

## MARKING GUIDELINES

### Paper 1

### Section A (M.C. key)

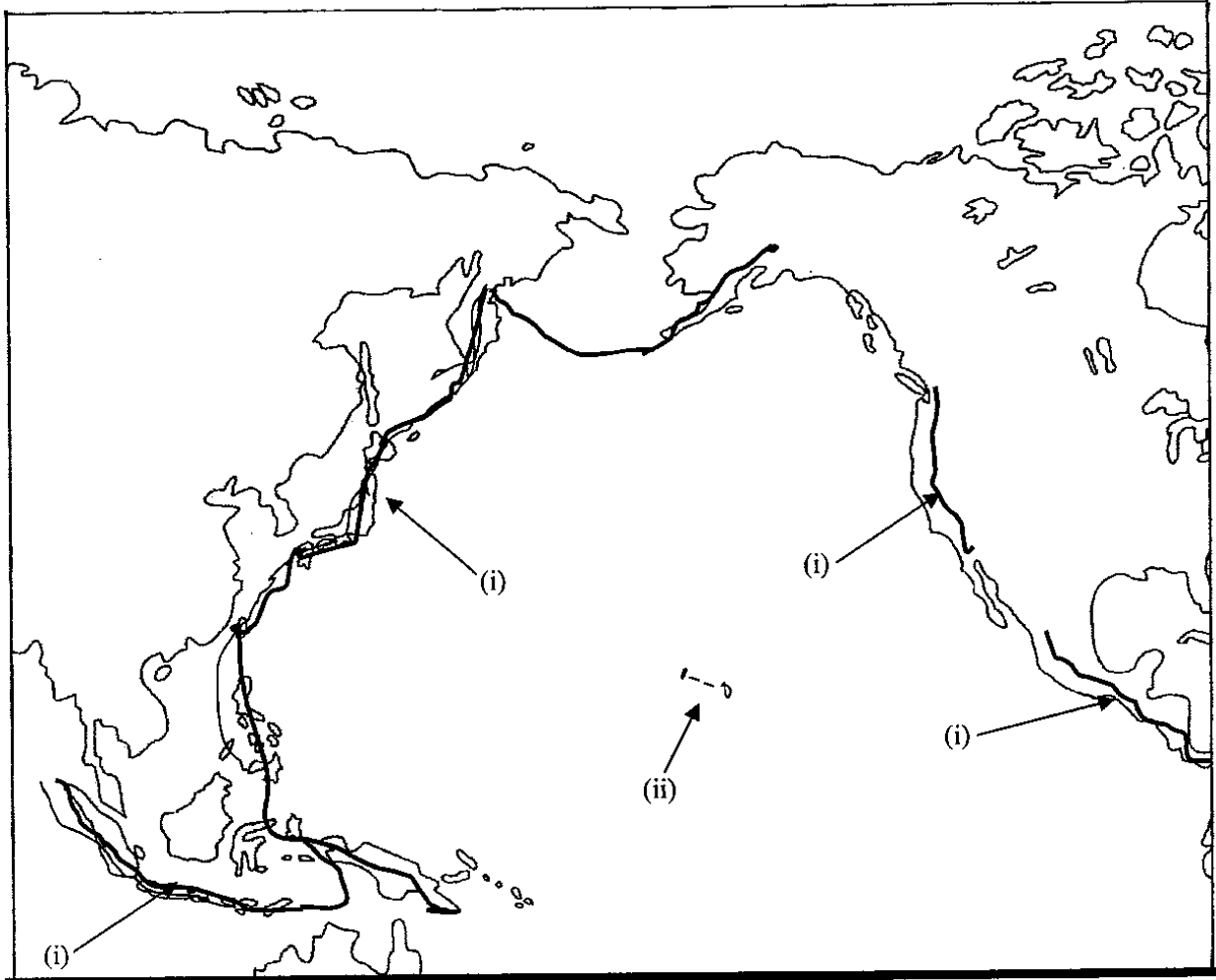
Question No.	Key	Question No.	Key
1.	B	21.	A
2.	B	22.	D
3.	D	23.	B
4.	D	24.	C
5.	A	25.	C
6.	B	26.	A
7.	C	27.	B
8.	D	28.	C
9.	C	29.	C
10.	A	30.	D
11.	A	31.	C
12.	C	32.	D
13.	A	33.	C
14.	B	34.	A
15.	B	35.	D
16.	A	36.	B
17.	C	37.	B
18.	B	38.	D
19.	D	39.	A
20.	D	40.	A

