

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.

Describe the formation and characteristics of volcanic rocks. Discuss the relative importance of the characteristics of these rocks in shaping the physical landscape of Hong Kong. (12 marks)

6. Elective: Weather and Climate

Candidates attempting this question are NOT allowed to choose Question 2 in Section D.

Describe and explain the climatic characteristics of northwestern China. Comment on the significance of climate in causing severe sandstorms in northwestern China. (12 marks)

7. Elective: Transport

Candidates attempting this question are NOT allowed to choose Question 3 in Section D.

Account for the favourable factors of Hong Kong to be a regional logistics hub. Discuss whether the completion of the Hong Kong-Zhuhai-Macao Bridge will enhance cooperation or create competition between Hong Kong and Guangdong Province in logistics industry. (12 marks)

8. Elective: Regional Study of Zhujiang Delta

Candidates attempting this question are NOT allowed to choose Question 4 in Section D.

Describe and explain the industrial development of the Zhujiang Delta Region in the last decade. Discuss the importance of scientific research and human resources on the industrial development of the region. (12 marks)

END OF PAPER

Sources of materials used in this paper will be acknowledged in the booklet *HKDSE Question Papers* published by the Hong Kong Examinations and Assessment Authority at a later stage.

Marking Schemes

Paper 1  
Section A

| Question No. | Key     | Question No. | Key     |
|--------------|---------|--------------|---------|
| 1.           | D (68%) | 21.          | B (80%) |
| 2.           | D (72%) | 22.          | B (89%) |
| 3.           | C (33%) | 23.          | D (60%) |
| 4.           | A (32%) | 24.          | A (68%) |
| 5.           | A (63%) | 25.          | B (73%) |
| 6.           | B (81%) | 26.          | C (64%) |
| 7.           | A (61%) | 27.          | C (85%) |
| 8.           | C (64%) | 28.          | A (20%) |
| 9.           | D (23%) | 29.          | B (40%) |
| 10.          | B (76%) | 30.          | B (41%) |
| 11.          | C (63%) | 31.          | D (37%) |
| 12.          | D (86%) | 32.          | C (67%) |
| 13.          | B (81%) | 33.          | B (77%) |
| 14.          | A (51%) | 34.          | B (88%) |
| 15.          | C (79%) | 35.          | C (81%) |
| 16.          | A (19%) | 36.          | D (40%) |
| 17.          | C (77%) | 37.          | D (80%) |
| 18.          | A (83%) | 38.          | A (70%) |
| 19.          | C (25%) | 39.          | D (48%) |
| 20.          | A (54%) | 40.          | D (61%) |

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) - along plate boundary 1  
 - along the Circum-Pacific belt/ linear pattern/ along the coast 1  
 - a few volcanoes far away from plate boundary/ at middle of Pacific Ocean/ hot spot 1 (2)
- (ii) Similarities: (Max. 2 marks)  
 - rising magma/ intrusive vulcanicity 1  
 - extrusive vulcanicity/ ejection of lava 1  
 - repeated eruptions 1  
 - lava cools and solidifies 1
- Differences: (Max. 4 marks)
- | Volcano X   | Volcano Y  |         |
|---|--|---------|
| - destructive plate boundary (margin)/ collision              | - constructive plate boundary (margin)/ moving apart                 | 1+1     |
| - compressional force/ slab pull                              | - tensional force/ ridge push  | 1+1     |
| - <u>Philippine Plate</u> collides with <u>Eurasian Plate</u> | - <u>North American Plate</u> moves apart from <u>Eurasian Plate</u> | 1+1     |
| - subduction/ melting/ destruction of crust                   | - sea-floor spreading/ formed new crust                              | 1+1 (6) |
- (b) (i) - collapse of houses 1  
 - huge economic loss 1  
 - river blockage/ river pollution/ flooding 1  
 - causing death and injuries 1  
 - health threats/ lower visibility/ air pollution 1 (3)
- (ii)
- | Technology (Max. 2 marks)  | Explanation (Max. 2 marks)   |         |
|--|--|---------|
| - monitoring system/ instruments (e.g. radar/ satellite)/ forecasting system | - to check signs of tectonic activity/ to prepare volcanic hazard zone map | 1,1     |
| - warning system/ communication system                                       | - early evacuation of residents/ to raise awareness                        | 1,1     |
| - hazard-proof buildings/ strong buildings                                   | - to prevent collapse of houses  | 1,1     |
| - advanced rescuing equipment  | - to speed up rescuing   | 1,1 (3) |
- (iii) Marking criteria:  
Notes:  
 1. Award appropriate marks according to the **QUALITY** and **DEPTH** of arguments; **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.
- Candidates should take Iceland as a MDC to discuss the opportunities and risks brought about by volcano Y from the following economic and social perspectives: (Max. 4)
- Opportunities: (Max. 2 marks)
    - tourist attractions, high income, access to geothermal power, etc.
  - Risks: (Max. 2 marks)
    - volcanic eruption and the damage caused
- **2 marks** for any discussion with **detailed description and explanation**
- Examples:
    - Hot springs promote tourism. / Lives are threatened by the volcanic eruption.
- **1 mark** for any discussion with **brief description or explanation only**
- Examples:
    - There are hot springs. / Volcanic eruption brings damage.

