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.

Explain how igneous and sedimentary rocks may change from one to another in the rock cycle. Discuss the relative importance of these two types of rocks in shaping the landforms of Hong Kong. (12 marks)

6. **Elective: Weather and Climate**
Candidates attempting this question are NOT allowed to choose Question 2 in Section D.

Explain how climatic factors lead to the formation of sandstorms in North China. Discuss the role of human activities in influencing the intensity of sandstorms in North China. (12 marks)

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

Describe the recent problems faced by Hong Kong's logistics industry. Discuss the effectiveness of developing high value-added logistics services in overcoming these problems. (12 marks)

8. **Elective: Regional Study of Zhujiang Delta**
Candidates attempting this question are NOT allowed to choose Question 4 in Section D.

Account for the cross-border air pollution problem in the Zhujiang Delta Region. Explain how the Guangdong Province and the Hong Kong Special Administrative Region can cooperate to alleviate the problem. (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.	C (77%)	21.	D (72%)
2.	A (48%)	22.	A (55%)
3.	C (27%)	23.	B (87%)
4.	C (50%)	24.	C (74%)
5.	A (67%)	25.	B (68%)
6.	C (73%)	26.	B (81%)
7.	A (42%)	27.	C (81%)
8.	D (69%)	28.	D (47%)
9.	D (41%)	29.	D (91%)
10.	B (68%)	30.	B (71%)
11.	B (54%)	31.	A (80%)
12.	D (77%)	32.	C (63%)
13.	B (62%)	33.	A (82%)
14.	A (65%)	34.	B (96%)
15.	A (63%)	35.	D (67%)
16.	D (43%)	36.	C (87%)
17.	B (74%)	37.	A (64%)
18.	A (87%)	38.	D (34%)
19.	B (71%)	39.	C (52%)
20.	C (66%)	40.	D (78%)

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

This document was prepared for markers' reference. It should not be regarded as a set of model answers. Candidates and teachers who are not involved in the marking process are advised to interpret its content with care.

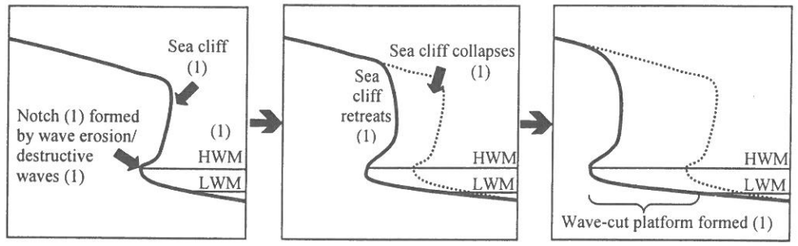
Section B

Question 1

Marks

(a) (i)
- X: wave-cut platform — 1
- Y: beach/ sandy beach — 1 (2)

(ii)
- diagrams & annotations — 4 (4)



HWM (HTL) : High-water mark (High tide level) ..... Original position of sea cliff
LWM (LTL) : Low-water mark (Low tide level)

(Max. 3 marks for one annotated diagram **only or** the absence of wave-cut platform)

(iii) Explanation: (Max. 3)
- sheltered location — 1
- short fetch — 1
- low wind speed/ low wave energy — 1
- constructive waves/ swash greater than backwash — 1

Evidence: (Max. 2)
- located at a bay — 1
- presence of an offshore island — 1 (4)

(b) (i) breakwater — 1 (1)

(ii)
- the coastal area is protected — 1
- e.g. mud-flat/ settlements/ human activities — 1
- wave reflected/ dispersed/ refracted/ blocked — 1
- as energy of waves is reduced/ absorbed by breakwater — 1
- wave erosion is reduced — 1
- reduces the economic loss/ loss of lives — 1 (3)

(iii)
- Effective: (Max. 3)
  - mangrove helps to reduce wave/ wind erosion — 1
  - mangrove helps the formation of mudflat at the river mouth/ favours deposition — 1
  - expansion of shallow water area — 1
  - planting mangrove brings less damage to existing coastal environment/ ecosystem — 1
- Ineffective: (Max. 3)
  - in times of adverse weather/ typhoon/ storm surge — 1
  - mangrove cannot reduce strong wave erosion — 1
  - mangrove will be destroyed — 1
  - it takes a long time to achieve the aim of protecting the coast — 1 (4)

