HONG KONG EXAMINATIONS AND ASSESSMENT AUTHORITY
HONG KONG DIPLOMA OF SECONDARY EDUCATION EXAMINATION 2016

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 **cannot** be found in grid square 2979?

    A. bridge
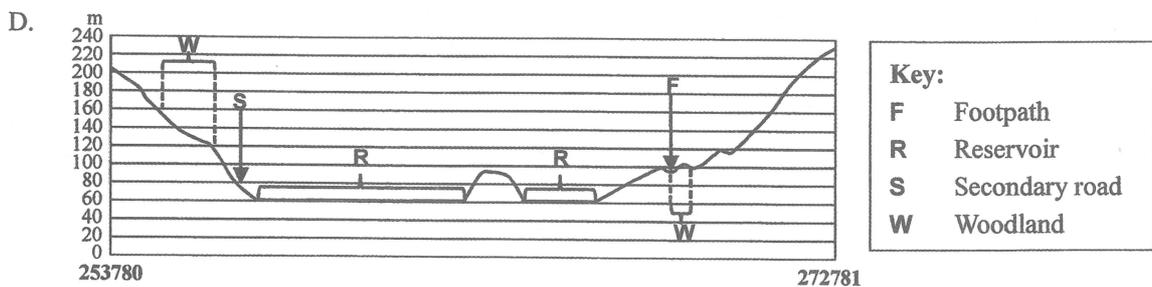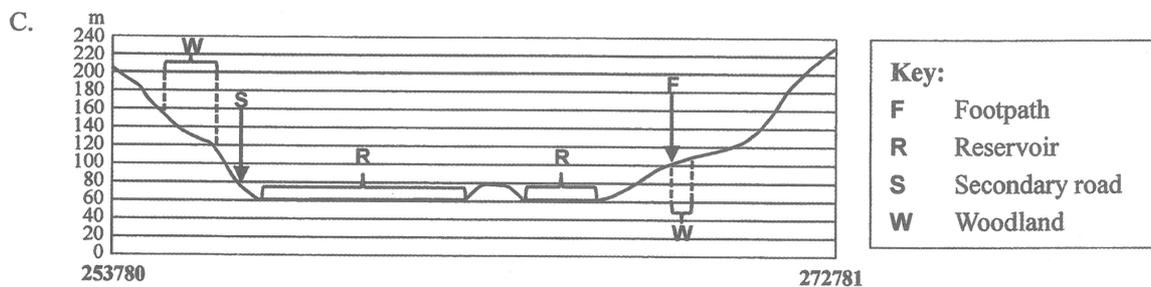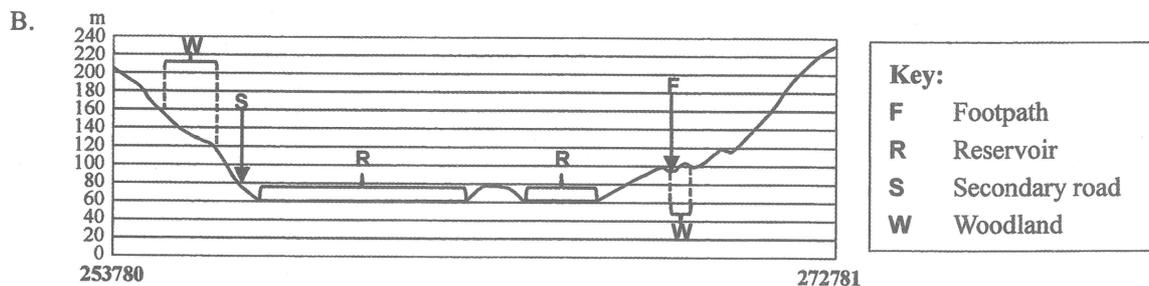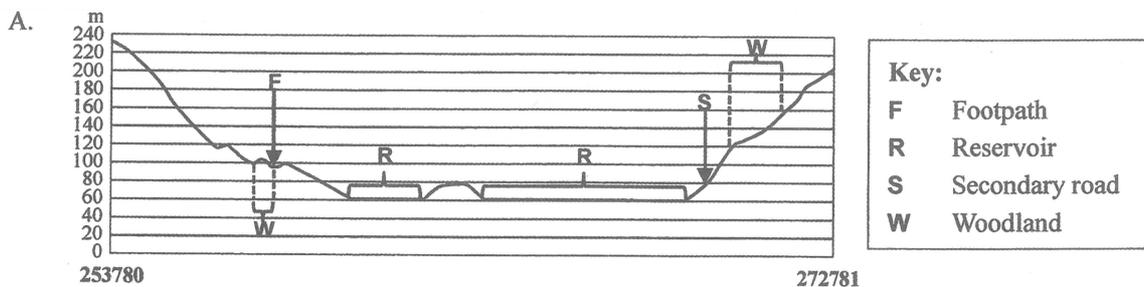   B. pond
    C. pier
    D. built-up area

2. Which of the following is the reduced bearing of spot height 255 (286790) from the lookout at 298782?

    A. W34°N
    B. N56°W
    C. 34°
    D. 56°

3. Which of the following is the average gradient of the footpath from spot height 178 (284776) to 282780?

    A. 1:3
    B. 1:5
    C. 1:7
    D. 1:9

4. The area of the artificial lake at Chong Hing Water Sports Centre in grid squares 2576 and 2676 is approximately

    A. 100 000 m².
    B. 125 000 m².
    C. 150 000 m².
    D. 175 000 m².

5. Which of the following are intervisible with spot height 366 (269796)?

    (1) Pai Ngak Shan (270806)
    (2) Lady MacLehose Holiday Village (245805)
    (3) West Dam of High Island Reservoir (262766)

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

6. Which of the following shows the correct annotated cross section from trigonometric station 204 (253780) to trigonometric station 232 (272781)?

A.

Key:

F	Footpath
R	Reservoir
S	Secondary road
W	Woodland

B.

Key:

F	Footpath
R	Reservoir
S	Secondary road
W	Woodland

C.

Key:

F	Footpath
R	Reservoir
S	Secondary road
W	Woodland

D.

