福建中學

FUKIEN SECONDARY SCHOOL

S6 Mock Examination (2020-2021)

Geography Paper 1

(2 hours 30 minutes)

Date: 20th January 2021 Name: _____

Time: 8:30 a.m. - 11:00 a.m. Class: _____ No.: _____

GENERAL INSTRUCTIONS

1. 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.
2. Draw sketch maps and diagrams to supply additional, relevant information when appropriate.
3. 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 to 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.
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.

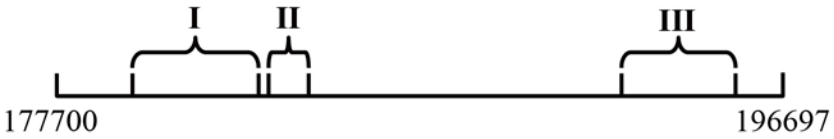
Section A: There are 20 questions in this section. Answer ALL questions in this section. All the answers must be marked on the Answer Sheet. (24%)

Refer to the map extract of Hong Kong (1:20 000) provided and answer Questions 1 to 6.

1. In grid square 1769, there is a _____.
   (1) park
   (2) restricted access
   (3) railway station
   A. (1) and (2) only
   B. (1) and (3) only
   C. (2) and (3) only
   D. (1), (2) and (3)

2. The area of the waters of Po Toi O in grid square 2165 is approximately _____.
   A. 0.42 km^2
   B. 0.21 km^2
   C. 0.11 km^2
   D. 0.04 km^2

3. Refer to the transect from 177700 to 196697 below. Which of the following is the correct labelling of the transect?



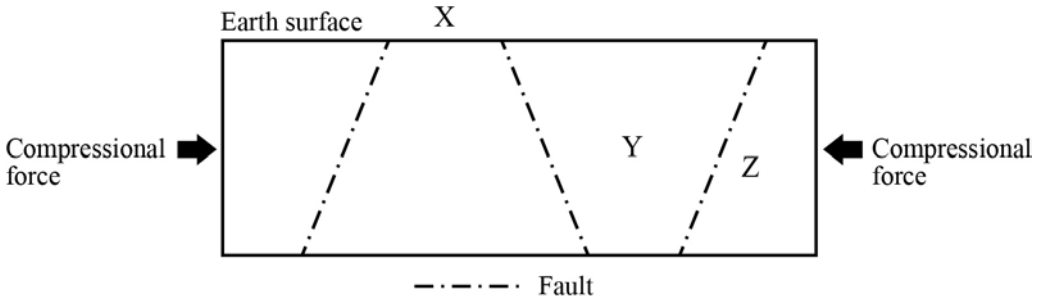
	I	II	III
A.	Recreational land use	Transport land use	Farmland
B.	Institutional land use	Industrial land use	Woodland
C.	Residential land use	Industrial land use	Woodland
D.	Institutional land use	Transport land use	Farmland

4. Which of the following places are intervisible with the temple at 212684?
   (1) the church at 205693
   (2) the lookout at 219675
   (3) the trigonometric station at High Junk Peak at 203680
      A. (1) and (2) only
      B. (1) and (3) only
      C. (2) and (3) only
      D. (1), (2) and (3)

5. Which of the following statements is / are correct about the spot height 180 at 200670?
   (1) It is to the southeast of the pier in grid square 2065.
   (2) The whole circle bearing from it to the fire station in grid square 1967 is 291°.
   (3) The reduced bearing of the navigation beacon at 182657 from it is S53°W.
      A. (1) only
      B. (3) only
      C. (1) and (2) only
      D. (2) and (3) only

6. Which of the following are the favourable conditions for the formation of the Clear Water Bay Second Beach in grid square 2067?
   (1) not affected by prevailing wind
   (2) sheltered location
   (3) shallow offshore
      A. (1) and (2) only
      B. (1) and (3) only
      C. (2) and (3) only
      D. (1), (2) and (3)

7. Which of the following statements of the faulting in the figure below is / are correct?



(1) X is uplifted.
(2) Block mountain is formed at Y.
(3) Normal fault is formed at Z.

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

8. Which of the following statements of area X shown below are correct?

(1) Plate movement produces tensional force.
(2) It is located at convergent plate boundary.
(3) Subduction of plates occurs there.

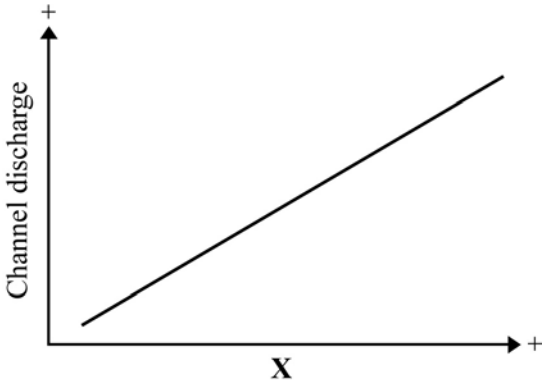
A. (1) and (2) only
B. (1) and (3) only
C. (2) and (3) only
D. (1), (2) and (3)

9. Refer to the satellite image below. Which of the following pairs of comparisons between river banks X and Y are correct?

