample collecting sites and their river water quality in the Guangdong Province on a given day.

Table 4a

|                                                               | Zhaoqing | Foshan | Zhuhai |
|---------------------------------------------------------------|----------|--------|--------|
| Area of land (km <sup>2</sup> )                               | 14 822   | 3 848  | 1 654  |
| Population density (persons / km <sup>2</sup> )               | 262      | 1 588  | 902    |
| GDP per capita (yuan)                                         | 22 415   | 80 686 | 69 889 |
| Total industrial production (100 million yuan)                | 1 179    | 11 711 | 2 405  |
| Proportion of industry in total local economic production (%) | 32.9     | 60.8   | 48.8   |
| Rate of increase in total industrial production (%)           | 20.6     | 13.7   | 2.4    |
| Industrial sewage (100 million tonnes)                        | 8 241    | 25 643 | 5 891  |

Figure 4b



(a) Refer to Table 4a.

- (i) Describe the differences in industrial development of Zhaoqing and Foshan. (2 marks)
- (ii) Explain the differences in (a) (i). (4 marks)

(b) Refer to Table 4a and Figure 4b.

- (i) Describe and explain the changes in water quality of the river from Zhaoqing to Zhuhai. (4 marks)
- (ii) Account for the social cost and economic loss brought by the conditions of water quality in Zhuhai. (4 marks)
- (iii) Suggest how the Zhuhai municipal government could improve the water quality. (4 marks)

**Section E: Answer ONE question from this section, which must be in a different elective from that chosen in Section D. Each question carries 12 marks.**

**5. Elective: Dynamic Earth**

**Candidates attempting this question are NOT allowed to choose Question 1 in Section D.**

Illustrate how water affects the external processes on the slopes of Hong Kong. Explain how these external processes shape the slope landscape in Hong Kong. (12 marks)

**6. Elective: Weather and Climate**

**Candidates attempting this question are NOT allowed to choose Question 2 in Section D.**

Describe the formation of the monsoon wind system. Explain the impact of monsoons and other weather systems on the precipitation characteristics in Hong Kong. (12 marks)

**7. Elective: Transport**

**Candidates attempting this question are NOT allowed to choose Question 3 in Section D.**

Explain the favourable conditions for Hong Kong to develop into a regional logistic hub. Comment on the impact of the Hong Kong-Zhuhai-Macao Bridge with reference to the long-term logistic development in Hong Kong. (12 marks)

**8. Elective: Regional Study of Zhujiang Delta**

**Candidates attempting this question are NOT allowed to choose Question 4 in Section D.**

Describe the changes in farming characteristics of the Zhujiang Delta region in the past 30 years. Comment on the impact of technological development on the local farming production pattern. (12 marks)

**END OF PAPER**

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

**Marking Scheme**

**Paper 1  
Section A**

| Question No. | Key     | Question No. | Key     |
|--------------|---------|--------------|---------|
| 1.           | D (38%) | 21.          | C (46%) |
| 2.           | B (32%) | 22.          | A (67%) |
| 3.           | B (43%) | 23.          | B (89%) |
| 4.           | A (54%) | 24.          | B (58%) |
| 5.           | C (31%) | 25.          | A (89%) |
| 6.           | B (74%) | 26.          | A (65%) |
| 7.           | D (67%) | 27.          | B (92%) |
| 8.           | D (43%) | 28.          | D (62%) |
| 9.           | C (56%) | 29.          | A (19%) |
| 10.          | B (51%) | 30.          | A (73%) |
| 11.          | C (60%) | 31.          | B (45%) |
| 12.          | B (55%) | 32.          | C (51%) |
| 13.          | D (65%) | 33.          | D (83%) |
| 14.          | D (70%) | 34.          | C (73%) |
| 15.          | A (68%) | 35.          | C (85%) |
| 16.          | D (76%) | 36.          | A (87%) |
| 17.          | C (64%) | 37.          | A (35%) |
| 18.          | D (41%) | 38.          | C (74%) |
| 19.          | D (77%) | 39.          | B (52%) |
| 20.          | A (70%) | 40.          | C (40%) |

*Note: Figures in brackets indicate the percentages of candidates choosing the correct answers.*