Key:

F	Footpath
R	Reservoir
S	Secondary road
W	Woodland

7. Which of the following are the correct descriptions of the youth camp on Wong Yi Chau (237779)?

   (1) located above 40 m
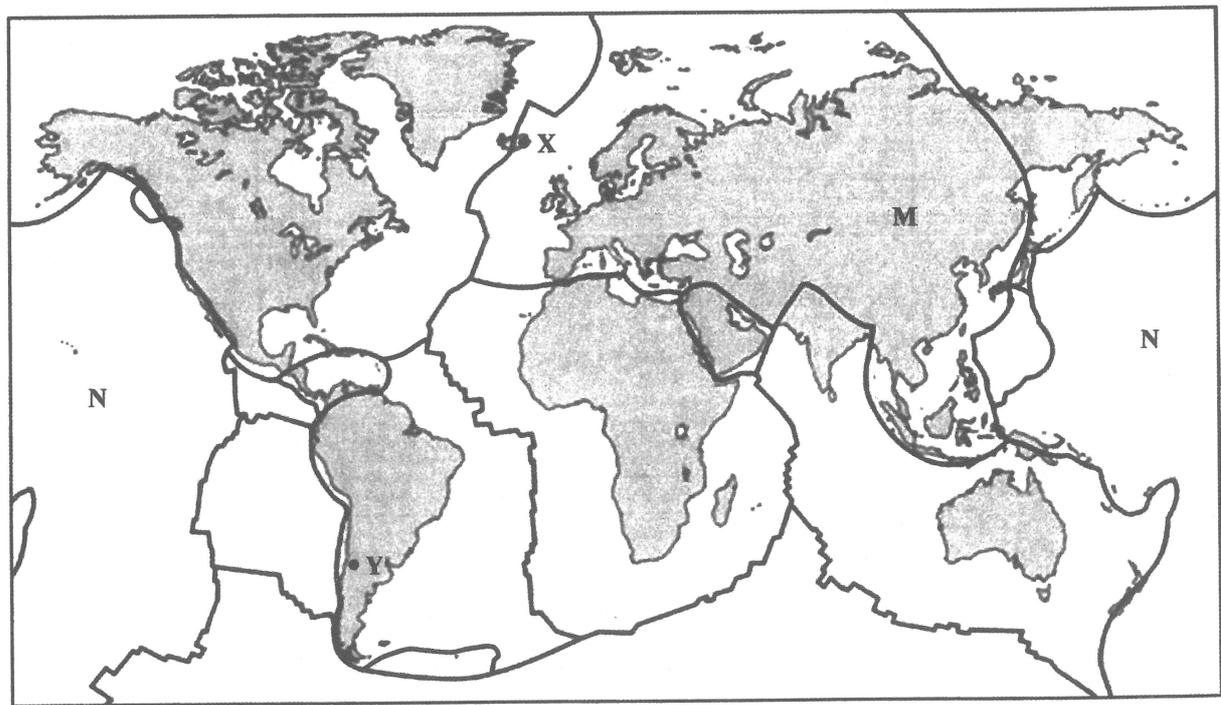   (2) accessible by boat
   (3) presence of power line

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

8. Which of the following favour(s) the setting up of Pak Tam Chung Holiday Camp at 241791?

   (1) presence of flat land
   (2) declared monument nearby
   (3) accessible by road

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

Refer to the figure below to answer Questions 9 to 11.

——— Plate boundary

9.   Which of the following pairs of comparison between plates M and N are correct?

		Plate M	Plate N
(1)	Type of plate	continental plate	oceanic plate
(2)	Thickness	thicker	thinner
(3)	Density	higher	lower

    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 descriptions of island X is correct?
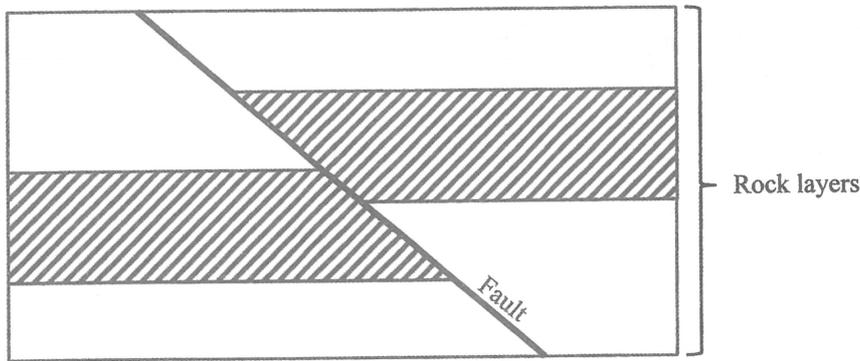
    A.   presence of fold mountains
    B.   presence of volcanic activities
    C.   formed by convergence of plates
    D.   located at subduction zone

11. There were only 13 deaths in the 2015 earthquake in area Y which measured 8.3 on the Richter scale.
     Which of the following best explain the low death toll in the earthquake?

    (1)   Government issued preventive warnings.
    (2)   The earthquake mainly affected less densely populated regions.
    (3)   Strong building materials in the rural areas.

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

12. Refer to the figure below which shows faulting.
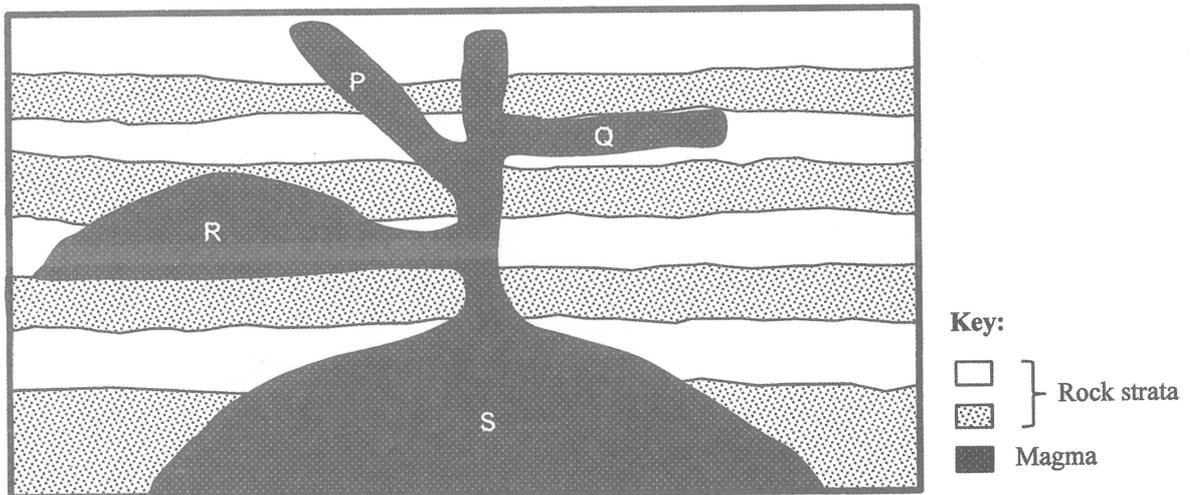

Which of the following is (are) the correct description(s) of the above figure?

(1)   occurrence of normal fault
(2)   formed by compressional force
(3)   vertical displacement of rock layers

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

13. Refer to the figure below which shows intrusive vulcanicity.

Key:
☐ } Rock strata
▨
■ Magma

Which of the following is the correct labelling of the above figure?