**Section B**

**Question 1**

**Marks**

(a)



- |       |   |       |
|-------|---|-------|
| (i)   | any 2 of 4  | (2)   |
| (ii)  |   | (1)   |
| (iii) | - convergent plate boundaries   | 1     |
|       | - two plates move towards each other / collide  | 1     |
|       | - Indo-Australian Plate & Eurasian Plate / Philippine Plate & Eurasian Plate / Juan de Fuca Plate & North American Plate / Cocos Plate & North American Plate | 1     |
|       | - oceanic plate subducts below continental plate into the asthenosphere   | 1     |
|       | - slab is under enormous pressure and heat  | 1     |
|       | - melting of slab into molten form  | 1     |
|       | - magma from asthenosphere rises up through the cracks in the overriding wedge and the crust  | 1     |
|       | - when pressure is released, magma comes up to the surface in violent form  | 1 (4) |

- |     |      |   |       |
|-----|------|---|-------|
| (b) | (i)  | - subduction of oceanic plates creates stresses                 | 1     |
|     |      | - energy builds up within the rock                              | 1     |
|     |      | - the stress within the rock is greater than the strength of it | 1     |
|     |      | - sudden fracture of rock                                       | 1     |
|     |      | - release of energy shakes the grounds                          | 1     |
|     |      | - landslides occur  | 1 (3) |
|     | (ii) | - the government lacks comprehensive recovery plan              | 1     |
|     |      | - the government lacks capital for the plan                     | 1     |
|     |      | - lack of technology  | 1     |
|     |      | - areas are remote  | 1     |
|     |      | - low priority in terms of economic development                 | 1 (3) |
| (c) | (i)  | - long history of economic development                          | 1     |
|     |      | - in basic volcanic areas, soil is fertile                      | 1     |
|     |      | - valuable minerals   | 1     |
|     |      | - volcanic areas are tourist attractions                        | 1     |
|     |      | - social tie to the land  | 1     |
|     |      | - too poor to move  | 1 (3) |
|     | (ii) | Yes   |       |
|     |      | - hazards are not frequent                                      | 1     |
|     |      | - beautiful scenery   | 1     |
|     |      | - valuable experience   | 1 (2) |
|     |      | <b>OR</b>   |       |
|     |      | No  |       |
|     |      | - fear of sudden eruption of volcano or earth tremors           | 1     |
|     |      | - may cause injury or death                                     | 1     |
|     |      | - lack of confidence in rescue work                             | 1 (2) |

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max. 18

**Question 2****Marks**

- (a) (i) - 330749: stack (1)  
- 298806: spit / beach (1)
- (ii) - the stack is formed in places with strong waves while the sand spit is located in places with weaker waves 1  
- as Po Pin Chau is exposed and the beach is located in a sheltered bay (Tai Long Wan) 1  
- the depth of the sea water around the stack is more than 10m but the bay areas have a depth of less than 5m 1  
- Po Pin Chau faces the open sea with a long fetch but the spit at Ham Tin Wan has a shorter fetch with Tai Chau and Tsim Chau reducing the strength of waves 1  
- the river near the sand spit supplies sediments for the deposition of beach materials 1 (4)
- (iii) - on a headland with lines of weakness along coastal rocks and wave erosion 1  
- sea caves are formed 1  
- with continuous erosion, sea caves extend inward and cut through the headland 1  
- a sea arch is then formed 1  
- subsequent erosion leads to the collapse of the roof of the sea arch 1  
- the small resulting island is the stack 1  
- diagrams 1  
(Without annotated diagrams, only 2 marks will be given) (4)
- (b) (i) Physical factors:  
- the river supplies water for irrigation 1  
- the land is flat as reflected by widely spaced contour lines 1  
- the land is lowlying being less than 20 metres in height 1  
- in the lower course of the river, alluvial soil can be expected 1 (2)  
Human factors:  
- there are few human activities nearby, thus the competition for land is low 1  
- land prices are not too high 1  
- pollution from other human or urban activities is minimal, thus providing a clean environment for farming 1 (2)
- (ii) - excessive fertilizers from farming can alter the chemical composition of the river water 1  
- withdrawal of river water for irrigation reduces discharge of the river 1  
- this reduces the energy for transporting eroded materials to the sea and favours the deposition of sediments near the coast 1  
- removal of surrounding vegetation for farming increases chance of soil erosion, thus sediment load in the river increases / siltation problem increases 1  
- river bed rises and lowers the carrying capacity of river 1  
- chance of flooding increases 1  
- at the same time, there is more sediment for the formation of depositional landforms along the coast 1 (4)