		River bank X	River bank Y
(1)	**River velocity**	higher	lower
(2)	**Fluvial process**	erosion	deposition
(3)	**Gradient**	gentler	steeper

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 are the possible labels for the x-axis in the graph below?



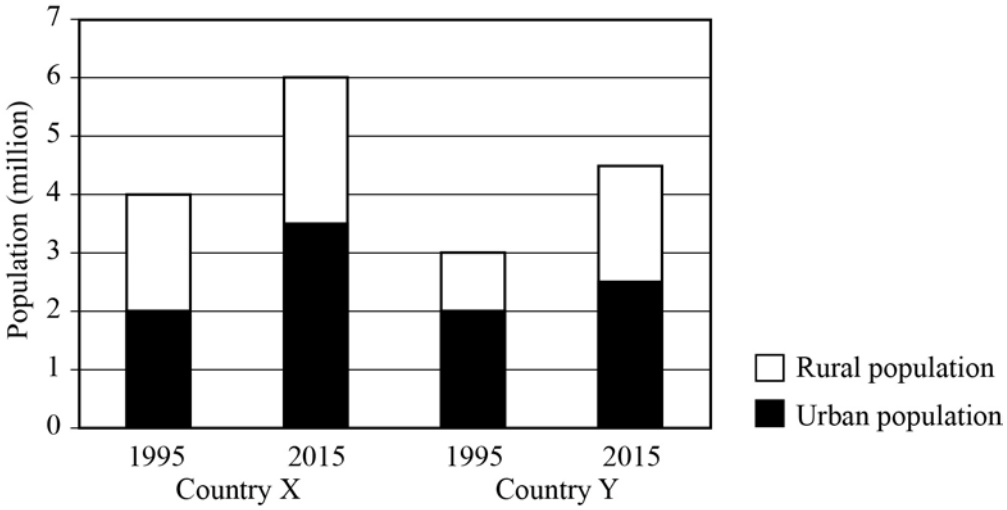
(1) Channel roughness
(2) Slope gradient
(3) Area of river basin

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

11. Which of the following are the advantages of industrial agglomeration?
    (1) lowering production cost
    (2) attracting skilled labour
    (3) reducing environmental pollution
    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 is / are the pull factor(s) for the relocation of iron and steel industry in China from coastal areas to inland regions in the 1950s?
    (1) good transport network
    (2) rich reserves of natural resources
    (3) lower risk of wars
    A. (1) only
    B. (2) only
    C. (1) and (3) only
    D. (2) and (3) only

13. Refer to the graph below which shows the population composition of countries X and Y in 1995 and 2015. Which of the following statements are correct?



    (1) Both countries experienced urban growth.
    (2) The level of urbanisation of country X was lower than that of country Y in 2015.
    (3) Counter urbanisation took place in country Y between 1995 and 2015.
    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 are the purposes of rehabilitation?

(1) alleviate land use conflicts
(2) improve quality of buildings
(3) slow down the pace of urban decay

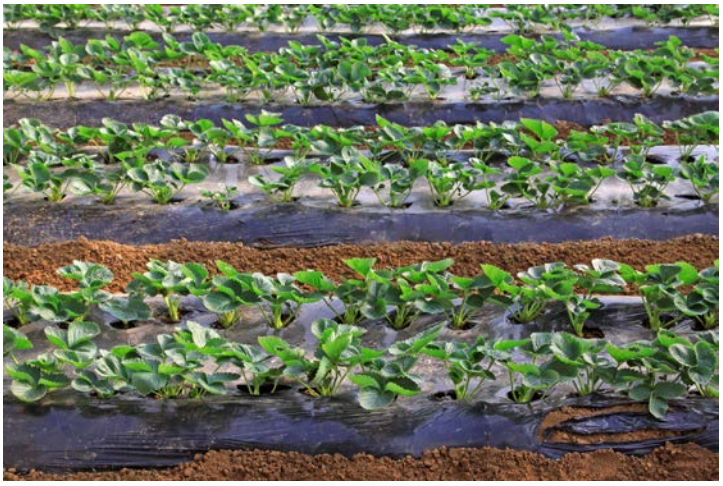
A. (1) and (2) only
B. (1) and (3) only
C. (2) and (3) only
D. (1), (2) and (3)