	P	Q	R	S
A.	Dyke	Sill	Laccolith	Batholith
B.	Batholith	Laccolith	Sill	Dyke
C.	Laccolith	Dyke	Batholith	Sill
D.	Sill	Batholith	Dyke	Laccolith

14. Which of the following measures may lower the chance of flooding?

    (1) afforestation
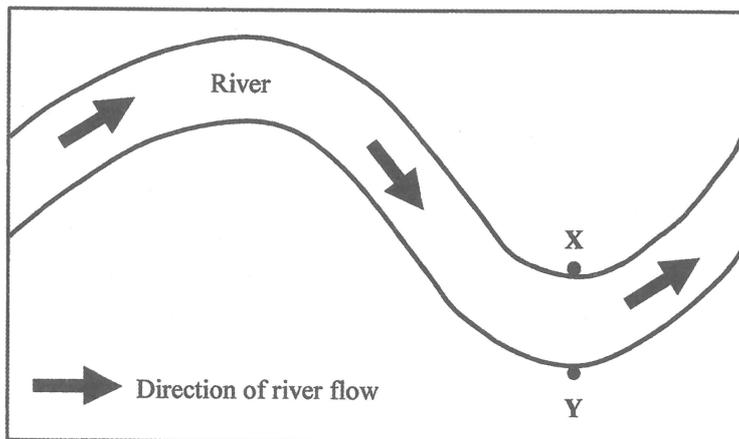   (2) straightening of river channel
    (3) returning farmland to lake

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

15. Which of the following are the favourable factors for the formation of a delta?

    (1) heavy load
    (2) presence of large lakes along the river
    (3) gentle gradient at the river mouth

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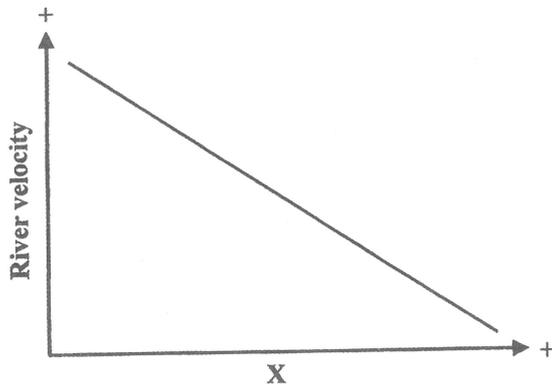   D. (1), (2) and (3)

16. Refer to the figure below.

Which of the following pairs of comparison between points X and Y are correct?

		Point X	Point Y
(1)	Slope gradient	steeper	gentler
(2)	River velocity	lower	higher
(3)	Erosive power	smaller	greater

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

17.

Which of the following is (are) the possible label(s) for the X-axis in the above graph?

(1) Channel gradient
(2) Channel roughness
(3) Channel discharge

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

18. Which of the following are the characteristics of the information technology industry?

(1) weight-losing industry
(2) multi-point production
(3) short life cycle of products

   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 locational requirement(s) of a high-tech industrial area?

(1) coastal location
(2) proximity to R & D institutes
(3) pleasant environment

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

20. Which of the following were the reasons for the development of Hong Kong industries from the 1960s to the 1970s?

(1) abundant labour supply
(2) provision of industrial land by government
(3) growth of mainland market

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

21. Which of the following are the reasons for the concentration of US information technology industries in Silicon Valley?

(1) large local market
(2) abundant ancillary services
(3) good transport network

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

22. Refer to the table below which shows the population statistics of country X in 2000 and 2010.

	2000	2010
Percentage of rural population	60	50
Percentage of urban population	40	50
Total population (million)	2.0	2.5

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

(1) urbanisation
(2) urban growth
(3) rural depopulation

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

23. Which of the following is the main purpose of urban renewal?

    A. raising land value
    B. lowering population density
    C. improving living environment
    D. increasing employment opportunities

24. Which of the following factors may induce suburbanisation?

(1) urban decay
(2) development of mass transit system
(3) new town development

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

25. What are the possible advantages of modern incinerators over landfills for waste management in Hong Kong?

(1) less land occupied
(2) less land contamination
(3) longer operation period

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

26. Refer to the photograph below.

Which of the following are the possible problems brought about by the land use shown in the above photograph?

(1) noise pollution
(2) traffic congestion
(3) land use conflict

    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 which shows a modern farm.

Which of the following is the correct description of the input of the farm?

    A.   fertile soil
    B.   regulated temperature
    C.   low mechanisation level
    D.   low capital

28. Which of the following are the possible causes of famine?

    (1)   over-cultivation
    (2)   extreme climatic conditions
    (3)   political unrest

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

29. Which of the following are the correct descriptions of genetically modified (GM) crops?

(1) higher yield
(2) more disease-resistant
(3) lower production costs

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

30. Which of the following is the correct description of the climate in the Sahel region?

    A.   low relative humidity
    B.   winter rain only
    C.   annual rainfall below 200 mm
    D.   annual range of temperature greater than 30°C

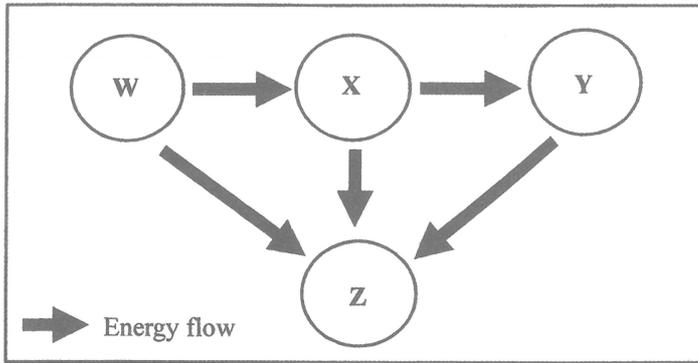31. Refer to the photograph below which shows an agricultural activity in the Sahel region.

Which of the following are the possible impact brought about by the agricultural activity?

(1) intensifying desertification
(2) slowing down the recovery of vegetation
(3) causing drier climate

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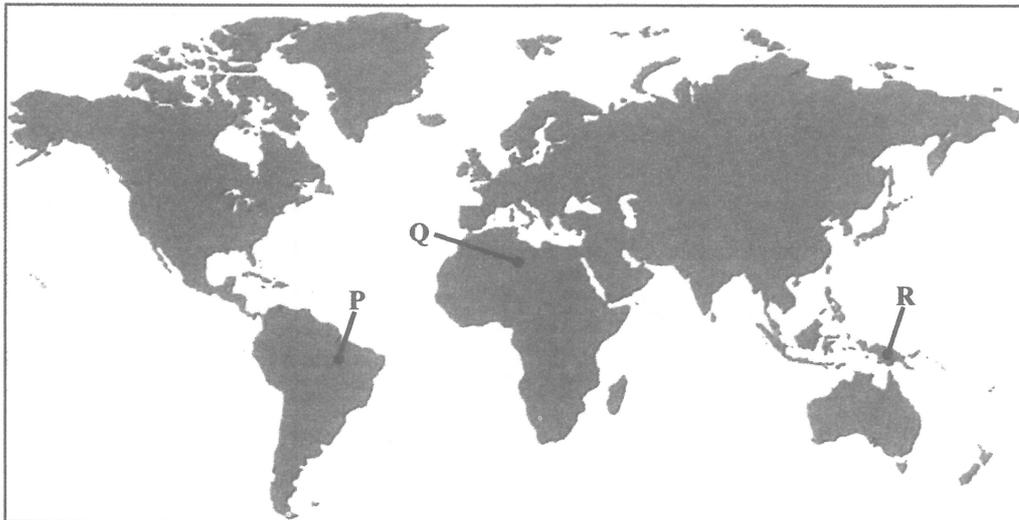   C.   (2) and (3) only
    D.   (1), (2) and (3)

32. Refer to the figure of a food chain below.

Energy flow

Which of the following is the correct labelling of the above figure?