Max. 18

Question 2

Marks

(a) (i)
- coastal location/ water for cooling — 1
- easy to import and export/ transport raw materials and finished products/ low transport cost — 1
- reclamation/ reclaimed land is possible for further expansion — 1
- labour supply/ market/ scrap iron from the cities nearby — 1 (2)

(ii)
- lack of raw materials/ coal/ iron ore from the nearby areas — 1
- electricity/ energy shortage — 1
- high production cost/ labour cost/ transport cost/ cost of pollution control — 1
- high land rent/ keen competition of land — 1 (2)

(b) (i)

Evidence	Physical constraint	
- annual rainfall less than 100 mm (a / b)	(a) drought	1+1
- lack of large rivers (b)	(b) water shortage	1+1
- inland China/ land interior/ NW China (a / b /c/ d)	(c) remoteness	1+1
- rugged/ hilly relief/ hilly area (d)	(d) low accessibility	1+1 (4)

(ii)

Evidence	Reasons of development	
- presence of coalfield/ iron ore	- availability of raw materials	1+1
- nearby settlement	- supply of labour	1+1
- established in 1951	- industrial inertia/ long history of development	1+1 (2)

(c) (i)
- the growth trends of crude steel production of both regions in the period of 1990 to 2010 increased — 1
- growth rate of region B higher than that of region A — 1
- 142% / 2.42 times in region A, whereas 2132% / 22.32 times in region B — 1
- in between 1990 and 2000, the production of region B increased in a faster rate than that of region A — 1
- 2.97 times Vs 1.94 times — 1
- in between 2000 and 2010, production of region B increased more rapidly than that of region A — 1
- 7.51 times Vs 1.25 times — 1 (4)

(ii) Region A: (Max. 2)
- China has adopted open up policy since 1978 — 1
- coastal areas have/ region A has been chosen for development first/ coastal economic open zones/ attract foreign investment — 1
- supply iron as raw materials for other industries — 1
- recent government environmental/ land zoning policy restricted the development — 1 (2)

Region B: (Max. 2)
- 'Go West' policy/ Western Development Strategy — 1
- to reduce regional disparity/ balance regional development — 1
- strategic reason — 1
- to develop central Asia market — 1 (2)

Max. 18

Question 3 **Marks**

(a) (i) industry 1 (1)

(ii)
- land use at Y is recreational land use 1 (1)
- lowering the building density 1
- reducing the flow of heavy vehicles 1
- reducing air pollution level/ improving air quality 1
- more open space/ green area/ improve scenery 1
- lessen the heat island effect 1 (3)

(iii)

Site and locational advantages	Map evidence	
- flat relief/ reclamation	- without contours/ straight coastline	1+1
- nice view/ pleasant working environment	- coastal area/ next to Kowloon Bay - nearby parks and playgrounds/ green belt - quite spacious environment	1+1
- good accessibility	- served with minibus and bus stations - sufficient parking spaces/ carparks - connected by roads/ highways/ mass transit system/ relevant names	1+1
- lower land resumption payment/ land resumption is easy/ low land rent	- redeveloped from old industrial land use/ industrial land use dominates	1+1 (4)

(b) (i)
- more commercial land use will invade/ succeed the industrial land use 1
- as monorail can improve the accessibility of the area 1
- cruise terminal can attract more tourist/ pedestrian flow 1
- will further enhance commercial activities 1
- as commercial land use has a greater rent-paying ability 1
- the processes of urban redevelopment will become more significant 1 (4)

(ii) <u>Socio-economic cost</u>:
- land use competition may raise the land rent 1
- results in higher cost of living 1
- some residents may have to leave as rent increases (or other reasonable causes) 1
- breaking up of the social ties in this area 1

<u>Socio-economic benefits</u>:
- upgrading the socio-economic image/ boosting local economy 1
- more employment opportunities 1
- more convenient in shopping/ more choices of goods as the number of shopping malls increases 1
- accessibility/ infrastructure/ community/ social facilities of this region improved significantly/ property price will go up 1 (5)