15. Which of the following are the characteristics of farming activities in the Sahel?

(1) transhumance
(2) small-scale sedentary farming
(3) monoculture

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

16. Refer to the photo below. The farming method shown helps _____.

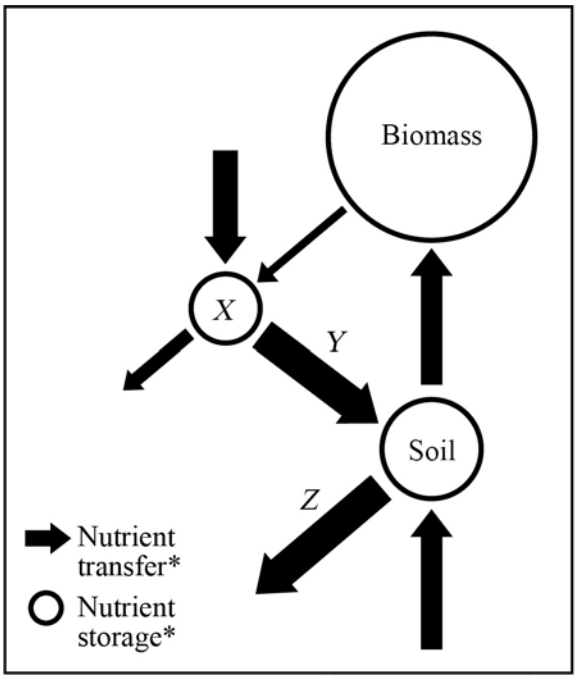


(1) prevent pest attack
(2) retain soil moisture
(3) reduce soil erosion

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

17. Which of the following are the reasons for large-scale deforestation of tropical rainforests?
    (1) expansion of towns
    (2) mining of mineral resources
    (3) development of eco-tourism
    A. (1) and (2) only
    B. (1) and (3) only
    C. (2) and (3) only
    D. (1), (2) and (3)

18. Refer to the figure below. Which of the following is the impact of developing plantations in tropical rainforests on X, Y and Z?



*Thickness of arrow and size of circle proportional to amount of nutrient

	X	Y	Z
A.	Increased	Strengthened	Weakened
B.	Increased	Unchanged	Weakened
C.	Decreased	Unchanged	Strengthened
D.	Decreased	Weakened	Strengthened

19. Which of the following is / are the human activity(ies) that produce(s) nitrous oxide?
    (1) use of chemical fertilisers
    (2) production of refrigerants
    (3) burning of solid waste
    A. (2) only
    B. (3) only
    C. (1) and (2) only
    D. (1) and (3) only

20. Which of the following are the measures to alleviate global warming?

(1) development of renewable energy
(2) use of high-albedo construction materials
(3) promotion of mass transit system

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 TWO questions from this section. Each question carries 18 marks. (39%)

1. Two groups of Geography students carried out an agricultural field study on soil moisture in January. Figure 1a is a sketch map of the field study sites and the surrounding areas. Figure 1b shows the photos taken at field study sites A and B respectively. Table 1c shows the data collected during the field study.