	W	X	Y	Z
A.	Decomposer	Secondary consumer	Primary consumer	Producer
B.	Secondary consumer	Decomposer	Producer	Primary consumer
C.	Producer	Primary consumer	Secondary consumer	Decomposer
D.	Primary consumer	Producer	Decomposer	Secondary consumer

33. Refer to the figure below.

Tropical rainforests can be found at

    A.   P and Q.
    B.   P and R.
    C.   Q and R.
    D.   P, Q and R.

34. Which of the following are reasons for massive felling of tropical rainforests?

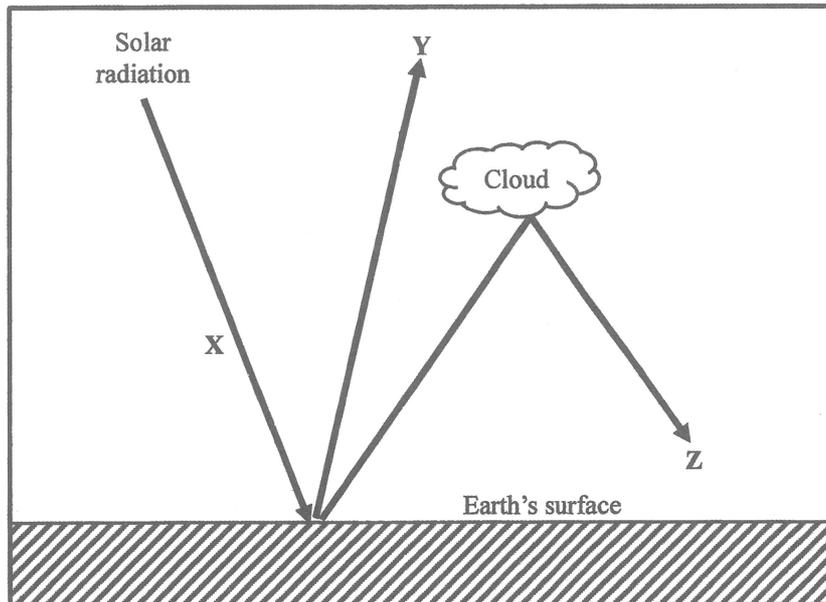(1) eco-tourism
(2) transport network development
(3) mining

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

35. Which of the following are the characteristics of shifting cultivation?

(1) slash and burn
(2) land abandonment after 3 to 5 years of cultivation
(3) high yield per hectare

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

36. Refer to the figure below which shows the greenhouse effect.

Which of the following is the correct labelling of the above figure?

	X	Y	Z
A.	Short wave radiation	Long wave radiation	Counter radiation
B.	Short wave radiation	Counter radiation	Long wave radiation
C.	Long wave radiation	Short wave radiation	Counter radiation
D.	Counter radiation	Long wave radiation	Short wave radiation

37. Which of the following factors affect the amount of insolation received on the earth's surface?

    (1) slope aspect
    (2) angle of insolation
    (3) nature of the earth's surface

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

38. Refer to the figure below.

Which of the following pairs of comparison between cities X and Y are correct?

		City X	City Y
(1)	Summer temperature	higher	lower
(2)	Diurnal range of temperature	greater	smaller
(3)	Annual range of temperature	smaller	greater

        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 gases can absorb long wave radiation?

(1) methane
(2) chlorofluorocarbons
(3) water vapour

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

40. The consequences of global warming may include

(1) increasing the mean sea level.
(2) increasing the concentration of greenhouse gases.
(3) reducing the extent of sea ice and glaciers.