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max. 18

**Question 3**

**Marks**

area X	area Y	
- mainly residential	- mixed land use	1
- middle-class residential area	- lower-class residential area	1
- new office buildings & financial activities can be found (e.g. BOC Centre) / no industrial land use	- industrial land use / small-scale industries are found	1
- new shopping malls are found & higher-order goods are sold	- no large-scale shopping mall and mainly low-order goods are sold	1
- more transportation land use (e.g. highway & MTR)	- less land is used for transportation	1 (4)

- (b)
- urban decay 1
  - housing problems 1
  - illegal structures 1
  - poor facilities 1
  - poor ventilation 1
  - lack of open space 1
  - mixed land use 1
  - industrial activities nearby 1
  - air pollution 1
  - noise pollution 1
  - loading and unloading activities in the streets 1
  - traffic problems, e.g. car parking, traffic congestion 1 (4)

- (c) Positive impact:
- provision of better and higher-order goods and services to the residents 1
  - the shops in area Y may have more customers 1
  - provision of more and better transport facilities / higher accessibility 1
  - provision of office jobs / jobs in tertiary industry 1
  - land rents in area Y may rise 1 (3)
- Negative impact:
- tall buildings in area X block the sea breeze / wind from the sea 1
  - air pollution problem in area Y is worsening / concentration of air pollutants in area Y 1
  - hotter living environment for residents in area Y 1
  - residents in area Y may need to spend more on air-conditioning 1
  - shops in area Y may lose their customers 1
  - residents & small-scale industries in area Y may not be able to afford the higher land rent 1 (3)

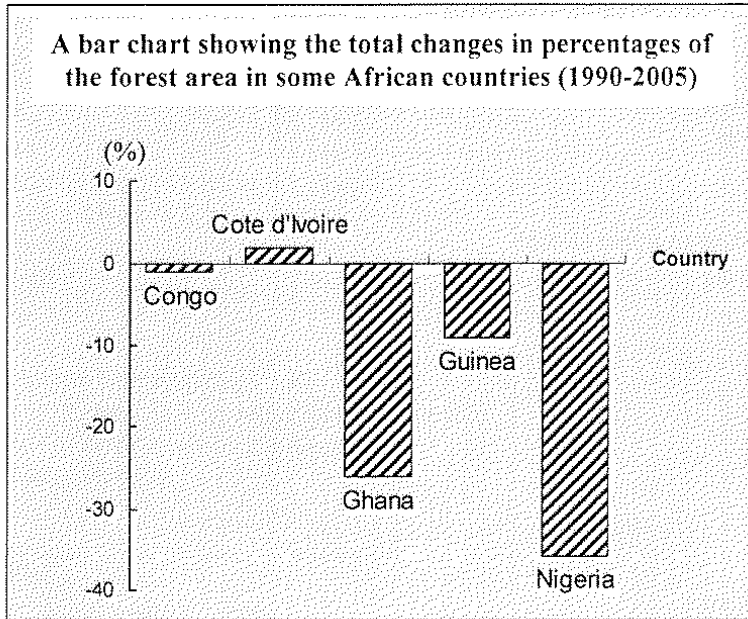
- (d) The redevelopment should include characteristics of sustainable development, e.g.
- the economy of the area should be further developed 1
  - more land for commercial activities and office buildings should be provided 1
  - provision of more job opportunities 1
  - provision of better living environment / more open space after redevelopment 1
  - provision of more modern facilities for residents 1
  - unique culture / traditional business of the area should be kept 1
  - social links among the residents should be kept 1
  - any other acceptable answer 1 (4)

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max. 18

**Question 4**

**Marks**

(a) (i)



- title (1)
- 2 axes (1)
- accuracy (2)

- (ii) - the total forest area of Congo, Ghana, Guinea and Nigeria has been decreasing 1
- the total forest area of Cote d'Ivoire has been slightly increasing 1 (2)

