Paper 2
Section D

Question 1 **Marks**

(a) (i)
- photograph 1b: area X 1
- photograph 1c: area Y 1 (2)

(ii)
- photograph 1b: granite 1
- photograph 1c: siltstone/ shale 1 (2)

(iii)

	Photograph 1b	Photograph 1c	
Major material	- magma	- silt	1+1
Major geological process	- endogenic process/ intrusive vulcanicity	- exogenic process/ weathering/ erosion/ transportation of weathered materials	1+1
Formation location	- deep under the ground/ batholith	- coastal area	1+1
Formation process	- cooling and solidification/ crystallisation	- deposition/ cementation/ lithification	1+1 (4)

(b) (i)
- lack of vegetation in granitic region 1
- hot and humid climate in Hong Kong 1
- soil is easily affected by chemical/ physical weathering 1
- to produce deep/ loose weathered profile 1
- heavy rain in summer 1
- loose materials are washed away by rain/ rainsplash erosion 1
- rills are widened and enlarged 1
- to form gullies 1
- dense gullies turn the land into badland 1
1 (6)

(ii) Relevant concepts:
- effectiveness of afforestation: roots of plants hold the soil parties, reduce soil erosion, land surface, encourage interception
- reduce rainsplash erosion/ soil erosion, slow down weathering and erosion
- e.g. Tai Tong in Yuen Long, the bad land landscape is much improved after afforestation
- limitation of the afforestation: infertile soil of bad lands, trees are difficult to grow, needs time, human resources and extra cost
- difficult to choose appropriate species, wrong species makes the condition worse
- importance of other measures such as building drainage system and land use zoning

Marking criteria:

- **Logical** and well-elaborated explanation(s)/ arguments(s) with reference to the **information** provided, demonstrating good **knowledge** and understanding - With appropriate **judgement**	4
- A sound explanation/ argument in greater detail with reference to the information provided, demonstrating adequate knowledge and understanding, OR - Two or more appropriate explanations/ arguments demonstrating adequate knowledge and understanding	3
- An appropriate explanation/ argument demonstrating basic knowledge and understanding, *OR* - Two or more brief explanations/ arguments demonstrating basic knowledge and understanding	2
- One brief explanation/ argument demonstrating elementary knowledge and understanding	1

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Question 2 **Marks**

(a) (i)
- Climate graph Q: City X 1
- Climate graph P: City Y 1 (2)

(ii)

City X	City Y	
- temperate continental climate	- tropical monsoon climate	1
- hot in summer, cold in winter	- warm/ hot all year round	1
- lower annual mean temperature	- higher annual mean temperature	1
- higher annual range of temperature	- lower annual range of temperature	1
lower annual rainfall	- higher annual rainfall	1
- rainfall evenly distributed	- rainfall unevenly distributed/ concentrated in summer	1 (4)

(iii)

Description (Max. 2)	Explanation (Max. 3)	
- areas with the highest temperature are distributed in the northwest/ central/ south (1) - ≥28°C (1) - areas with the lowest temperature are distributed in the southwest/ Tibetan Plateau(1) - ≤ 4°C (1)	- larger angle of insolation in the southern China/ low-latitude region (1) - focused/ strong insolation (1) - long distance of sea and land between northwest and central regions/ continental climate (1) - higher relief in the southwest (1) - temperature decreases when height increase (1)	(Max. 5)

(b) (i)
- global climate change 1
- the southwest/ southeast monsoon becomes weaker 1
- extreme low rainfall 1
- temperature remains in a high level 1
- high evaporation rate 1
- human and economic activities increase the consumption of water/ decrease in lake area/ dams in upper course hold back large amount of river water 1 (3)

(ii) Relevant concepts:
- effectiveness of the measure: precisely/ immediately dispatch the water storage in the reservoirs in the upper course of Changjiang, and the Three Gorges Dam reservoir for the downstream areas
- ensure sufficient water supply for irrigation and rural urban areas
- limitations of the measures: drastic decrease in water storage in the upstream reservoirs if the drought persists and affects a large area
- importance of other measures: improve the habitats of water, install water-saving irrigation technology, etc.