Figure 1a

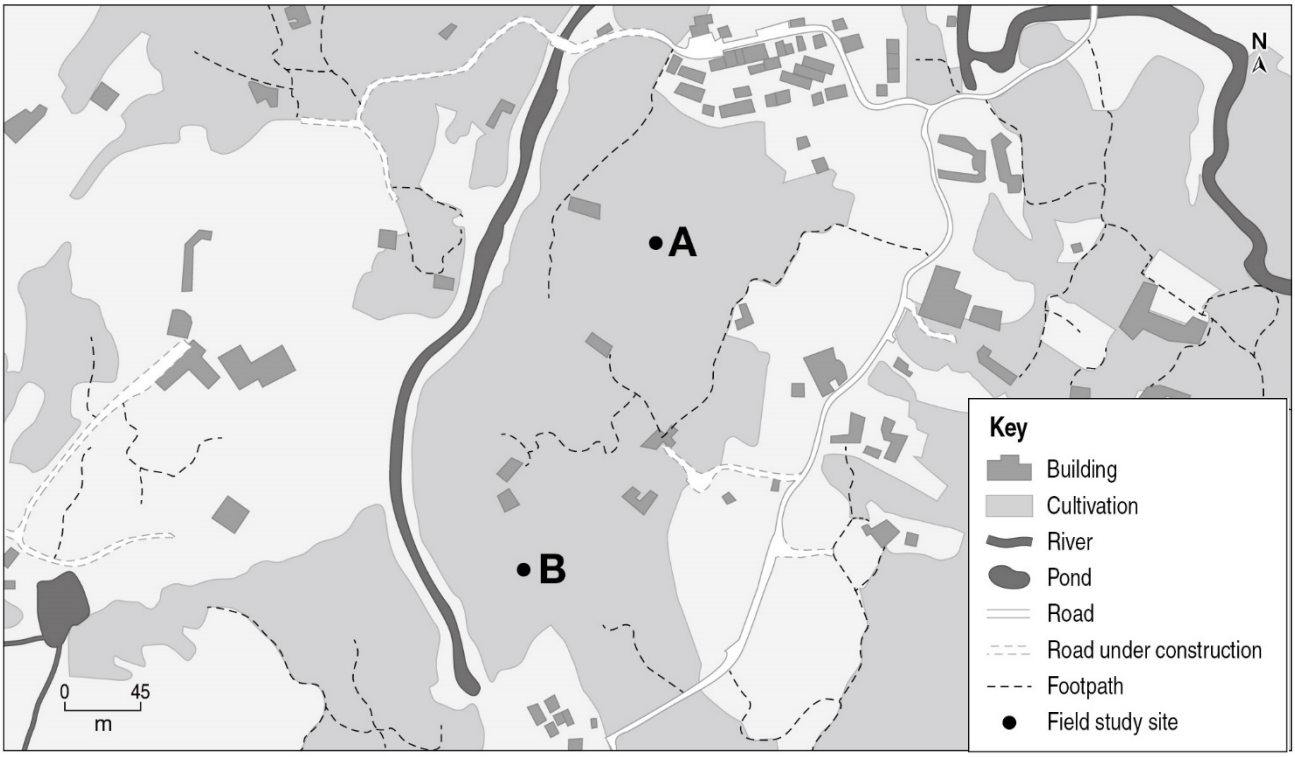


Figure 1b

Field study site A	Field study site B
	

Table 1c

Field study site	**A**			**B**		
Group	**Group X**	**Group Y**	**Average**	**Group X**	**Group Y**	**Average**
Soil moisture (%)						
① 10:00-10:30	52	52	52	62	60	61
② 11:00-11:30	44	46	45	60	58	59
③ 12:00-12:30	36	38	37	55	63	59
④ 13:00-13:30	27	29	28	50	48	49
⑤ 14:00-14:30	17	19	18	43	41	42
Mean (%)	35.2	36.8	36	54	54	54

(a) Refer to Figure 1a, Figure 1b and Table 1c.

(i) Suggest one merit and one demerit of conducting the field study in January. (2 marks)

(ii) Describe the instrument needed and its uses to collect data. (2 marks)

(iii) The students found an error in one of the data collected. Point out that datum and suggest ways to reduce errors. (3 marks)

(b) Refer to Figure 1b and Table 1c.

(i) Draw a line graph to show how the soil moisture at field study sites A and B changed over time **on a piece of graph paper**. (2 marks)

(ii) *The students arrived at the conclusion that 'water loss is slower at field study site B than at field study site A'.*
Based on the line graph drawn in question (b)(i) and relevant data, discuss whether the above conclusion is appropriate. (3 marks)

(c) Suggest **another** field study topic to be carried out in the area shown in Figure 1a. Describe and explain the method(s) of data collection. (6 marks)

2. Figure 2a shows the locations of volcanoes X and Y which erupted in 2018. Figure 2b shows the plate movement near volcano Y and a photo of the eruption of volcano Y. Table 2c shows the information of the two volcanic eruptions.