Max. 18

## Question 2

Marks

- | Land use               | Characteristics (Amount/ size/ distribution) | Example(s)                             |       |
|------------------------|--|--|-------|
| residential            | mainly/ many                                 | Elegant Terrace                        | 1     |
| commercial/ industrial | insignificant                                | shopping malls/ electric sub-stations  | 1     |
| institutional          | scattered                                    | primary school/ church/ temple/ mosque | 1     |
| recreational           | scattered/ small area                        | sports ground/ parks within the area   | 1     |
| transportation         | many/ dense/ narrow/ secondary roads         | Caine Road                             | 1 (3) |
- (b) (i) - urban decay 1  
 - shabby buildings/ poor amenities 1  
 - low-rise building 1  
 - narrow streets (pedestrian pavements) 1  
 - illegal structures 1  
 - disposal of waste/ land pollution/ visual pollution 1 (3)
- (ii) - better building design 1  
 - more floors/ vertical expansion/ better utilisation of land 1  
 - improve living environment/ higher building safety 1  
 - widening roads/ pedestrian pavements 1  
 - improve urban image/ increase in greening/ better sanitation 1 (3)
- (c) (i) revitalisation 1 (1)
- (ii) - preserve original features of historical buildings/ collective memories 1  
 - making full use of old buildings/ more effective in utilising land resource 1  
 - no need for demolishing/ save building materials/ reduce construction waste 1  
 - upgrade community image 1  
 - create employment opportunities 1  
 - promote other economic activities (e.g. tourism, creative industries)/ business opportunities/ increase income 1 (4)
- (d) Marking criteria:  
Notes:  
 1. Award appropriate marks according to the **QUALITY** and **DEPTH** of arguments; **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.
- Candidates should refer to the following arguments to discuss the merits and demerits of rehabilitation in Sheung Wan district: (Max. 4)
- Merits: (Max. 2 marks)
    - higher building safety, lower cost, more time-efficient, no moving of residents
    - improve building appearance, improve community image, improve living environment
  - Demerits: (Max. 2 marks)
    - still cannot solve traffic congestion/ land use conflicts/ overcrowding (max. 1 mark for any inner city problem)
    - cannot increase land supply, cannot increase number of floors, cannot increase efficiency of land utilisation
- **2 marks** for any argument with **detailed description and explanation**
- Example (merit): Safer building structure by rehabilitation, e.g. replacement of facilities (e.g. electric wires).
  - Example (demerit): It lacks a comprehensive land use planning, hence still cannot solve traffic congestion/ land use conflicts/ overcrowding.
- **1 mark** for any argument with **brief description or explanation only**
- Example (merit): Increase the safety of building structure.
  - Example (demerit): It still cannot solve traffic congestion/ land use conflicts/ overcrowding.