Marking criteria:

- **Logical** and well-elaborated explanation(s)/ arguments(s) with reference to the **information** provided, demonstrating good **knowledge** and understanding - With appropriate **judgement**	4
- A sound explanation/ argument in greater detail with reference to the information provided, demonstrating adequate knowledge and understanding, OR - Two or more appropriate explanations/ arguments demonstrating adequate knowledge and understanding	3
- An appropriate explanation/ argument demonstrating basic knowledge and understanding, *OR* - Two or more brief explanations/ arguments demonstrating basic knowledge and understanding	2
- One brief explanation/ argument demonstrating elementary knowledge and understanding	1

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Question 3 **Marks**

(a) (i) - multi-modal transport 1 (1)

(ii)
- Hong Kong is a transport and logistics hub 1
- goods are transported to logistics centre 1
- collection/ sorting/ transshipment/ distribution of goods 1
- external freight movement handled by sea and air transport 1
- internal/ cross-border freight movement handled by land transport 1
- major roads provide linkages with the airport/ container terminal to logistics centre 1
- make use of the advantages of each transport mode 1
- reduce transport cost 1 (5)

(b) (i)
- decrease in travel time between the Zhujiang Delta Region and Hong Kong/ between the airport and Tuen Mun & Yuen Long 1
- reduce transport cost 1
- increase in land cargo traffic 1
- improve linkages with the airport/ container terminal 1
- have better connection with the Zhujiang Delta Region 1
- strengthen the role of Hong Kong as an entrepot 1
- encourage the development of multi-modal transport in Hong Kong 1 (4)

(ii)
- increase in number of vehicles on roads 1
- high emission of air pollutants 1
- heavy vehicles use diesel as fuel 1
- cause air/ noise/ heat pollution 1
- increase in number of people suffering from respiratory diseases 1
- increase in medical expenses in society 1 (4)

(c) Relevant concepts/ arguments:

Sustainable:
- the new runway increases the handling capacity of passengers and cargo
- expansion of Terminal 2
- upgraded facilities to raise efficiency, such as baggage handling system and automated people mover system

Unsustainable:
- high building cost
- construction process destroys marine ecosystem/ distrub marine life
- competition with airports in the Zhujiang Delta Region

Marking criteria:

- **Logical** and well-elaborated explanation(s)/ arguments(s) with reference to the **information** provided, demonstrating good **knowledge** and understanding - With appropriate **judgement**	4
- A sound explanation/ argument in greater detail with reference to the information provided, demonstrating adequate knowledge and understanding, OR - Two or more appropriate explanations/ arguments demonstrating adequate knowledge and understanding	3
- An appropriate explanation/ argument demonstrating basic knowledge and understanding, *OR* - Two or more brief explanations/ arguments demonstrating basic knowledge and understanding	2
- One brief explanation/ argument demonstrating elementary knowledge and understanding	1

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Question 4 **Marks**

(a)

Locational advantage	Map evidence	
- high accessibility	- close to highway/ Dongguan-Shenzhen Expressway/ Dongguan-Foshan Expressway/ National Highway 107	1+1
- adequate supply of labour force	- close to town/ Dalang town/ Shenzhen/ Foshan/ Dongguan	1+1
- large piece of land	- large allowed construction area	1+1
- good working environment	- large green area/ recreational land use/ golf course/ Songshan Lake	1+1
- close to research base	- close to university/ University of Technology	1+1
- agglomeration economies	- headquarters of technology company / Science and Technology Park/ industrial areas in the north	1+1 (6)

(b)
- good land use planning 1
- good road networks/ wide roads 1
- large area of recreational land use/ green area 1
- buildings in low density/ modern buildings/ innovative design 1
- attract scientific and technological talents 1 (3)

(c)

Description	Explanation (Max. 3)	
- Primary industry: maintain in low percentage/ the least important from 2010 to 2018 (1) - Secondary industry: percentage keeps decreasing from 2010 to 2018 (1) - Tertiary industry: percentage keeps increasing/ the most important from 2010 to 2018 (1)	- rapid economic growth/ income increases/ rising standard of living (1) - raising demand on service industry (1) - more investment on service industry (1) - e.g. education/ food & beverage/ entertainment/ tourism/ telecommunications etc. (1)	(Max. 5)

(d) <u>Relevant concepts/ arguments</u>:
<u>Traditional manufacturing</u>:
- labour intensive, low value-added, high level of pollution, increasing labour cost
- increasing production cost hinders its development which is not economic sustainable

<u>Advanced manufacturing</u>:
- high capital input, high technology, fully automatic, high value-added, facilitate industrial upgrading
- attract more investments/ talents
- more competitive in the market
- promote economic sustainability
- importance of other industries

Marking criteria:

- **Logical** and well-elaborated explanation(s)/ arguments(s) with reference to the **information** provided, demonstrating good **knowledge** and understanding - With appropriate **judgement**	4
- A sound explanation/ argument in greater detail with reference to the information provided, demonstrating adequate knowledge and understanding, OR - Two or more appropriate explanations/ arguments demonstrating adequate knowledge and understanding	3
- An appropriate explanation/ argument demonstrating basic knowledge and understanding, *OR* - Two or more brief explanations/ arguments demonstrating basic knowledge and understanding	2
- One brief explanation/ argument demonstrating elementary knowledge and understanding	1

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Section E

Question 5
Account for the relationship between vulcanicity and mass wasting in Hong Kong. Discuss the impact of human activities on this relationship.

Notes:
1. Award marks according to the **QUALITY** and **DEPTH** of answer; **do not** count the number of points **only**.
2. Max. marks should be given to good quality answers with **well-elaborated arguments** and demonstrating good knowledge on relevant geographical concepts.
3. Award appropriate marks to relevant and reasonable answers not included in this marking scheme.

Marketing Guidelines	
Account for the relationship between vulcanicity and mass wasting in Hong Kong	
Relevant concepts: • Vulcanicity, included intrusive vulcanicity and extrusive vulcanicity, forms the major types of rocks in Hong Kong • The characteristics and formed landforms of igneous rocks increase the risk of mass wasting Increasing shear stress: – granite has abundant joint that water is easy to infiltrate; increase in pore water pressure – more infiltration of water and weathered rocks on slope; increase in the weight of slope materials Decreasing shear strength: – igneous rocks have stronger resistance to erosion; forming most of the steep and high landforms – e.g. Tai Mo Shan, Lantau Peak, Ma On Shan and High Island, etc. – steep slope reduces friction along the slope surface – granite has abundant joint that has strong weathering and erosion; producing lots of weathering materials – e.g. Tai Lam Country Park, the southern Castle Peak, etc. – vegetation is hard to grow in the soil has severe erosion; lack of the roots of plants to grab the soil • When shear stress exceeds shear strength, slope materials move downslope under gravity	
Performance of Candidates	**Marks**
• Comprehensive knowledge and understanding of shear stress and shear strength on slopes • Detailed description and explanation of the relationship between vulcanicity and mass wasting in HK	6
• Adequate to good knowledge and understanding of shear stress and shear strength on slopes • Appropriate description and explanation of the relationship between vulcanicity and mass wasting in HK	3-5
• Elementary to basic knowledge of shear stress and shear strength on slopes • Brief description of the relationship between vulcanicity and mass wasting in HK	1-2
Discuss the impact of human activities on this relationship	
Relevant concepts: • Human activities: slope-cutting and filling, slope strengthening engineering methods, planting vegetation, etc. Positive impacts: – slope strengthening engineering methods: shotcrete prevent infiltration of water into the slope and offer stronger physical support; boulder fence trap boulders and prevent them from sliding down a slope, etc. – regular inspection and maintenance of slopes can maintain the stability of slopes – planting vegetation protect soil and the roots of them increase cohesion of slope materials by grabbing the soil Negative impacts: – many areas in Hong Kong have been developed on cut slopes for increasing land supply – poor design and inadequate construction of man-made slopes, for example, a man-made slope is cut without effective slope control measures – inadequate maintenance of man-made slopes and natural slopes increases infiltration; weathering and erosion – increasing the risk of landslides such as Sau Mau Ping Landslide in 1972, North Lantau Highway Natural Terrain Landslide in 2008, etc.	
Performance of Candidates	**Marks**
• Comprehensive knowledge and understanding of human activities on slopes • Systematic and logical explanation and discussion of **both the positive and negative impact**	6
• Adequate to good knowledge and understanding of human activities on slopes • Appropriate explanation and discussion of the impact of human activities on the relationship	3-5
• Elementary to basic knowledge and understanding of human activities on slopes	1-2
	Max. 12

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Question 6

Describe how air pressure changes in winter and summer affect the climate of Hong Kong. Discuss the relationship between air pressure changes and climatic hazards in South China.

Notes:

1. Award marks according to the **QUALITY** and **DEPTH** of answer; **do not** count the number of points **only**.
2. Max. marks should be given to good quality answers with **well-elaborated arguments** and demonstrating good knowledge on relevant geographical concepts.
3. Award appropriate marks to relevant and reasonable answers not included in this marking scheme.