- (b) (i) - interception decreases 1
- surface runoff increases 1
- infiltration decreases 1
- the possibility of flooding increases 1
- the time lag shortens 1
- the rising limb of the hydrograph increases rapidly 1
- in the long run, the baseflow decreases 1 (4)

- (ii) - a closed system of tropical rainforest has been changed to an open one 1
- the food chain has been broken 1
- the inaccessible forest has been opened up 1
- the natural resources for the living of indigenous people decreases drastically 1
- the loggers bring diseases to the indigenous people 1
- who lack immunity to the diseases of the outside world 1
- heavy machinery creates noise pollution 1
- relationships of biotic and abiotic components altered 1 (4)

- (c) - issue license 1
- limit the areas for logging 1
- prohibit illegal logging through legislation 1
- increase surveillance of and place patrols in protected areas 1
- request the logging company to implement afforestation scheme 1
- ask for international help if logging companies do not follow the rules 1
- check that the officials do not take bribes from logging companies / prevent corruption 1 (4)

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max. 18

**Section C**

**Question 5**

**Marks**

Explanation	6
Discussion	6

**Explanation**

The favourable factors for locating near large urban centres

- government encouragement / policy
- technological innovation
- market advantages
- other reasons

(6)

**Discussion**

The socio-economic impacts

- change of employment structure
- change of economic structure
- social opportunities / social problems

The environmental impacts

- pollution problems
- other environmental problems

(6)

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max. 12

**Question 6****Marks**

Explanation	3+3
Discussion	3+2
Example	1

**Explanation**

- identify an appropriate farming region
- physical factors:
  - climate
  - relief
  - soil
- agricultural characteristics:
  - types of farming, e.g. subsistent, commercial
  - types of farm produce, e.g. crops
  - farming methods

(3)

(3)

**Discussion**

- major technologies applied:
  - to handle climatic constraints, e.g. irrigation
  - to handle topographical constraints, e.g. terracing
  - to handle pedological constraints, e.g. use of fertilizers
- conclusion
  - proper conclusion
  - justification / supporting reasons / evidence

(3)

(2)

**Example**

(1)

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max. 12



**Question 7**

**Marks**

Explanation	6
Discussion	2
Justification	4

**Explanation**

Relationship between global warming and sustainable development

- global warming refers to the phenomenon that global temperatures are tending to rise
- ever since 1980, global temperatures have continued to rise
- sustainable development meets our modern needs but it does not harm the development needs of future generations
- examples of harmful human activities:
  - increase in burning fossil fuels (rising number of vehicles; increase in industrial / commercial activities)
  - over-logging in forests
  - increase in farming activities leading to emissions of more and more poisonous gases like NO<sub>2</sub>
  - increase in use of chemical products
  - result of intensifying greenhouse effects
- effects of global warming:
  - rise in sea-level
  - climate change
  - ecological change (impact on soil humidity & running water; biological species, spatial distributional change of worms and bacteria; whitening corals, etc.)
  - farming activities and agricultural production may be affected

(6)

**Discussion**

International co-operation

- 1988 meeting on global warming by world's meteorological association and the UN
- 1992 conference at Rio De Janeiro in Brazil in which many countries agreed to control emissions causing greenhouse effects
- before 2012, MDCs have agreed to reduce greenhouse gas emissions by at least 5% (taking 1990 as the base year)

(2)

**Justification**

Reasons and examples:

- different nations have different requirements in reducing greenhouse gas emissions (EU -8%; USA -7%)
- the Kyoto Protocol was confirmed by China, Russia and Canada in 2002
- EU reckoned that the costs incurred in the terms were not too high
- US and Australia rejected the implementation
- no agreement reached among nations in terms of fairness and their standpoints
- some nations worried about huge costs incurred
- problems may arise in supervision and control

(4)