Max. 18

Question 4 **Marks**

(a) (i)
- total forest area in the Amazon Basin decreased continuously 1
- decreased from 3 680 000 (±10 000) km^2 to 3 370 000 (±10 000) km^2/ a reduction of 300 000 (±20 000) km^2/ 8.4 % (±0.5) 1
- total number of cattle herd continued to increase 1
- from 150 (±10) million to 220 (±10) million/ increase in 70 (±20) million/ 47% (±10) 1
- increasing rate of cattle herd most rapidly in the period between 1999 to 2005 1
- it had been slightly decreased between 2005 to 2007 1 (3)

(Max. 2 marks for describing the trend of total forest area **or** total number of cattle **only**)

(ii)
- negative relationship 1
- caused by the opening of pasture by the cattle ranchers 1
- result in rapid deforestation 1 (2)

(iii)
- rapid depletion in soil fertility/ soil more infertile 1
- trampling of animals 1
- serious soil erosion is resulted/ topsoil is removed 1
- disrupts nutrient cycle/ biomass decreases 1
- biodiversity will decrease/ extinction of some endangered species/ food chain disrupted 1
- global warming becomes more significant 1
- microclimate will be changed/ relative humidity/ rainfall in the local area will decrease/ local wind speed/ diurnal range of temperature will increase 1
- changes in the water cycle (interception decreases/ infiltration decreases/ surface runoff increases)/ higher risk of flooding 1 (5)

(b)

	Photograph 4b	Photograph 4c	
Height of vegetation	shorter	taller	1+1
Density of tree cover	lower	higher	1+1
Vegetation species/ Biodiversity	less/ lower	more/ higher	1+1
Structure/ Layers of vegetation	simple	complex	1+1
Biomass	smaller	larger	1+1 (4)

(c)
- it helps to slow down the loss of rainforest area in recent years 1

<u>but the effectiveness is low</u>:
- the reforested area (56 560 km^2) is much smaller than the loss of rainforest area (300 000 km^2) 1
- most of the governments of the LDCs are poor and heavily in debt 1
- they would rather encourage economic development than reforestation 1
- huge cost of conservation/ high opportunity cost 1
- little revenue generated 1
- low education level/ environmental awareness of local residents 1
- poor monitoring of the projects and policies 1
- limited species for planting/ exotic species introduced may disrupt ecosystem 1 (4)

Max. 18

Section C

Question 5

Explain the occurrence of tectonic hazards along the Circum-Pacific belt. Evaluate the effectiveness of land use zoning in reducing the impact of such hazards.

Explanation	7
Evaluation	5

Suggested Answers	Generic Marking Guidelines	
	Performance of Candidates	Marks
Explain the occurrence of tectonic hazards along the Circum-Pacific belt - movement of plates forming destructive/ conservative plate boundaries with appropriate naming of plates/ plate boundaries - occurrence of earthquakes: accumulation of stress/ rock fracture/ release of energy - occurrence of volcanic eruptions: plate subduction/ melting of plate in mantle/ increase of magma pressure/ magma flow out through cracks onto earth's surface - occurrence of tsunamis: displacement of seafloor due to plate movement/ earthquake at seafloor	• Demonstrate comprehensive knowledge of the occurrence of tectonic hazards along the Circum-Pacific belt • Extensive and accurate use of geographical terminology	7
	• Demonstrate adequate knowledge of the occurrence of tectonic hazards along the Circum-Pacific belt • Accurate use of geographical terminology	4 – 6
	• Demonstrate elementary knowledge of explaining the occurrence of tectonic hazards along the Circum-Pacific belt • Using everyday language	1 – 3
Evaluate the effectiveness of land use zoning in reducing the impact of the tectonic hazards - land use zoning practices include: • avoiding construction in areas that are susceptible to hazard impact • establishing regulations that prevent development in hazardous locations • providing incentives that encourage development in safe locations • for earthquake prone areas – there are designated safety evacuation areas, e.g. parks, schools etc. • for tsunami prone areas – development away from coastal area • for volcanic areas – lava flow hazard-zone maps are prepared to facilitate evacuation and planning future development - effectiveness depends on how <u>accurate</u> the high risk area can be identified, socio-economic conditions, political barriers, level of economic development of a country - more limitations in less developed countries, e.g. control of land use is difficult in LDCs where there is high rural-urban migration - cannot tackle sudden and stronger hazards	• Coherent and logical evaluation of the effectiveness of using land use zoning in reducing the impact of the tectonic hazards • Extensive and accurate use of geographical terminology	5
	• Appropriate evaluation of the effectiveness of using land use zoning in reducing the impact of the tectonic hazards • Accurate use of geographical terminology	3 – 4
	• Brief and general evaluation of the effectiveness of using land use zoning in reducing the impact of the tectonic hazards • Using everyday language	1 – 2
		Max. 12

N.B. Markers are reminded to award appropriate marks to relevant and reasonable answers not included in this marking scheme.