Figure 2a

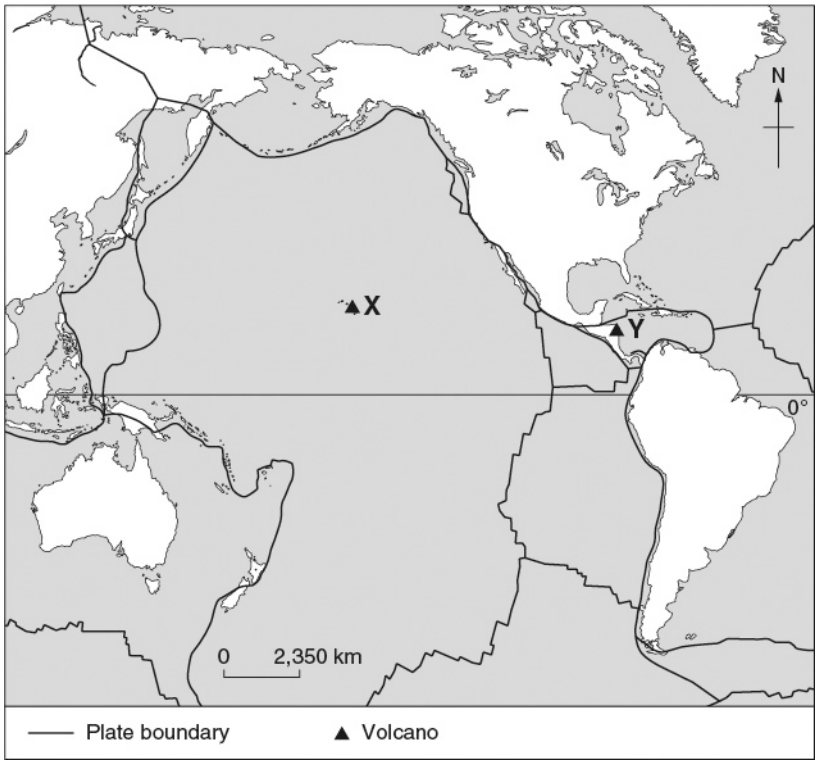


Figure 2b

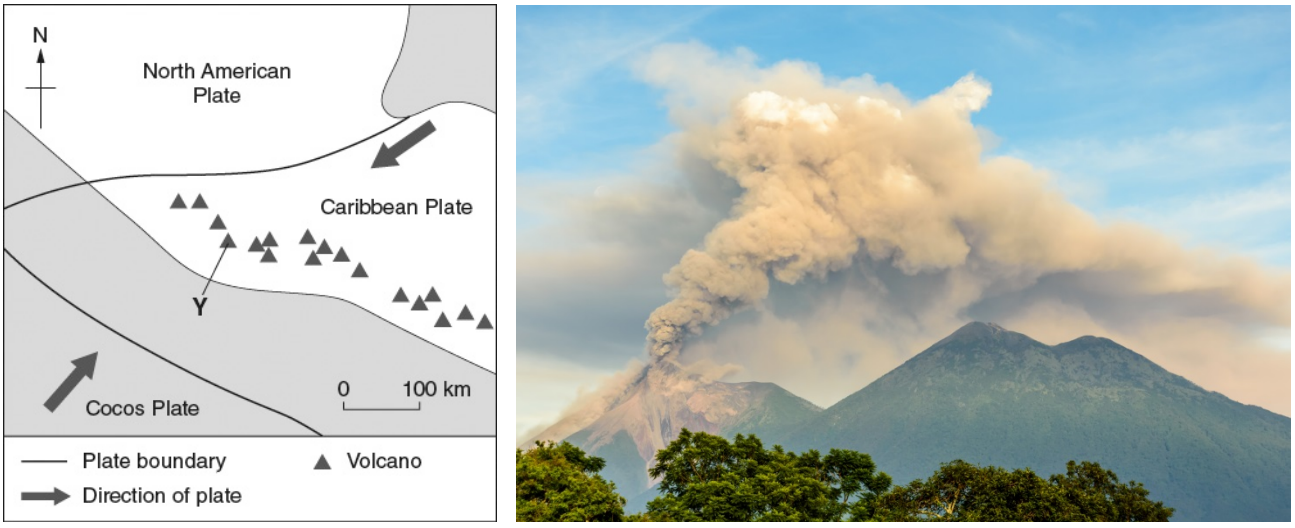


Table 2c

	Volcano X	**Volcano Y**
Casualties	No deaths or major injuries	182 deaths and hundreds of injured
Erupted materials	Mainly lava	Mainly volcanic ashes, hot gases and rock fragments
Area covered by the erupted materials	10 km^2	1,100 km^2
Provision of early warning	Issued 2 days before eruption	No official warning issued
GDP per capita of the city where the volcano is located	US$51,000	US$4,000

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

(i) Contrast volcanoes X and Y in terms of their locations. (2 marks)

(ii) Draw a series of annotated diagrams to explain the formation of volcano Y. (4 marks)

(iii) Explain why volcano X will become extinct after 10 million years. (4 marks)

(b) Refer to Table 2c.

(i) Quoting evidence from Table 2c, account for the differences in losses caused by the eruptions between volcanoes X and Y. (4 marks)

(ii) Discuss whether the provision of drills is effective in minimizing losses caused by eruption in the country where volcano Y is located. (4 marks)

3. Table 3a shows some information of Farm X in southern California. Figure 3b is a climatic graph of San Diego, southern California. Figure 3c is a set of figures showing the extent of drought-affected area in California from 2011 to 2014.

Table 3a

	Information of Farm X
Location	San Diego, southern California
Size of farm (hectare)	420
Mechanisation of farm (%)	98
Number of farmers	5
Major farm output	Avocados, pomegranates and ornamental trees
Use of output	For export to Asian countries
Profit per year (USD)	480 000