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. Using the attached map extract (1:20 000) of Hong Kong which shows part of Sai Kung, a group of Geography students carried out a field study on the coastal landforms and environment at the area around the High Island Reservoir. Figure 1a shows the sketch map of grid square 2874 and the notes of their field study. Table 1b shows the data collected at sites 3 and 4. Figure 1c shows coastal landform Y at site 4.
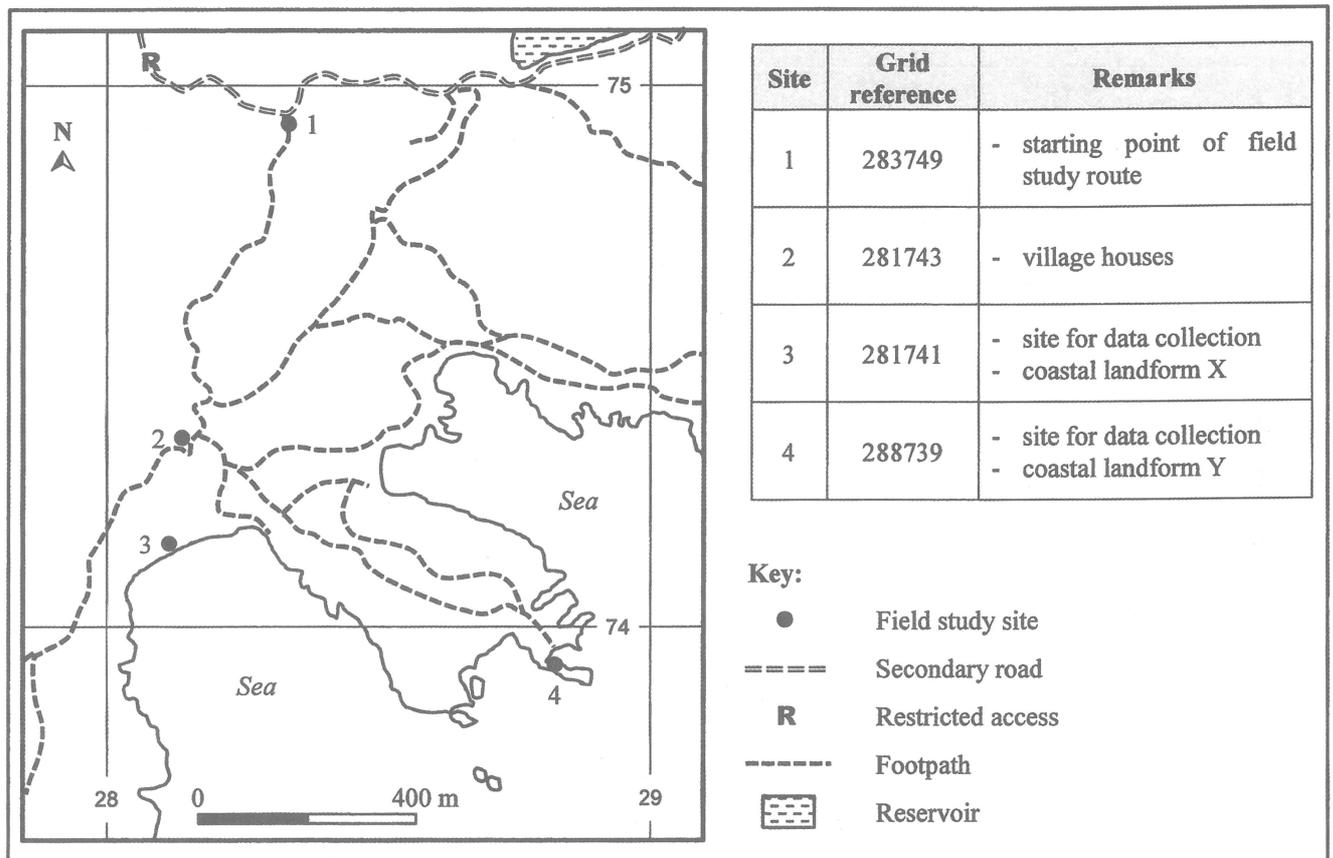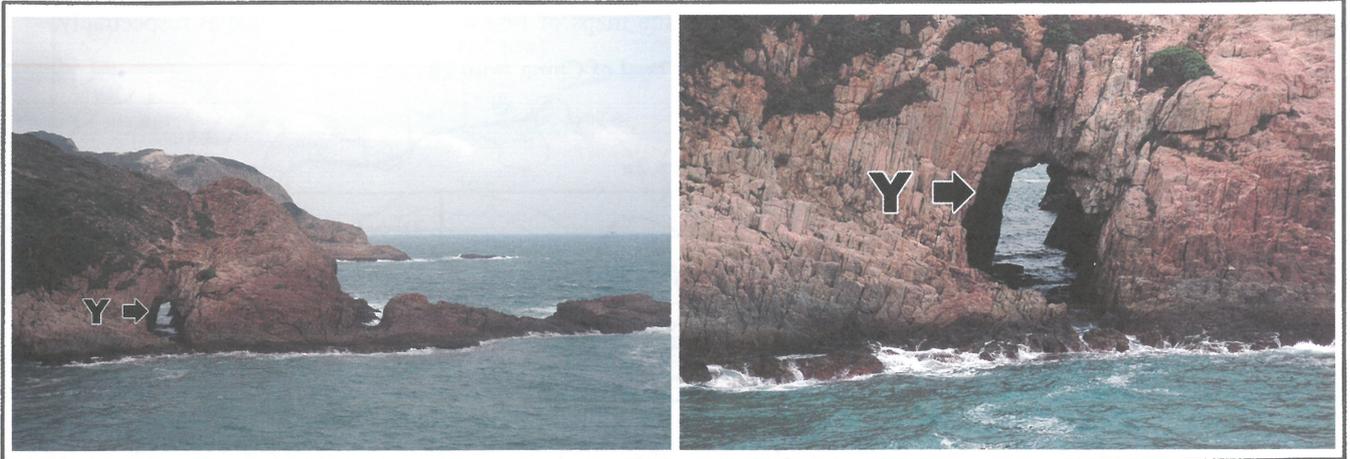
Figure 1a

Site	Grid reference	Remarks
1	283749	- starting point of field study route
2	281743	- village houses
3	281741	- site for data collection - coastal landform X
4	288739	- site for data collection - coastal landform Y

Key:

●	Field study site
====	Secondary road
R	Restricted access
- - - - -	Footpath
▦	Reservoir

Table 1b

	Site 3	Site 4
Wind direction	southeast	southeast
Wind speed (m/s)	1.7	9.2
Wave frequency per minute	8	14

(a) Refer to the map extract (1:20 000) of Hong Kong, Figure 1a, Table 1b and Figure 1c.

    (i) Identify coastal landform X at site 3 from the map extract (1:20 000) and coastal landform Y at site 4 from Figure 1c. (2 marks)

    (ii) Draw a series of annotated diagrams to explain the formation of coastal landform Y. (5 marks)

    (iii) Using evidence from the map extract (1:20 000) and Table 1b, account for the major work of waves at sites 3 and 4. (6 marks)

(b) After the field study, the students explored the possibility of developing site 2 (281743) into a holiday resort.

Refer to grid squares 2873, 2874 and 2875 in the map extract (1:20 000) of Hong Kong. Discuss the reasons for and against such a development. (5 marks)

2. Figure 2a shows the development stages of the iron and steel industry in China and the locations of iron and steel plants A and B. Figures 2b and 2c are the site maps of iron and steel plants A and B respectively. Table 2d shows the amount of imported iron ore and coal of China from 2010 to 2012.
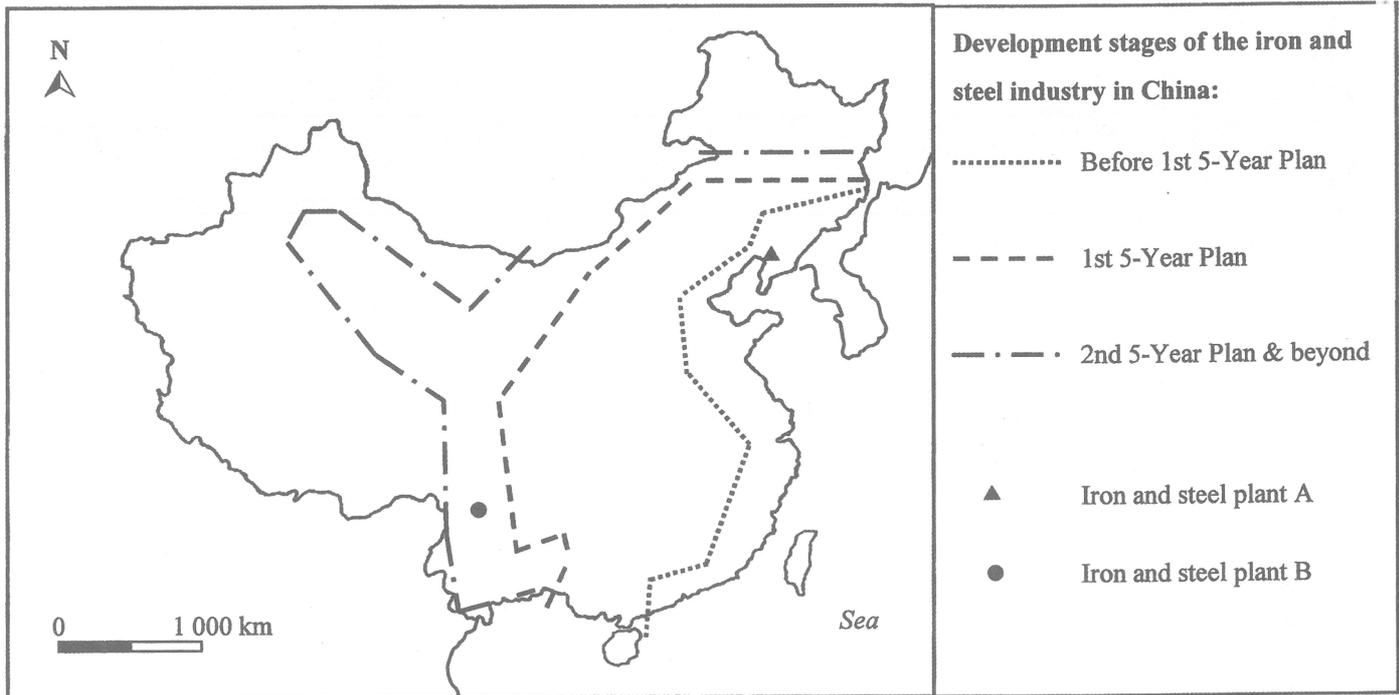
Figure 2a