Question 6

Describe the physical environment for the practice of nomadic herding in the Sahel. Discuss whether arable farming is a better way to increasing food supply in the region.

Description	7
Discussion	5

Suggested Answers	Generic Marking Guidelines	
	Performance of Candidates	Marks
Describe the physical environment for the practice of nomadic herding in the Sahel - <u>Tropical semi-arid climate</u>: • high annual mean temperature • low annual rainfall • variable and unreliable rainfall • high evapotranspiration rate - <u>Drainage and relief</u>: • no major rivers running through most of the Sahel • low relief in most of the Sahel - <u>Soil</u>: • thin and infertile soil • low soil water storage • infrequent but intense rainfall → soil erosion - <u>Vegetation cover</u>: • plants which can adapt dry conditions can survive, e.g. grassland and shrubs • vegetation cover is sparsely distributed	• Demonstrate comprehensive knowledge of the physical environment for the practice of nomadic herding in the Sahel • Extensive and accurate use of geographical terminology	7
	• Demonstrate adequate knowledge of the physical environment for the practice of nomadic herding in the Sahel • Accurate use of geographical terminology	4 – 6
	• Demonstrate elementary knowledge of the physical environment for the practice of nomadic herding in the Sahel • Using everyday language	1 – 3
Discuss whether arable farming is a better way to increasing food supply in the Sahel <u>A better way</u>: - arable farming is a kind of sedentary farming - grows less water-demanding crops in areas that have more rainfall - helps international agencies to conduct research and apply technology to increase farm production - build up water storage equipment/ system for irrigation from intense rainfall - practise crop rotation and fallowing - use crop stalks and plant residues as mulch to cover the field to reduce evaporation - less soil erosion - helps provide more stable food supply - better use of water resources <u>Not a better way</u>: - drought persists in Sahel - low educational level of the farmers/ influence of tradition - misuse water resources and technology - soil salinization - use of marginal land - accelerates desertification	• In-depth discussion on whether arable farming is a better way to increasing food supply in the Sahel • Extensive and accurate use of geographical terminology	5
	• General discussion on whether arable farming is a better way to increasing food supply in the Sahel • Accurate use of geographical terminology	3 – 4
	• Superficial discussion on whether arable farming is a better way to increasing food supply in the Sahel • Using everyday language	1 – 2
		Max. 12

N.B. Markers are reminded to award appropriate marks to relevant and reasonable answers not included in this marking scheme.

Question 7

Describe the possible adverse impact of global warming in Hong Kong. Discuss the effectiveness of urban greening in reducing the adverse impact of global warming.

Description	7
Discussion	5

Suggested Answers	Generic Marking Guidelines Performance of Candidates	Marks
Describe the possible adverse impact of global warming in Hong Kong - rise of mean annual temperature - warm winter - economic loss brought by the higher frequency of heat storms, flooding and water shortage - inundation of low-lying coastal area by the storm surges - tropical diseases prevailing, e.g. dengue fever - using more air-conditioning raises the cost of energy consumption rapidly - higher frequency of hill fire - reduce in biodiversity resulted from the climatic anomalies	• Demonstrate comprehensive knowledge of the possible adverse impact **(including climate, ecological and socio-economic)** of global warming in Hong Kong • Extensive and accurate use of geographical terminology	7
	• Demonstrate adequate knowledge of the possible adverse impact of global warming in Hong Kong • Accurate use of geographical terminology	4 – 6
	• Demonstrate elementary knowledge of the possible adverse impact of global warming in Hong Kong • Using everyday language	1 – 3
Discuss the effectiveness of urban greening in reducing the adverse impact of global warming Effective: - mitigating the impact of heat-related diseases - cooling the urban area by shading/ sheltering effect, economic cost in air-conditioning can be reduced partially Ineffective: - appropriate species of trees need to be chosen - fails to increase the water supply/ reduces the impact brought by storm surge - reletively insignificant in mitigating the overall impact of global warming as the scale is too small - trees take time to grow Other measures: - e.g. international cooperation	• Coherent and logical discussion on the effectiveness of urban greening in reducing the adverse impact of global warming **(Discussion should include both effectiveness and ineffectiveness or other measures)** • Extensive and accurate use of geographical terminology	5
	• Appropriate discussion on the effectiveness of urban greening in reducing the adverse impact of global warming • Accurate use of geographical terminology	3 – 4
	• Brief and general discussion on the effectiveness of urban greening in reducing the adverse impact of global warming • Using everyday language	1 – 2
		Max. 12