Figure 3b

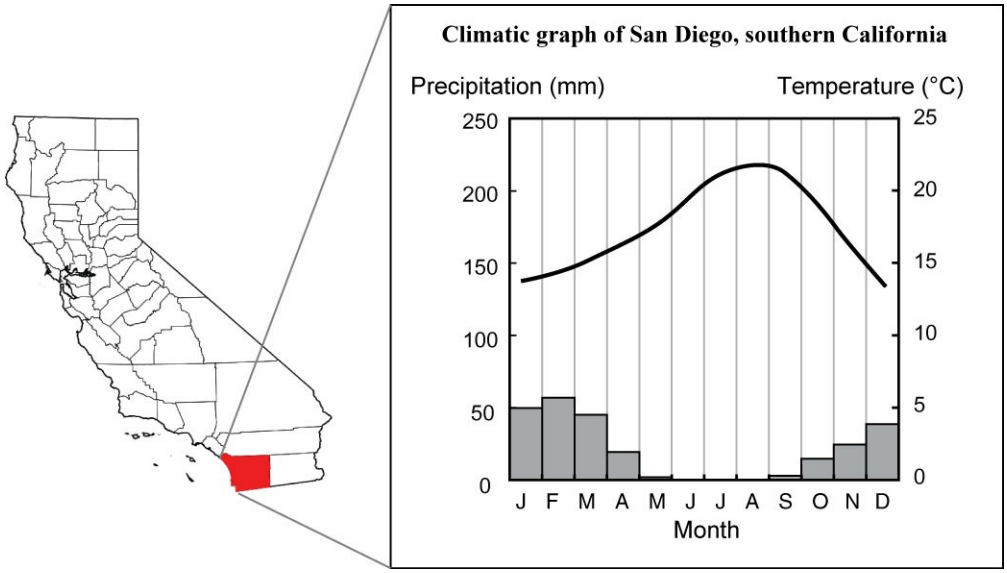
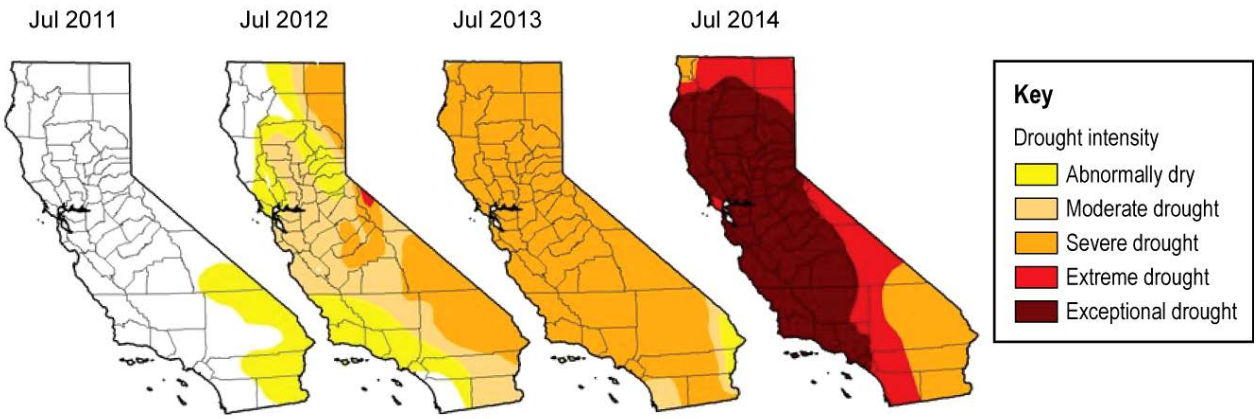


Figure 3c



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

(i) Describe how the climatic conditions in San Diego might hinder the agricultural production of Farm X with reference to the climatic graph. (2 marks)

(ii) Explain why Farm X can still have great profits despite the harsh climatic conditions. (3 marks)

(b) Refer to Figure 3c.

(i) Describe the situation of drought in Southern California. (2 marks)

(ii) *According to a recent survey, pumping groundwater is commonly practised by farmers in southern California during the drought period.*
Comment the pros and cons of this measure. (4 marks)

(c) *Frequent drought is more likely to persist in southern California under the influence of global warming. Some people believe that agroforestry is a solution to farming.*