Marking Guidelines	
Describe how air pressure changes in winter and summer affect the climate of Hong Kong	
Relevant concepts/ explanations: • Seasonal change, heat capacity of land and ocean, monsoon climate, insolation, air pressure differences, onshore/ offshore wind • Climatic characteristics of Hong Kong (temperature and rainfall) are mainly affected by the air pressure changes • Different air pressure in summer and winter forms prevailing winds of different directions • Subtropical monsoon climate • Obvious seasonal differences, hot and humid in summer, cool and dry in winter	
Performance of Candidates	**Marks**
• Comprehensive knowledge and understanding of the climate of Hong Kong • Detailed description and explanation of the effect of air pressure changes to the climate of Hong Kong	6
• Adequate to good knowledge and understanding of the climate of Hong Kong • Appropriate description and explanation of the effect of air pressure changes to the climate • Award higher marks to answers with correct descriptions and explanations	3-5
• Elementary to basic knowledge of the climate of Hong Kong • Brief description of the development timeline of different transport modes	1-2
Discuss the relationship between air pressure changes and climatic hazards in South China	
Relevant concepts: • Common climatic hazards in South China: typhoon, flood, drought, frost damage • Typhoon: - low-pressure system develops in the tropical waters of the western Pacific Ocean - strengths and hits the coastal areas in South China • Flood: - strong low-pressure system formed on the Asia continent draws humid air from the ocean - strong monsoon and frequent occurrence of troughs in South Chins bring persistent heavy rains causing flooding • Drought: - relatively weak low-pressure system in the interior of Asia, less steep pressure gradient - late arrival of southwest/ southeast monsoon in summer - weak winds with low moisture content cause water shortage, leading to drought • Frost damage: - formation of strong high-pressure system/ anticyclone in Asia in winter - large amount of cold air moves to the south cold front reaches South China - temperature drops rapidly	
Performance of Candidates	**Marks**
• Comprehensive knowledge and understanding of the climatic hazards in South China • Systematic and logical explanation and discussion of the relationship between air pressure changes and climatic hazards	6
• Adequate to good knowledge and understanding of the transport strategy in HK • Appropriate explanation and discussion of the relationship between air pressure changes and climatic hazards • Award higher marks to answer with more systematic and/ or more in-depth discussion	3-5
• Elementary to basic knowledge and understanding of the relationship between air pressure changes and climatic hazards	1-2
	Max. 12

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Question 7

Describe the transport development of Hong Kong since the 1970s. Discuss whether continuing the adoption of 'According Priority to Railways' transport strategy is effective in building a sustainable transport system in Hong Kong.

Notes:

1. Award marks according to the **QUALITY** and **DEPTH** of answer; **do not** count the number of points **only**.
2. Max. marks should be given to good quality answers with **well-elaborated arguments** and demonstrating good knowledge on relevant geographical concepts.
3. Award appropriate marks to relevant and reasonable answers not included in this marking scheme.

Marking Guidelines	
Describe the transport development of Hong Kong since the 1970s	
Relevant concepts: • 1970s: Opening of the Cross Harbour Tunnel in 1972 - connected the road networks between Hong Kong Island and Kowloon; expand the road network in urban areas; population and economic activities concentrated along the main roads; ferry was replaced gradually • 1980s: Focus on railway development - railway as the backbone of public transit system/ transit-oriented development - rising transport demand and new town development; dispersion of population from urban areas to the N.T. - evolution of new towns/ emergence of communities with mixed land use along railway lines, such as Sha Tin, Tai Po, Fanling and Sheung Shui • 1990s to present: Extension of the railway network to Tung Chung, Tsueng Kwan O, Tin Shui Wai, Tuen Mun and Yuen Long; Chek Lap Kok Airport was build; opening of the South Island Line and Tuen Ma Line; development of cross-border infrastructure, such as the high speed railway and the Hong Kong-Zhuhai-Macao Bridge - comprehensive development on transport development in Hong Kong - better in spatial connectivity; further dispersion of population to the new towns	
Performance of Candidates	**Marks**
• Comprehensive knowledge and understanding of the transport development of HK since the 1970s • Detailed description and explanation of the development timeline of different transport modes	6
• Adequate to good knowledge and understanding of the transport development of HK since the 1970s • Appropriate description and explanation of the development timeline of different transport modes • Award higher marks to answers with correct descriptions and explanations	3-5
• Elementary to basic knowledge of the transport development of HK since the 1970s • Brief description of the development timeline of different transport modes	1-2
Discuss whether continuing the adoption of 'According Priority to Railways' transport strategy is effective in building a sustainable transport system in Hong Kong	
Relevant concepts: • Railway development is effective in building a sustainable transport system in HK: - economic aspect: reasonable pricing; efficient movement of people to support economic growth; improved accessibility helps promote local economy; facilitates the development of new development areas - social aspect: accessible and reliable transport networks; reduced time cost of travelling; convenient transfer to other transport modes such as buses and minibuses; reduced impact of roadside air pollution on human health - environmental aspect: reduced emissions of air pollutants; energy-efficient due to high capacity; reduce carbon emission • Railway development is not effective in building a sustainable transport system in HK: - economic aspect: high construction cost; movement of freight still depends on road transport; many districts are already connecting railways, not cost-effective - social aspect: no development plan in remote areas/ areas with a small number of passengers - environmental aspect: damage original landscape/ noise pollution/ traffic congestion during the construction of new railway lines	
Performance of Candidates	**Marks**
• Comprehensive knowledge and understanding of the transport strategy in HK • Systematic and logical explanation and discussion of the sustainable transport system in HK	6
• Adequate to good knowledge and understanding of the transport strategy in HK • Appropriate explanation and discussion of the sustainable transport system in HK • Award higher marks to answer with more systematic and/ or more in-depth discussion	3-5
• Elementary to basic knowledge and understanding of the sustainable transport system in HK	1-2
	Max. 12