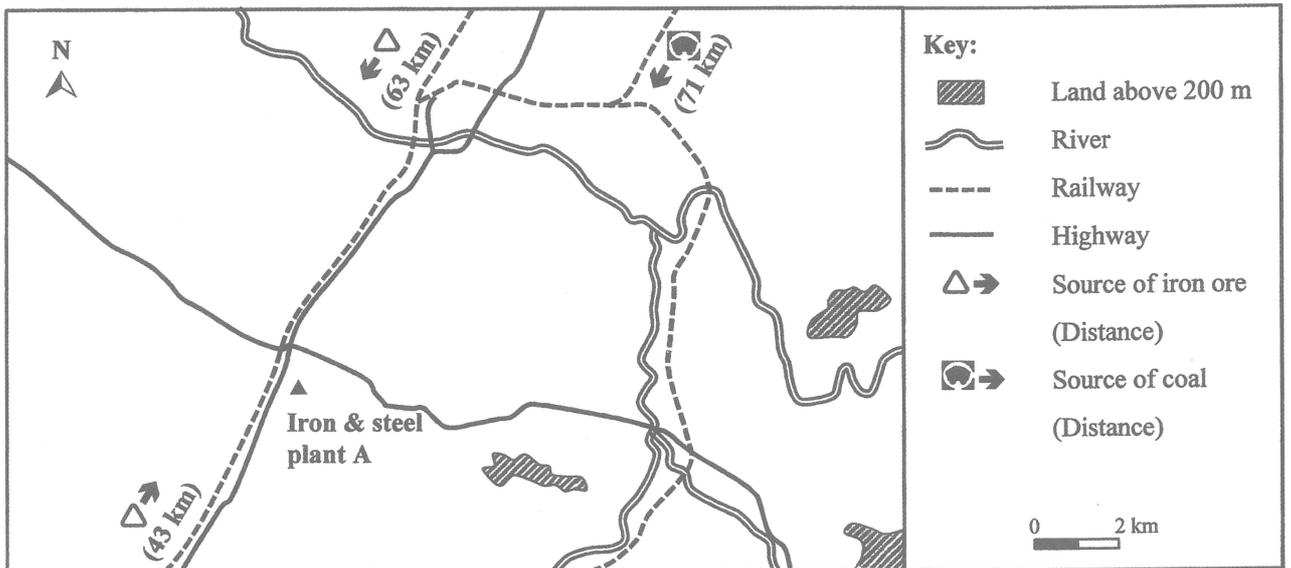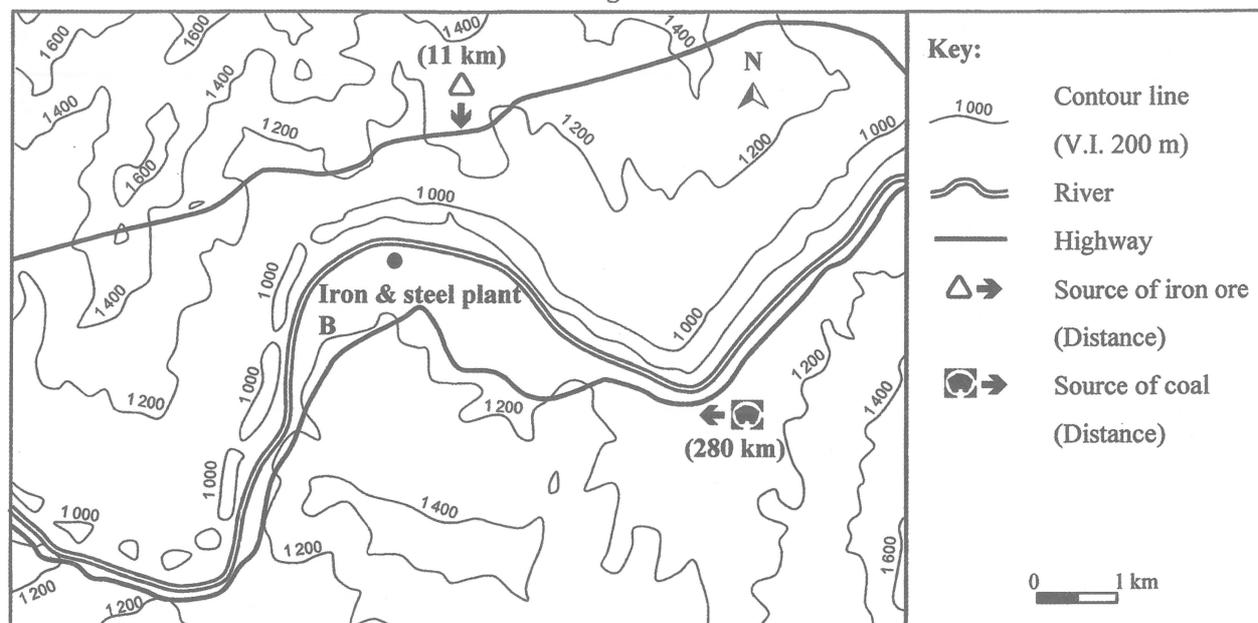Development stages of the iron and steel industry in China:

.... Before 1st 5-Year Plan

— — — 1st 5-Year Plan

— · — · 2nd 5-Year Plan & beyond

▲ Iron and steel plant A

● Iron and steel plant B

Figure 2b

Key:

Land above 200 m

River

Railway

Highway

△→ Source of iron ore (Distance)

Source of coal (Distance)

0 2 km

Figure 2c

Table 2d

	2010	2011	2012
Amount of imported iron ore (million tonnes)	48.0	50.1	57.2
Amount of imported coal (100 million tonnes)	1.8	2.0	2.8

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

    (i) Describe the locational advantages of iron and steel plant A. (4 marks)

    (ii) Account for the constraints on the development of iron and steel plant B. (2 marks)

    (iii) Putting aside the constraints mentioned in (a) (ii), explain the reasons for the development of iron and steel plant B after the 2nd 5-Year Plan. (2 marks)

(b) 'The new furnace technology of iron and steel industry in China reduces the amount of iron ore and coal used.'