Max. 18



## Question 3

Marks

- (a) (i)
- | Description (Max. 2 marks)   | Explanation (Max. 2 marks)   |
|--|--|
| - high mean annual temperature/ <u>29.4°C</u> / hot (tropical)                                     | - low latitude/ 10°N – 20°N (close to 0°/ Equator)                         |
| - small annual range of temperature/ <u>7.4°C</u>  |  |
| - low <u>annual</u> rainfall/ 507 mm   | - interior location/ less maritime influence                               |
| - uneven distribution of rainfall/ seasonal rainfall/ <u>summer</u> rain/ no rain in <u>winter</u> | - <u>onshore wind</u> brings summer rainfall                               |
|  | - <u>offshore wind</u> leads to no rainfall in winter                      |
| - drought/ dryness/ semi-arid  | - high potential evapotranspiration (high evaporation/ evapotranspiration) |
- (ii)
- livestock rearing/ pastoral farming/ animal keeping/ ranching
  - extensive/ subsistence farming
  - drought-resistant species
  - low water consumption
  - nomadic herding/ transhumance/ shifting of livestock
  - looking for water and pasture/ follow the rain
  - unsuitable for arable farming
  - water shortage
- (b)
- traditional/ primitive farming
  - fails to cope with climatic constraints/ low annual rainfall
  - increase demand on food due to population increase
  - need to rear more livestock
  - overgrazing/ exceeding land carrying capacity
  - trampling/ soil compaction/ soil erosion
  - land degradation/ desertification/ worsen soil quality
  - further lowering productivity/ outputs
- (c) Marking criteria:
- Notes:**
- Award appropriate marks according to the **QUALITY** and **DEPTH** of arguments; **do not** count the number of points **only**.
  - Max. marks should be given to good quality answers with **well-elaborated arguments** and demonstrating good knowledge on relevant geographical concepts.
- Candidates should refer to the following reasons to discuss whether cash crops should be grown in area X to solve the food shortage problem:
- Reasons for: (Max. 2 marks)
    - increase in income, purchase food
    - increase in tax revenue, capital to improve farming methods/ technology
  - Reasons against: (Max. 2 marks)
    - unfavourable human factors to grow cash crops: conflicts and civil wars, corruption, poor farming skills, lack of capital, lack of technology
    - physical constraints: lack of water resources, poor soil still exists
- **2 marks** for any reason with **detailed description and explanation**
- Examples: Growing of cash crops can increase income to purchase food. / Drought still exists; hence, cash crops are hard to grow.
- **1 mark** for any reason with **brief description or explanation only**
- Example: Reduce growing of food/ staple crops.