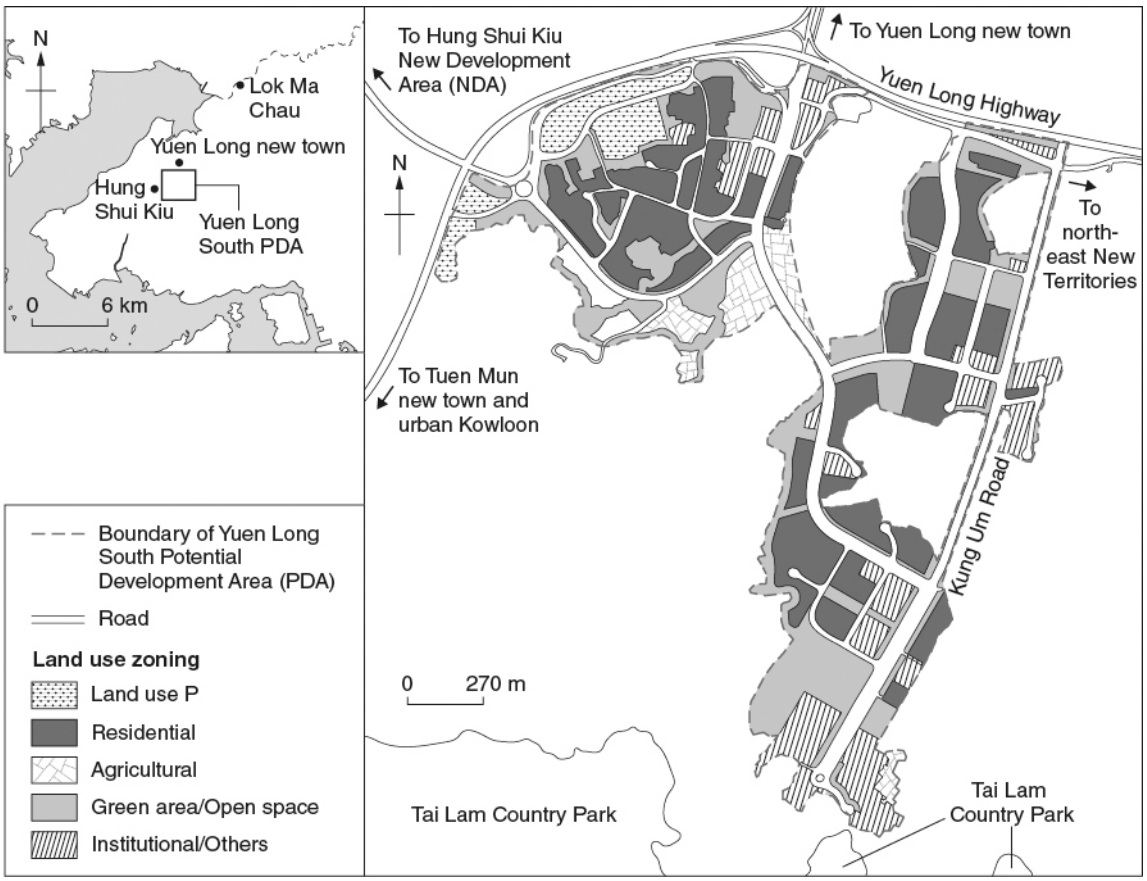
(i) Explain why agroforestry can benefit the farms in the region during the drought period. (3 marks)

(ii) Evaluate the feasibility of adopting agroforestry in sustaining the agricultural activities in southern California. (4 marks)

4. Photo 4a shows land use P in the New Territories. Figure 4b shows the proposed land use zoning plan of Yuen Long South Potential Development Area (PDA).

Photo 4a

Figure 4b



(a) (i) Refer to Photo 4a. Identify land use P. (1 mark)

(ii) Account for the environmental problems caused by land use P to its surrounding area. (4 marks)

(iii) Refer to Figure 4b. Explain how the proposed land use zoning plan of Yuen Long South PDA helps minimize the negative impacts caused by land use P. (3 marks)

(b) Refer to Figure 4b.

(i) Name the land use which covers the largest area in Yuen Long South PDA. (1 mark)

(ii) Account for the locational and site advantages of developing the land use mentioned in question (b)(i) in the PDA. (4 marks)

(c) Discuss the sustainability of extending the PDA further south to Tai Lam Country Park in the light of the principle of sustainable development. (5 marks)

5. Figure 5a shows the distribution of permafrost and the areas of thawing permafrost in the Arctic region in 2014. Figure 5b shows the global average concentration of methane in the atmosphere between 1980 and 2019.