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max. 12

**Section D**

**Question 1**

**Marks**

- |     |       |   |       |
|-----|-------|---|-------|
| (a) | (i)   | - the rock type is fine ash tuff of High Island Formation   | 1     |
|     |       | - it was formed during the Upper Jurassic to Lower Cretaceous period  | 1 (2) |
|     | (ii)  | - there are columnar joints   | 1     |
|     |       | - there are some lateral joints near the top part of the rock   | 1     |
|     |       | - the area is very steep  | 1     |
|     |       | - the slope is nearly vertical  | 1 (3) |
|     | (iii) | - columnar joints form lines of weakness  | 1     |
|     |       | - weathering (both physical and chemical) will occur along these joints and lead to the expansion of these joints | 1     |
|     |       | - when weathering continues, joints are enlarged until the whole rock breaks                                      | 1     |
|     |       | - rocks may fall along these nearly vertical joints   | 1     |
|     |       | - therefore, a steep wall will be produced after the surface rock is removed                                      | 1 (4) |
| (b) | -     | the kind of internal process that shapes the landscape is vulcanicity   | 1     |
|     | -     | during volcanic eruptions, large volume of ash is erupted to the earth's surface                                  | 1     |
|     | -     | these materials will be cooled on the earth's surface   | 1     |
|     | -     | cooling takes place from evenly distributed cooling centres   | 1     |
|     | -     | joints are formed between each pair of cooling centres  | 1     |
|     | -     | this eventually results in a columnar joint pattern   | 1 (6) |
| (c) | -     | the area is drowned under water   | 1     |
|     | -     | erosional process will cease and erosional coastal features will no longer develop                                | 1     |
|     | -     | coastal deposition will cease as there is no more sediment brought to the area by sea waves                       | 1     |
|     | -     | there is the building of a human structure, the dam   | 1 (3) |

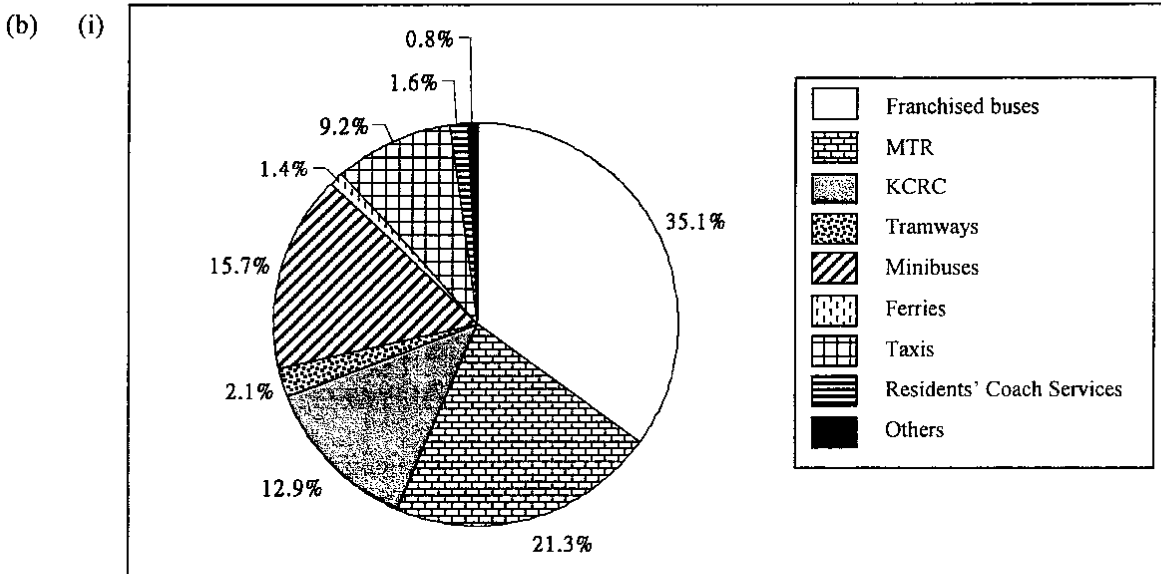
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<b>Question 2</b>	<b>Marks</b>
(a) - northeastern part of China	1
- Korean Peninsula	1
- Bo Hai and the sea to its east	1 (3)
(b) - meeting of warm and cold air	1
- instability	1
- steep pressure gradient and great temperature change	1
- high temperature for several days	1
- strong and cold wind from the northern and northeastern part of China	1
- uplift and convergence	1 (3)
(c) - loss of grassland and scrubland	1
- soil degradation	1
- land exposure	1
- increase of population	1
- deforestation / logging / lumbering	1
- suburbanization	1
- poor soil management	1
- inappropriate farming methods	1 (4)
(d) - afforestation / planting of green belts / preserving pasture / control of timbering industry /	1
setting up of warning and monitoring system (any 3)	(3)
- assess the effectiveness (for each measure)	1 (3)
(e) - poor visibility	1
- environmental stress	1
- affect health, e.g. respiratory system and irritation	1 (2)
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	max. 18

