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.

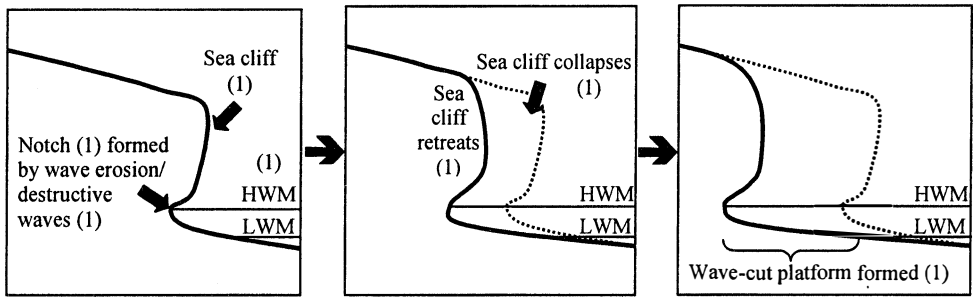
This document was prepared for markers' reference. It should not be regarded as a set of model answers. Candidates and teachers who are not involved in the marking process are advised to interpret its content with care.

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) Socio-economic cost:
- 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

Socio-economic benefits:
- 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 accurate 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.