N.B. Markers are reminded to award appropriate marks to relevant and reasonable answers not included in this marking scheme.

Paper 2
Section D

Question 1 **Marks**

(a) (i)
- concentrated at two sides of the Victoria Harbour 1
- scattered along the coast of the New Territories/ outlying islands 1
- mostly at new towns 1
- e.g. at northern part of Lantau Island/ at Chek Lap Kok Airport/ around Tolo Harbour/ other relevant examples 1 (2)

(ii) Modification of natural coastal area: (Max. 3)
- coastlines have been straightened/ shortened 1
- harbour/ coastal inlets narrower 1
- bays buried 1
- islands disappear/ linked 1
- increases coastal land area/ lengthens coastlines 1

Relevant examples: (At least 1, max. 2)
- northern coast of Hong Kong Island/ southern side of Kowloon Peninsula 1
- former Kai Tak Airport/ Tsing Yi 1
- Victoria Harbour 1
- Tolo Harbour 1
- Stonecutters Island/ other relevant examples 1 (4)

(b) (i)
- A: public fill/ construction waste 1
- B: marine fill/ marine sand 1 (2)

(ii)
- marine fill from dredging of marine sand from seabed 1
- increasing suspended sediment content/ lowering the visibility of seawater 1
- reducing the ability of sea animals to find food 1
- removing contaminated mud deposits 1
- increasing seawater pollution 1
- e.g. heavy metals 1
- brings hazard to marine ecosystem/ habitat/ food web 1

- public fill comes from construction/ demolition waste 1
- reused for reclamation 1
- helps conserve natural resources 1 (5)

(Max. 2 marks for public fill **only**)

(c)
- granite 1
- harder/ stronger rock 1
- well-jointed rock 1
- easy to excavate 1
- pervious/ permeable rock 1
- less resistant to denudation/ weathering 1
- near major fault line 1
- risk of rock displacement/ movement 1
- supporting structure/ strengthening structure needed 1 (5)

Max. 18

Question 2 **Marks**

(a)

	Comparison of data		Description	
	Qingdao	Hong Kong		
Temperature	- 6°C	- 22°C	- Qingdao has lower temperature/ Hong Kong has higher temperature	1,1
Pressure	- 1 025 hPa	- 1 016 hPa	- Qingdao has higher pressure/ Hong Kong has lower pressure	1,1
Wind direction	- NNE/ N	- ENE/ NE	- northerly wind at Qingdao/ easterly wind at Hong Kong	1,1
Wind speed	- 10 m/s (36 km/h)	- 2.5 m/s (9 km/h)	- Qingdao has higher wind speed/ Hong Kong has lower wind speed	1,1 (4)

(b) (i)
- winter 1
- Qingdao located at higher latitude/ Hong Kong located at lower latitude 1
- Qingdao has a smaller angle of insolation (larger angle of incidence)/ Hong Kong has a larger angle of insolation (smaller angle of incidence) 1
- sun's ray travels through a thicker layer of atmosphere at Qingdao/ sun's ray travels through a thinner layer of atmosphere at Hong Kong 1
- insolation spreads over a larger area at Qingdao/ insolation concentrates on a smaller area at Hong Kong 1
- weaker insolation at Qingdao/ stronger insolation at Hong Kong 1
- shorter sunshine duration at Qingdao/ longer sunshine duration at Hong Kong 1
- cold front has passed Qingdao/ cold front has not arrived at Hong Kong 1
- Qingdao affected by cold air mass/ Hong Kong affected by warm air mass 1 (5)

(ii)
- isobars around Qingdao are closer/ isobars around Hong Kong are wider apart 1
- great pressure difference in a small area around Qingdao/ small pressure difference in a small area around Hong Kong 1
- steep pressure gradient at Qingdao/ gentle pressure gradient at Hong Kong 1 (2)