    (i) Referring to Table 2d and the above statement, explain how the location of the iron and steel industry in China may be affected. (5 marks)

    (ii) Under the new development mentioned in (b) (i), discuss whether the location of iron and steel plant B will change. (5 marks)

3. Figure 3a shows the physical conditions and the distribution of major farming areas in the Central Valley of California, USA. Table 3b shows the general climatic conditions of the Central Valley. Photograph 3c shows a type of farming technology commonly adopted in the region.
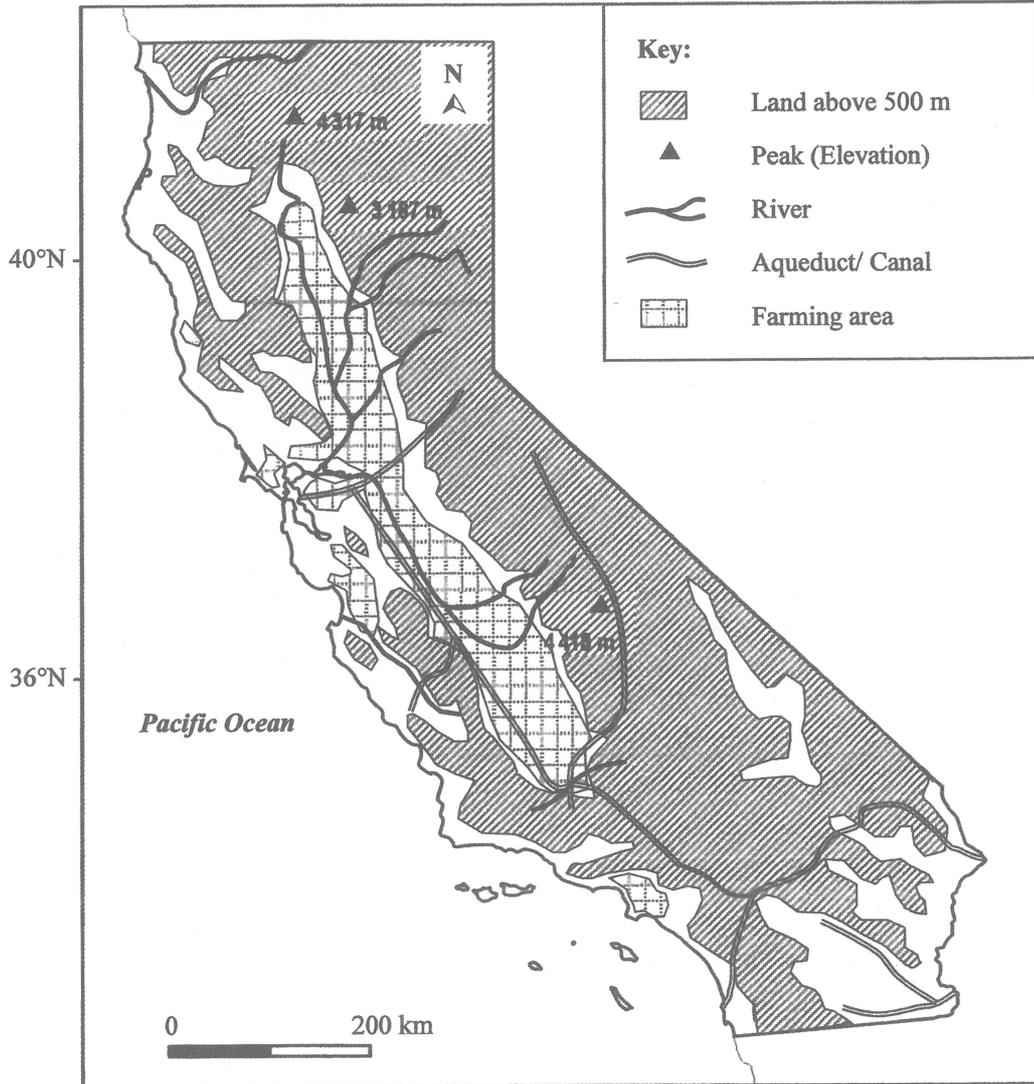
Figure 3a

Table 3b

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature (°C)	8	9	11	14	19	23	27	26	23	18	12	8
Rainfall (mm)	55	58	50	30	8	2	0	1	5	12	25	50
Evaporation (mm)	34	33	122	132	195	277	287	236	155	125	67	25

(a) Refer to Figure 3a and Table 3b. Describe and explain the favourable factors for farming development in the Central Valley. (4 marks)

(b) Refer to Table 3b and Photograph 3c.

  (i) Explain the climatic constraints on farming in the Central Valley. (3 marks)

  (ii) Discuss the reasons for and against the adoption of the farming technology shown in Photograph 3c. (6 marks)

(c) *Precision farming is introduced as an alternate farming technology in the Central Valley.*

  Evaluate the effectiveness of precision farming in tackling the climatic constraints. (5 marks)

4. Table 4a shows the general climatic conditions of the tropical rainforest in Sumatra, Indonesia. Figure 4b shows the landscape of a tropical rainforest in Sumatra. Figure 4c shows the rainforest landscape after human interference.

Table 4a

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature (°C)	27.0	27.0	27.0	27.2	27.5	27.0	25.0	25.0	26.7	26.7	26.7	26.7
Rainfall (mm)	351	259	307	363	315	307	277	348	352	495	518	480