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Question 8

Describe the transformation of farming activities in the Zhujiang Delta Region since 1978. Discuss the social, economic and environmental importance of developing agro-tourism in the Zhujiang Delta Region.

Notes:

1. Award marks according to the **QUALITY** and **DEPTH** of answer; **do not** count the number of points **only**.
2. Max. marks should be given to good quality answers with **well-elaborated arguments** and demonstrating good knowledge on relevant geographical concepts.
3. Award appropriate makes to relevant and reasonable answers not included in this marking scheme.

Marking Guidelines	
Describe the transformation of farming activities in the Zhujiang Delta Region since 1978	
Relevant concepts: • Agricultural policy, industrialisation, urbanisation, agricultural technology, business model, scale-up, professionalisation • Agricultural policy: loosen controls on agriculture, less intervention in agriculture, implement different professionalisation policies • Industrialisation & urbanisation: transport networks improved, land price rises rapidly, cost of production increases - high demand on high quality crop, such as market gardening • Agricultural technology: - advanced agricultural technology, such as irrigation system, mechanisation, pesticide & chemical fertilizer, greenhouse planting, vertical farming, hydroponics, etc., farming efficiency and output greatly increase • New business model: - farm is managed by commercial enterprise, pipeline operation mode, tend to scale-up and professionalisation	
Performance of Candidates	**Marks**
• Comprehensive understanding and knowledge of agricultural activity in Zhujiang Delta Region • Other relevant examples with in-depth explanation	6
• Adequate knowledge of agricultural activity in Zhujiang Delta Region • Appropriate examples in description and explanation • Award higher marks to answers with correct descriptions and explanations	3-5
• Brief description of agricultural activity in Zhujiang Delta Region	1-2
Discuss the social, economic and environmental importance of developing agro-tourism in the Zhujiang Delta Region.	
Relevant concepts: • Agro-tourism: utilising agricultural resources in the suburbs for recreational use by urban residents • Social: - industrialisation & urbanisation, high urban population density, deteriorating urban environment - agro-tourism provides accessible and beautiful rural landscape/ leisure tourism - people can experience agricultural life and understand farming culture • Economic: - the economic importance of agriculture has been declining - agro-tourism combines primary, secondary and tertiary industries optimising structure of rural industries - labour-intensive, providing job opportunities for rural labour force areas - rural products have more ways to be sold that enhances sustainable development of rural region • Environmental: - human activities cause pollution that degrade the environment - agro-tourism preserve the natural environment and regulate micro-climate	
Performance of Candidates	**Marks**
• Comprehensive knowledge and understanding of sightseeing agriculture • Systematic and logical explanation and discussion of the importance to Zhujiang Delta Region	6
• Adequate to good knowledge and understanding of sightseeing agriculture • Appropriate explanation and discussion of the importance to Zhujiang Delta Region • Award higher marks to answer with more systematic and/ or more in-depth discussion	3-5
• Elementary to basic knowledge and understanding of sightseeing agriculture	1-2
	Max. 12

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