Max. 18

## Question 4

Marks

- (a) (i)
- P: (incoming) solar radiation/ short wave radiation/ insolation
  - Q: (outgoing) terrestrial radiation/ long wave radiation
  - R: counter radiation/ long wave radiation
- (ii)
- solar/ short wave radiation/ sunlight/ insolation reaches the earth surface
  - earth surface absorbs solar rays/ short wave radiation/ sunlight/ insolation
  - terrestrial/ long wave radiation transmitted to the atmosphere
  - some long wave radiation transmitted from cloud/ atmosphere to earth surface as counter radiation
  - some long wave radiation absorbed in the atmosphere/ absorbed by cloud
  - heat retained/ trapped in the atmosphere/ greenhouse effect
- (b)
- reduction in global forest area
  - lower absorption of carbon dioxide by plants
  - increase in fossil fuels consumption
  - increase in carbon dioxide emissions/ concentration
  - carbon dioxide/ greenhouse gases absorb long wave radiation/ trap heat
  - intensification of greenhouse effect
- (c) (i)
- reduction in carbon dioxide emissions more effective in UK, USA/ less effective in China, India
  - reduction in carbon dioxide emissions more effective in MDCs/ less effective in LDCs
  - reduction in per capita emissions in MDCs/ USA/ UK
  - most effective reduction in carbon dioxide emissions in UK
  - increase in both total emissions and per capita emissions in LDCs/ China/ India
  - China's total emissions the highest/ per capita emissions surpassing UK in 2014
- (ii) Marking criteria:
- Notes:**
- Award appropriate marks according to the **QUALITY** and **DEPTH** of arguments; **do not** count the number of points **only**.
  - Max. marks should be given to good quality answers with **well-elaborated arguments** and demonstrating good knowledge on relevant geographical concepts.
- Candidates should refer to the following reasons to discuss whether the MDCs or LDCs should bear a greater responsibility to alleviate global warming:
- MDCs should bear greater responsibility:
    - MDCs possess capital and technology to tackle climate changes
    - long history of emissions
  - LDCs should bear greater responsibility:
    - increasing industrial activities in LDCs with increasing carbon emissions
- **2 marks** for any reason with **detailed description and explanation**
- Examples:
    - *MDCs possess more technology (1) to increase energy efficiency (1).*
    - *MDCs possess capital (1) to help LDCs develop renewable energy (1).*
    - *Rapid economic growth (1) in LDCs leads to higher consumption on electricity (1).*
    - *LDCs burn coal (1) because it is a cheaper energy resource (1).*
- **1 mark** for any reason with **brief description or explanation only**
- Examples: MDCs have higher technology. / LDCs have high rate of economic growth.

Max. 18



Section C

Question 5

Explain the physical factors affecting the removal of beach materials in Hong Kong. Discuss whether beach nourishment is an effective coastal management strategy in Hong Kong.

|             |   |
|-------------|---|
| Explanation | 6 |
| Discussion  | 6 |

Notes:

1. Award appropriate marks according to the **QUALITY** and **DEPTH** of discussion; **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.

| Generic Marking Guidelines  |       |
|---|-------|
| Performance of Candidates   | Marks |
| <b>Explain the physical factors affecting the removal of beach materials in Hong Kong</b>   |       |
| <ul style="list-style-type: none"><li>• Coherent, clear and logical explanation of relevant physical factors</li><li>• Accurate and comprehensive explanation of the removal of beach materials with reference to the following concepts:<ul style="list-style-type: none"><li>- all types of waves perform removal of beach materials by backwash</li><li>- removal is significant when backwash is greater than swash, i.e. destructive wave</li><li>- influence of longshore drift</li><li>- influence of size of beach materials, sand, pebbles, etc.</li><li>- other factor: typhoon</li></ul></li><li>• <b>Accurate and relevant</b> description and explanation</li></ul>  | 6     |
| <ul style="list-style-type: none"><li>• Appropriate explanation with reference to some of the above concepts</li><li>• Explanation should include nature of waves and influence of longshore drift</li><li>• Award higher marks to answers with more physical factors correctly explained</li></ul>   | 3 – 5 |
| <ul style="list-style-type: none"><li>• Description of nature of waves <b>only</b></li><li>• <b>No</b> explanation of the physical factors affecting the removal of beach materials</li></ul>   | 1 – 2 |
| <b>Discuss whether beach nourishment is an effective coastal management strategy in Hong Kong</b>   |       |
| <ul style="list-style-type: none"><li>• Coherent, logical and in-depth discussion of the effectiveness of beach nourishment in coastal management in HK with correct example(s)</li><li>• Accurate understanding of beach nourishment and coastal management strategy</li><li>• Discussion of effectiveness of beach nourishment based on the following considerations:<ul style="list-style-type: none"><li>- stability of beach materials</li><li>- aesthetic value</li><li>- maintenance of beach materials</li></ul></li><li>• Arguments for an effective coastal management strategy:<ul style="list-style-type: none"><li>- slowing down the removal of beach materials</li><li>- coastline looks natural</li></ul></li><li>• Arguments for an ineffective coastal management strategy:<ul style="list-style-type: none"><li>- unable to protect the beach under storm surges/ typhoons</li><li>- constant maintenance is required</li><li>- sustainability</li></ul></li></ul> | 6     |
| <ul style="list-style-type: none"><li>• General discussion of the effectiveness of beach nourishment in coastal management in HK with appropriate example(s)</li><li>• Discussion based on <b>at least one</b> of the above considerations</li><li>• Award higher marks to answers with more considerations reasonably discussed</li></ul>  | 3 – 5 |
| <ul style="list-style-type: none"><li>• Description of beach nourishment <b>only</b></li><li>• <b>No</b> discussion of the effectiveness of beach nourishment in coastal management</li></ul>   | 1 – 2 |
| Max. 12   |       |