(c) (i)
- duration of sunshine decreases and then increases 1 (1)
- warm air meets cold air 1
- uplifting of warm air 1
- air saturated/ condensation 1
- towering clouds/ overcast sky/ frontal rain 1
- cold air prevails 1
- clear sky 1 (3)

(ii)
- water holding capacity reduces with decreasing air temperature 1
- wind comes from the interior 1
- high pressure/ anticyclone 1
- sinking air 1
- lower evapotranspiration from land 1
- low actual amount of water vapour/ lack of moisture/ dry air 1 (3)

Max. 18

Question 3 **Marks**

(a) (i) traffic congestion 1 (1)

(ii) Causes of transport problem:
- traffic bottleneck/ inappropriate transport planning 1
- inadequate roads 1
- frequent commuting journey/ large amount of commuters 1
- high concentration of traffic flow in the peak hours 1
- over-reliance of road transport/ no rail service 1
- private cars causing congestion 1 (4)

Map and photograph evidence:
- meeting of Route 1 with Cross Harbour Tunnel/ with major E-W road 1
- Route 1 is the major road linking southern part of Hong Kong Island with the northern part/ few alternate routes 1
- large amount of residential areas in Southern District 1
- traffic congestion occurs in the peak hours 1
- no MTR service in the southern part of Hong Kong Island 1
- middle income private housing 1 (2)

(b) (i)
- provide alternate transport mode 1
- more efficient/ large capacity transport system/ mass transit 1
- linking existing MTR lines 1
- linking CBD 1
- reducing the use of private cars/ buses 1
- reducing the traffic flow 1
- mitigating the bottleneck problem 1 (4)

(ii)
- construction of two MTR lines 1
- more land acquired 1
- temporary traffic diversion 1
- reducing the width of road 1
- more construction vehicles 1
- increasing the occurrence of traffic accident 1
- reduction of parking space 1 (3)

(c)
- suburban location of site X 1
- interchange station at site X 1
- can encourage more commuters to use the MTR 1
- location of site Y in CBD 1
- keen land use competition at site Y/ less keen land use competition at site X 1
- higher land rent at site Y/ lower land rent at site X 1
- limited area at site Y for park and ride facilities/ more spacious area at site X for park and ride facilities 1
- park and ride facilities at site Y bring extra traffic flow to the city centre 1 (4)

Max. 18

Question 4 **Marks**

(a) (i) Locational advantages:
- highly accessible location 1
- convenient for import/ export activities 1
- neighbouring with major cities 1
- served as local markets 1
- labour sources 1
- can obtain financial/ professional services easily 1

Map evidence:
- well-connected transportation networks 1
- served by railways/ ports/ airports 1
- examples of major cities: Foshan/ Dongguan etc. 1
- near to Hong Kong/ Macau 1 (4)

(Max. 3 marks if **no map evidence** are given)

(ii)
- labour shortage/ rising labour cost 1
- minimum wages 1
- discouraging low value-added industries/ encouraging high value-added industries 1
- severe environmental problems 1
- government wants to improve the environmental conditions 1
- polluting industries relocated/ encouraging green industries 1
- keen land use competition/ rising land rent 1
- discouraging space-demanding industries 1 (5)

(b)
- well-planned land use pattern 1
- wide roads 1
- spacious/ pleasant environment/ green areas 1
- nice-designed buildings 1
- attracting skilled/ technical personnel 1
- favourable for research and development 1 (4)

(c) (i)
- draining away of capital 1
- job loses 1
- unemployment of the unskilled labour 1
- social unrest 1

(ii)
- higher productivity/ higher value-added production 1
- higher income/ higher living standard 1
- pleasant living environment 1
- better city image/ prestige 1
- attracting investment 1
- attracting well-educated personnel 1
- diversified society (Max. 4 marks for (c) (ii)) 1 (5)

Max. 18

Section E

Question 5

Explain how igneous and sedimentary rocks may change from one to another in the rock cycle. Discuss the relative importance of these two types of rocks in shaping the landforms of Hong Kong.