Figure 5a

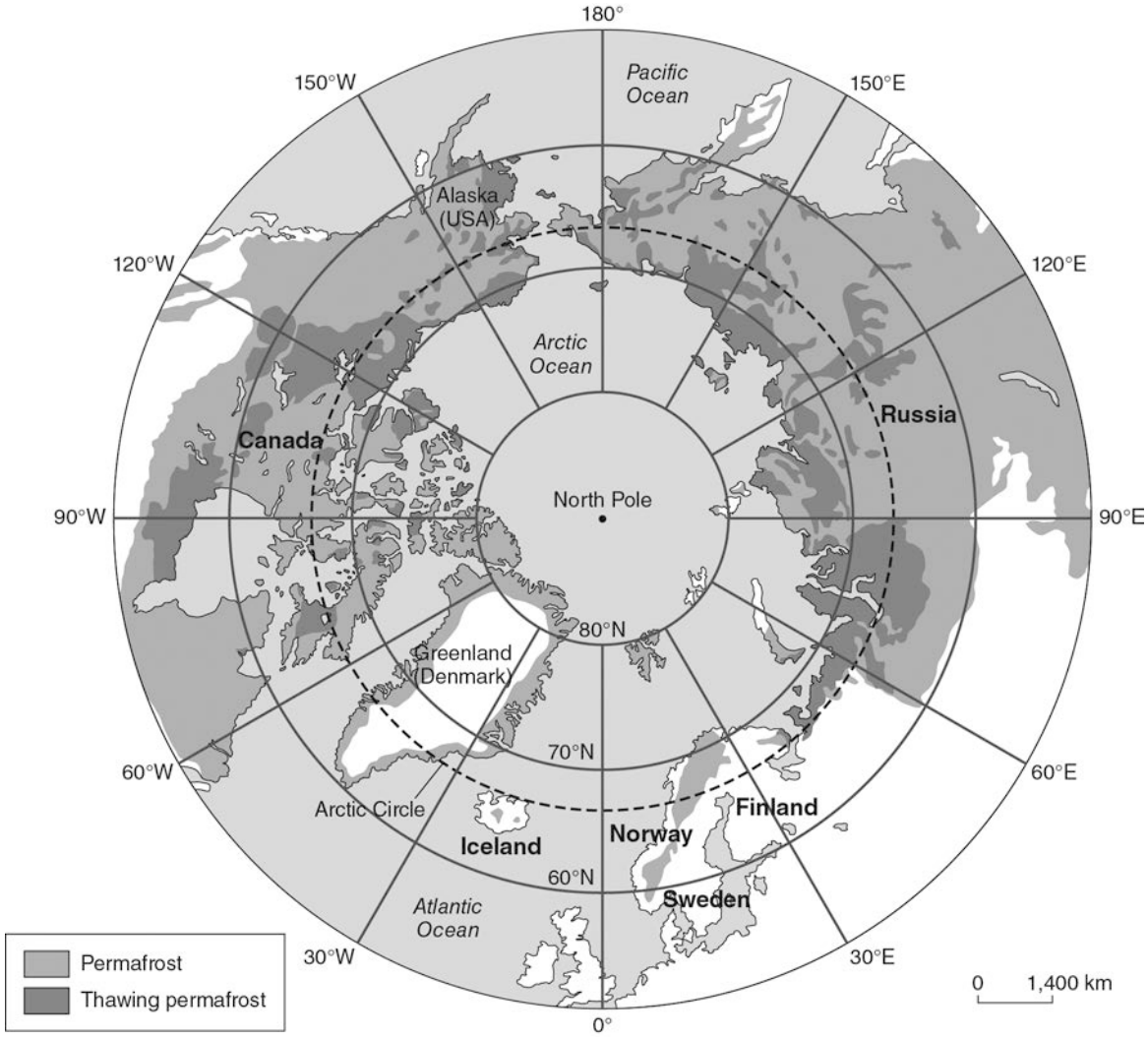
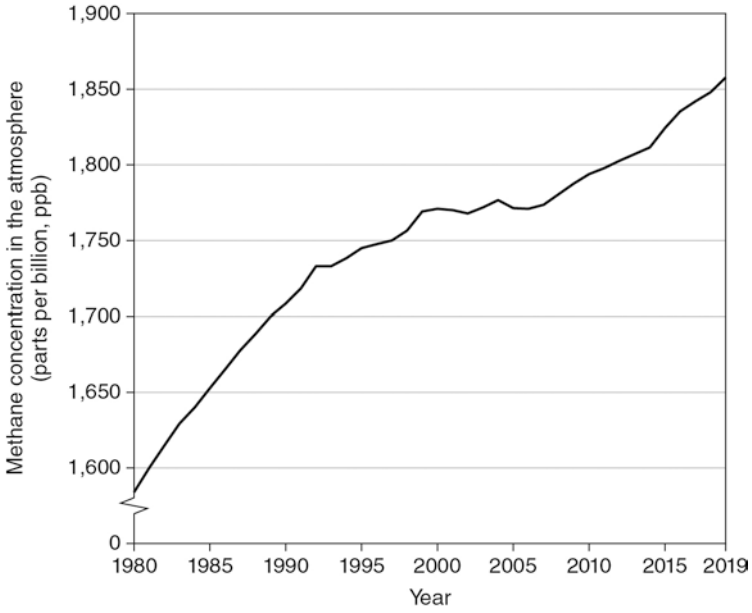


Figure 5b



(a) Refer to Figure 5a. Describe and explain the distribution pattern of permafrost. (4 marks)

(b) Refer to Figure 5b. Explain how human activities result in the trend of global average concentration of methane shown. (3 marks)

(c) Refer to Figure 5a and Figure 5b.

(i) Explain how the trend in question (b) might lead to the thawing of permafrost. (4 marks)

(ii) Explain the adverse impacts brought by the thawing of permafrost on the residents in the Arctic region. (3 marks)

(d) Discuss the role of thawing permafrost in accelerating global warming. (4 marks)

Section C: Answer ONE question from this section. Each question carries 12 marks. (12%)

6. Describe and explain the fluvial characteristics of the upper course of a river. Discuss the positive and negative impacts of the human activities at the upper course of a river in Hong Kong. (12 marks)

7. Explain why the IT industry adopts multi-point production. Evaluate the role of the US government in affecting the reshoring of IT production operations in recent years. (12 marks)

8. Contrast the characteristics of the biotic environments of a primary tropical rainforest and a tree plantation. Discuss whether the loss of rainforest cover is inevitable in light of socio-economic development in the rainforest countries. (12 marks)

END OF PAPER