Figure 4b
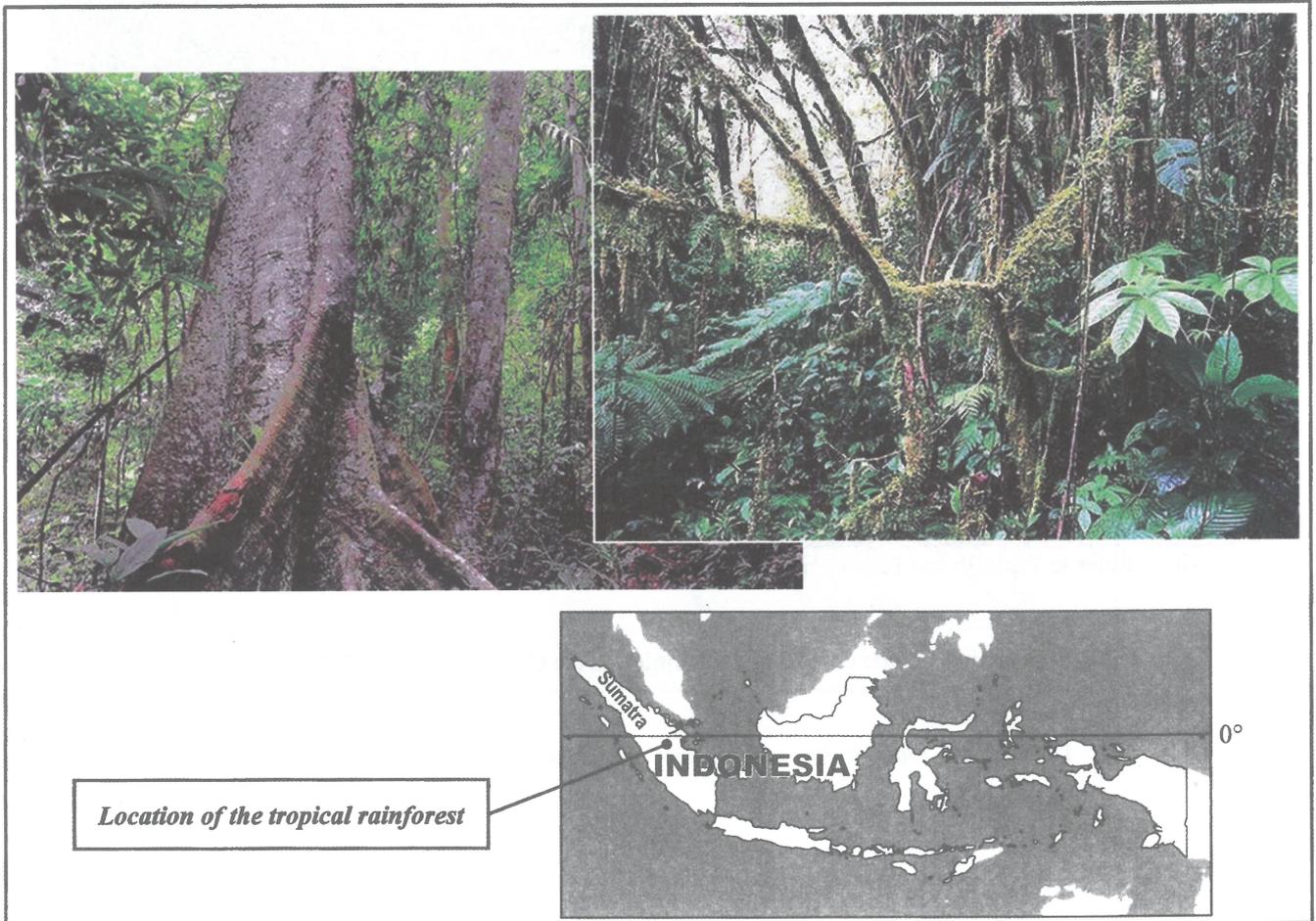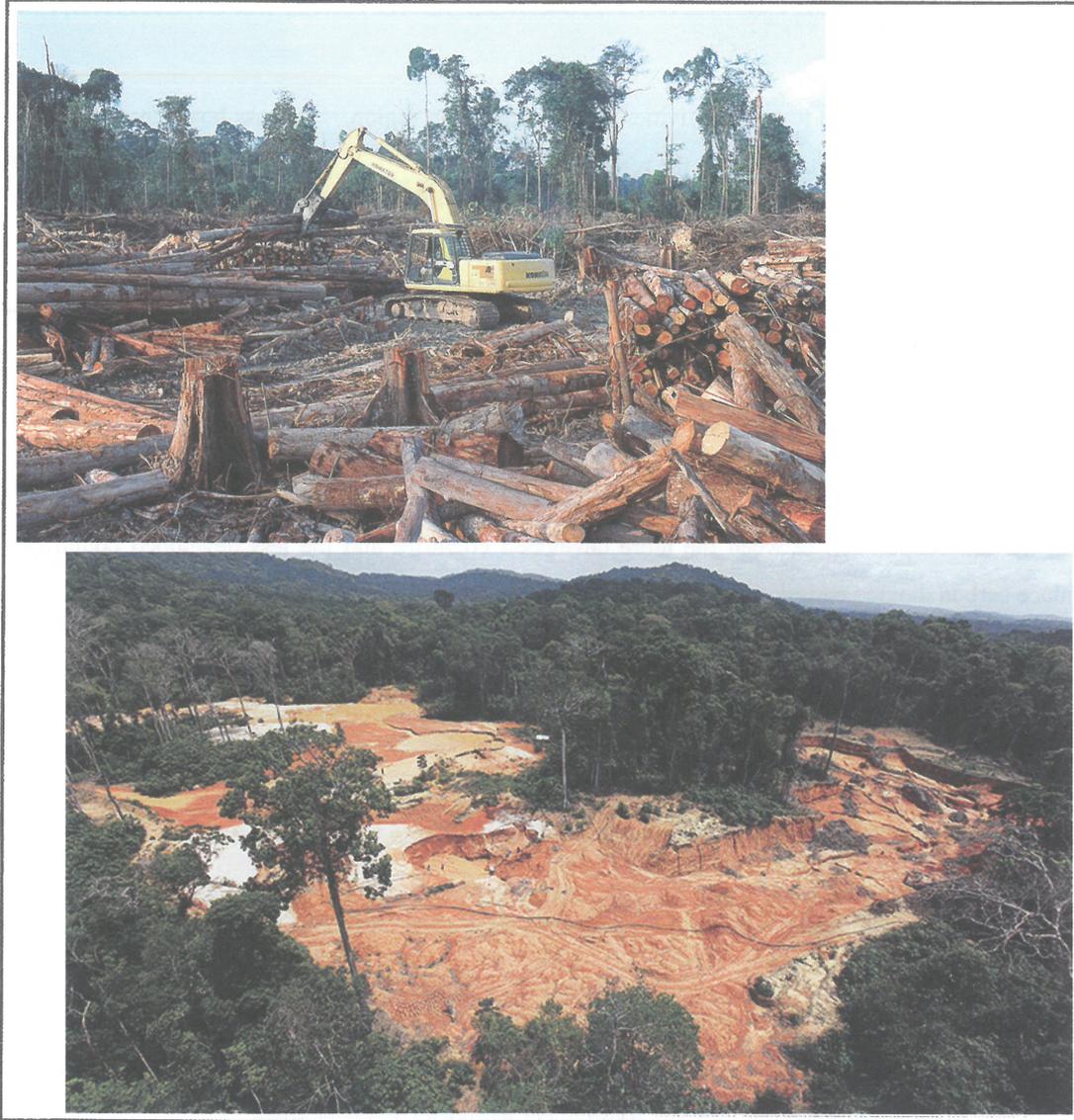

Location of the tropical rainforest

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

    (i)   Describe the climatic conditions of the tropical rainforest shown in Table 4a.   (2 marks)

    (ii) Explain how the climatic conditions influence the characteristics of the vegetation shown in Figure 4b.   (6 marks)

(b)   Refer to Figure 4c.   Describe and explain the negative impact of human interference on the physical environment of the tropical rainforest.   (5 marks)

(c)   Evaluate the effectiveness of selective logging in conserving the tropical rainforest.   (5 marks)

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

5.   Describe and explain the tectonic activities in the Himalayan region.   Discuss how these tectonic activities bring opportunities and challenges to the region.   (12 marks)

6.   Describe and explain the housing problems in Hong Kong.   Discuss whether developing the green belts is an effective way to solve the housing problems.   (12 marks)

7.   Explain how human activities increase the concentration of carbon dioxide in the atmosphere.   Discuss whether the cooperation between the more developed countries and the less developed countries can help reduce carbon dioxide emissions.   (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.