Explanation	6
Discussion	6

Suggested Answers	Generic Marking Guidelines Performance of Candidates	Marks
Explain how igneous and sedimentary rocks may change from one to another in the rock cycle - exposure of igneous rocks in atmosphere - weathering and erosion break down the igneous rocks that are transported and deposited as sediments - sediments are buried, compacted and cemented to form sedimentary rocks - sinking of rocks at subduction zone - intense pressure and heat underground melt the rocks into magma - magma rises, cools off and becomes solid, igneous rocks	• Demonstrate comprehensive knowledge of the processes which may change igneous and sedimentary rocks from one to another • Extensive and accurate use of geographical terminology	6
	• Demonstrate adequate knowledge of the processes which may change igneous and sedimentary rocks from one to another • Accurate use of geographical terminology	3 – 5
	• Demonstrate elementary knowledge of the processes which may change igneous and sedimentary rocks from one to another • Using everyday language	1 – 2
Discuss the relative importance of igneous and sedimentary rocks in shaping the landforms of HK - igneous rock is the most important rock type in Hong Kong • volcanic rocks are more resistant, they form the highest summits; rugged, angular topography • intrusive igneous rocks (mainly granite) are less resistant, form lower hills; they give rise to a lower, more rounded topography with weathering profile and tors - sedimentary rocks are important in shaping the landforms of northeastern part of the New Territories • more resistant one forms higher ground, e.g. Pat Sin Leng • less resistant one forms low-lying layered structure, e.g. Ping Chau	• Coherent and logical discussion of the relative importance of igneous and sedimentary rocks in shaping the landforms of Hong Kong • Extensive and accurate use of geographical terminology	6
	• Appropriate discussion of the relative importance of igneous and sedimentary rocks in shaping the landforms of Hong Kong • Accurate use of geographical terminology	3 – 5
	• Brief and general discussion of the relative importance of igneous and sedimentary rocks in shaping the landforms of Hong Kong • Using everyday language	1 – 2
		Max. 12

N.B. Markers are reminded to award appropriate marks to relevant and reasonable answers not included in this marking scheme.

Question 6

Explain how climatic factors lead to the formation of sandstorms in North China. Discuss the role of human activities in influencing the intensity of sandstorms in North China.

Explanation	6
Discussion	6

Suggested Answers	Generic Marking Guidelines	
	Performance of Candidates	Marks
Explain how climatic factors lead to the formation of sandstorms in North China - semi-arid climate in North China: • low annual precipitation • seasonal rainfall • high temperature in summer • high evaporation rate in summer • low relative humidity • strong wind in spring - dry climate results in low density of vegetation - loose soil	• Demonstrate comprehensive knowledge of the climatic factors leading to the formation of sandstorms in North China • Extensive and accurate use of geographical terminology	6
	• Demonstrate adequate knowledge of the climatic factors leading to the formation of sandstorms in North China • Accurate use of geographical terminology	3 – 5
	• Demonstrate elementary knowledge of the climatic factors leading to the formation of sandstorms in North China • Using everyday language	1 – 2
Discuss the role of human activities in influencing the intensity of sandstorms Activities reducing the intensity of sandstorms: - afforestation - sand dune fixation - water conservation measures Activities increasing the intensity of sandstorms: - over-cultivation - overgrazing - firewood collection - deforestation - excessive use of water resources	• Extensive discussion on the role of various human activities in influencing the intensity of sandstorms in North China • Extensive and accurate use of geographical terminology	6
	• General discussion on the role of a number of human activities in influencing the intensity of sandstorms in North China • Accurate use of geographical terminology	3 – 5
	• Brief discussion on the role of few human activities in influencing the intensity of sandstorms in North China • Using everyday language	1 – 2
		Max. 12

N.B. Markers are reminded to award appropriate marks to relevant and reasonable answers not included in this marking scheme.

Question 7

Describe the recent problems faced by Hong Kong's logistics industry. Discuss the effectiveness of developing high value-added logistics services in overcoming these problems.