**Question 3**

**Marks**

- (a) (i) - MTR: 0.66% (1)  
 - KCRC: 4.80% (1)  
 - Tramways: -2.62% (1)
- (ii) - expansion of railway network, especially the KCRC; give examples, such as the Airport Express, West Rail, Ma On Shan Railway, Tsim Sha Tsui East extension, etc. 1  
 - different characteristics of the railway modes: network characteristics, speed, capacity, etc. 1  
 - changing spatial pattern of population from the urban core to the New Territories 1 (3)



- title (A Pie Chart Showing the Modal Split for Different Public Transport Modes in 2005) 1  
 - key 1  
 - accuracy 2 (4)

- (ii) - ferries, taxis and other modes became less important  
 - franchised buses, minibuses and residents' coach services more important

Note:

1995-2005	
- franchised buses	+11.74
- minibuses	+0.84
- ferries	-30.86
- taxis	-20.67
- residents' coach services	+88.22
- others	-22.13

(2)

- (iii) - problems associated with more franchised buses on the road: e.g. congestion, pollution and safety  
 - problems associated with more resident coach services: e.g. congestion, pollution and safety  
 - problems associated with less ferry patronage: fewer choices, replacement of sustainable transport modes, etc. (6)

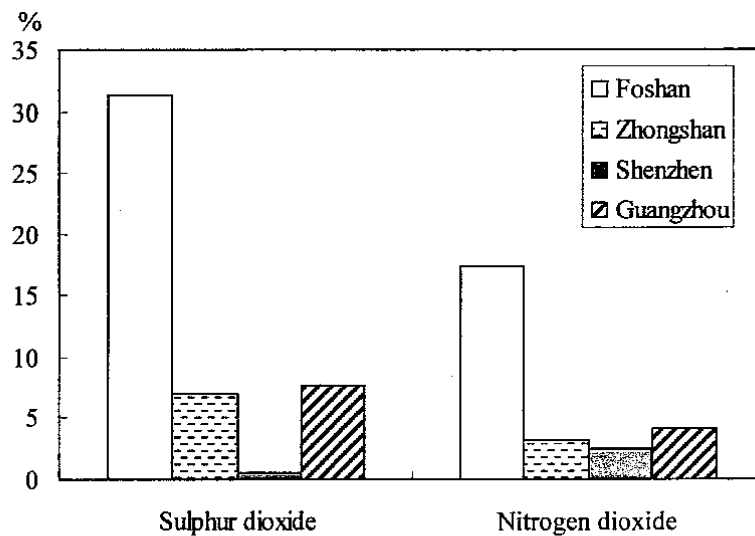
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**Question 4**

**Marks**

- (a) (i) - industrial production is much higher in Guangzhou than in Shenzhen (1)  
 - both the amount of imports and exports are higher in Shenzhen than in Guangzhou (1)
- (ii) - production of high-valued industrial products 1  
 - availability of high-tech labour from all parts of the country 1  
 - large local market with high purchasing power 1  
 - expanding overseas market 1  
 - low production costs 1  
 - favourable government policy – support for industrial growth 1  
 - provision of good infrastructure and transport networks 1  
 - R&D is carried out by universities 1 (5)

(b) (i) A bar chart to compare the percentage of sulphur dioxide and nitrogen dioxide in excess of national standards in Foshan, Zhongshan, Shenzhen and Guangzhou



- title 1  
 - key 1  
 - accuracy 2 (4)

- (ii) Foshan 1  
 - Foshan is an industrial city 1  
 - polluting industries, e.g. ceramics and chinaware 1  
 - heavy traffic produces much sulphur dioxide 1  
 - ineffective power generation from outdated power stations produces pollutants 1  
 - no restriction by the local government – allows the use of outdated machinery and poor combustion methods in some factories 1 (4)

- (iii) - good town planning 1  
 - much green belt is present 1  
 - IT and pharmaceutical industries are less polluting 1  
 - local government controls the types of industries set up there 1  
 - new high-tech factories adopt environmentally friendly production methods 1 (3)