Description	7
Discussion	5

Suggested Answers	Generic Marking Guidelines	
	Performance of Candidates	Marks
Descirbe the recent problems faced by Hong Kong's logistics industry - rising cost (e.g. wages, rent, transport cost, etc.) - lack of land resources - keen competition from ZDR ports - improvement of infrastructure and efficiency of ZDR ports - relocation of industries in ZDR - global economic recession	• Coherent and logical description on the recent problems faced by Hong Kong's logistics industry • Extensive and accurate use of geographical terminology	7
	• Appropriate description on the recent problems faced by Hong Kong's logistics industry • Accurate use of geographical terminology	4 – 6
	• Brief and general description on the recent problems faced by Hong Kong's logistics industry • Using everyday language	1 – 3
Discuss the effectiveness of developing high value-added logistics services in overcoming the problems - high value-added logistics services include: • advanced information and communication technology in the management of logistics flow, air transport service, etc. Effective in overcoming the problems: - Hong Kong possesses favourable conditions in developing high value-added logistics services (e.g. capital, technological level and skilled labour, international airport, etc.) - helps to reduce direct competition between ZDR and Hong Kong Ineffective in overcoming the problems: - rapid development of relevant services in ZDR - high production cost in Hong Kong reduces its competitiveness of relevant services - unable to overcome the physical constraints of Hong Kong to expand port facilities, economic recession, etc.	• Coherent and logical discussion on the effectiveness of developing high value-added logistics services in overcoming the problems • Extensive and accurate use of geographical terminology	5
	• Appropriate discussion on the effectiveness of developing high value-added logistics services in overcoming the problems • Accurate use of geographical terminology	3 – 4
	• Brief and general discussion on the effectiveness of developing high value-added logistics services in overcoming the problems • Using everyday language	1 – 2
		Max. 12

N.B. Markers are reminded to award appropriate marks to relevant and reasonable answers not included in this marking scheme.

Question 8

Account for the cross-border air pollution problem in the Zhujiang Delta Region. Explain how the Guangdong Province and the Hong Kong Special Administrative Region can cooperate to alleviate the problem.

Description & explanation	7
Explanation	5

Suggested Answers	Generic Marking Guidelines Performance of Candidates	Marks
Describe and explain the cross-border air pollution problem in the Zhujiang Delta Region - major source of air pollutants from the burning of fossil fuel: power generation, industries and vehicles - low quality fuel used in Guangdong - rising living standard increases demand on energy consumption in Guangdong - higher consumption of energy per capita in Hong Kong - suspended particulates, SO_2 and NO_2 form smog and acid rain - seasonal change of wind direction causes pollutants to spread across the border	• Demonstrate comprehensive knowledge of the cross-border air pollution problem in ZDR • Extensive and accurate use of geographical terminology	7
	• Demonstrate adequate knowledge of the cross-border air pollution problem in ZDR • Accurate use of geographical terminology	4 – 6
	• Demonstrate elementary knowledge of the cross-border air pollution problem in ZDR • Using everyday language	1 – 3
Explain how Guangdong Province and HKSAR can cooperate to alleviate the problem - a cross-border issue that needs cooperation between the two places - through the promotion of <u>local measures</u>, such as: • tightening of emission standards • introduction of cleaner fuel • promoting green production technologies • saving energy, etc. - regional <u>cooperation measures</u>, such as: • Regional Air Quality Monitoring Network • Emission Trading • setting targets for emission, etc.	• Coherent and logical explanation of the importance of cooperation between Guangdong Province and HKSAR • Appropriate explanation of the measures that can alleviate the environmental impact • Extensive and accurate use of geographical terminology	5
	• Appropriate explanation of the importance of cooperation between Guangdong Province and HKSAR • General explanation of the measures that can alleviate the environmental impact • Accurate use of geographical terminology	3 – 4
	• Brief and general explanation of the importance of cooperation between Guangdong Province and HKSAR • Brief explanation of the measures that can alleviate the environmental impact • Using everyday language	1 – 2
		Max. 12

N.B. Markers are reminded to award appropriate marks to relevant and reasonable answers not included in this marking scheme.

Candidates' Performance

Paper 1

Section A

There are 40 multiple-choice questions in this paper. The average number of questions answered correctly by candidates was 26. The overall performance of the candidates was satisfactory.

The following table lists some weaknesses of this year's candidates:

Question Number	Candidates' Performance
3	Only 27% of candidates were able to choose the key, while 54% wrongly chose B. It is likely candidates choosing option B calculated the average gradient of the section of Chun Wah Road using the straight line distance between the two spot heights instead of the actual length of the road.

In conclusion, candidates should:

1. improve their map reading skills;
2. study the information given in the questions in greater detail;
3. improve their understanding on local and global issues; and
4. enhance their basic geographical knowledge.