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 max. 18

## Section E

### Question 5

Marks

Explanation	4
Measures	2
Evaluation	6

#### Explanation

- geological conditions:
  - presence of kaolin
  - presence of weathered materials
  - rock dipping
  - joint system
  - rock resistance to weathering
- geomorphologic conditions:
  - steepness of the slope
- when stress is greater than strength, slope failure will occur (4)

#### Measures and Evaluation

Direct measures:

- some construction work like building of retaining walls, underground drainage, etc.
  - effectiveness depends on whether there is regular maintenance and checking
- improve slope standards and technology, ensuring safety of new slope
  - effective because can update new technology to improve safety (2)

Some measures are to arouse public awareness so that precautions can be made:

- using remote sensing to detect areas of high risk for landslides
- slope inspection
- public warning
  - these measures help to trace the area where landslide may occur so that people can be more aware of the risk in bad weather
  - since these three measures are carried out by government, the result will be more reliable
- education
  - through education, the public can be made more aware of the things that they need to do in times of heavy rain; they will take some precautionary actions which may lower the degree of damage
  - the effectiveness of education is difficult to tell because it depends on the perception of the public and it is the individual's choice as to whether they will take action or become aware of the hazard (6)

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max. 12

**Question 6****Marks**

Description	3
Other factors: Explanation + Discussion	3+4
Diagrams	2

**Description**

- the seasonal change due to positions of the overhead sun in January and July
- insolation differences affect the pressure system globally
- the doldrum shifts northward in northern summer and vice versa
- the other pressure systems will move according to the amount of insolation received

(3)

**Explanation and discussion**

- besides solar radiation, the movement of the overhead sun, land and sea differences, and air masses lead to the variations in pressure and wind systems in East Asia
- intense heat causes a strong low pressure belt on mainland Asia in July
- tropical continental air mass over central Asia
- lower temperatures over Pacific Ocean and northern Australia cause a high pressure belt
- wind blows away from Australia to Asia
- deflected to the right when crossing the equator
- results in southeast monsoon wind
- onshore wind brings intense rainfall
- cold and sinking air causes a high pressure belt on mainland Asia in January
- polar continental air mass over central Asia
- higher temperatures over northern Australia cause a low pressure belt
- wind blows in an anti-clockwise direction from Asia to Australia
- deflected to the left when crossing the equator
- results in northeast monsoon wind
- offshore wind brings dry conditions

(3)+(4)

**Diagram**

- appropriate diagrams with annotations

(2)

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max. 12

**Question 7****Marks**

Explanation	8
Consequences	4

**Explanation**

Factors affecting the location of the container ports:

- physical factors
    - deep-water and sheltered harbour (especially with Post-Panama container ships)
    - climate (ice-free), land access (flat land nearby)
  - human factors
    - supporting infrastructure (connecting transport network)
    - supporting industries and human resources (insurance, trading, banking, etc.)
    - technology and expertise, rule of law
- (4)

Favourable factors:

- shippers' port of call
  - develop a collection and distribution centre for Hong Kong and the nearby area in the Zhujiang Delta (factories to Hong Kong; goods to mainland China)
  - develop value-added services at this transshipment point
- (4)

**Consequences**

- established supporting industries and human resources
  - technology and expertise
  - developed supporting infrastructure (connecting transport network, especially with the Zhujiang Delta)
- (4)

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max. 12



**Question 8****Marks**

Explanation	8
Discussion	4

**Explanation**

Elaborate the statement

- impact of globalization on industrial production:
  - core-periphery relationship
  - international division of labour
  - standardisation of production processes
  - severe competition in the world market

How to maintain the competitive power of the Zhujiang Delta

- low-tech / low value-added industries:
    - limited market
    - limited profit-making ability
    - strong competition with other developing countries, e.g. Indonesia and India where the costs of production are lower
    - rising costs of production in Zhujiang Delta due to the strong competition for resources
    - labour costs and land price increase
  - shift to high-tech / high value-added industries:
    - possible world-wide market and changing market demand
    - better profit-making ability
    - improvement in R&D and advancement in technology enables the development of high-tech industries
- (8)

**Discussion**

- semi-skilled and unskilled labour lost their jobs
  - skilled labour can gain better income and job opportunities
  - restructuring of economy
  - greater disparity between the rich and the poor, the urban and the rural population
  - demand for higher education and more chances for retraining of labour
  - low value-added industries are forced to relocate to other regions
  - demand for enforcement of laws to maintain social stability
- (4)

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max. 12