Question 6

Explain the characteristics of the global locational distribution of IT industry. With the US as an example, discuss how the government may expand the development of IT industry in its home country.

|             |   |
|-------------|---|
| Explanation | 6 |
| Discussion  | 6 |

Notes:

1. Award appropriate marks according to the **QUALITY** and **DEPTH** of discussion; **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.

| Generic Marking Guidelines   |       |
|--|-------|
| Performance of Candidates  | Marks |
| <b>Explain the characteristics of the global locational distribution of IT industry</b>  |       |
| <ul style="list-style-type: none"><li>• Comprehensive knowledge of the characteristics of the global locational distribution of IT industry</li><li>• Accurate and detailed explanation which includes the following characteristics of IT industry regarding production:<ul style="list-style-type: none"><li>- multi-point production mode</li><li>- different processes of production at different sites and the reasons behind<ul style="list-style-type: none"><li>• e.g. R &amp; D at MDCs: technology-intensive; production lines at LDCs: labour-intensive</li></ul></li><li>- high value-added</li><li>- short life cycle</li></ul></li></ul> | 6     |
| <ul style="list-style-type: none"><li>• Appropriate explanation with reference to some of the above characteristics of IT industry regarding production</li><li>• Explanation should include multi-point production mode</li><li>• Award higher marks to answers with more characteristics correctly explained</li></ul>   | 3 – 5 |
| <ul style="list-style-type: none"><li>• Description of multi-point production mode <b>only</b></li><li>• <b>No</b> explanation of the global location distribution of IT industry related to its characteristics</li></ul>   | 1 – 2 |
| <b>Discuss how the US government may expand the development of IT industry in its home country</b>   |       |
| <ul style="list-style-type: none"><li>• Coherent, logical, comprehensive and in-depth discussion</li><li>• Accurate understanding of the measures adopted by the US government for multi-point production mode (R &amp; D and production lines) of the IT industry in different states:<ul style="list-style-type: none"><li>- federal government: high tariffs on imported goods, etc.</li><li>- state governments: favourable policy to attract investment, etc.</li></ul></li><li>• Clear distinction between policies of federal government and state governments</li></ul>  | 6     |
| <ul style="list-style-type: none"><li>• Appropriate discussion of the measures adopted by the US government to expand the development of IT industry in its home country</li><li>• Discussion should include either the measures adopted by the federal government <b>or</b> state governments</li><li>• Award higher marks to answers with clear discussion on the government policies to expand the development of IT industry in its home country</li></ul>   | 3 – 5 |
| <ul style="list-style-type: none"><li>• Description of government policies related to protectionism <b>only</b>, e.g. high tariffs</li><li>• <b>No</b> discussion of how the US government may expand the development of IT industry in its home country with various measures and policies</li></ul>  | 1 – 2 |
| Max. 12  |       |



Question 7

Give an account of the nutrient cycling of the tropical rainforest ecosystem. Assess the impact of plantation on the nutrient cycling of the tropical rainforest.

|                           |   |
|---------------------------|---|
| Description & explanation | 6 |
| Assessment                | 6 |

Notes:

1. Award appropriate marks according to the **QUALITY** and **DEPTH** of discussion; 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.

| Generic Marking Guidelines   |       |
|--|-------|
| Performance of Candidates  | Marks |
| <b>Describe and explain the nutrient cycling of the tropical rainforest ecosystem</b>  |       |
| <ul style="list-style-type: none"><li>• Comprehensive knowledge of the nutrient cycling of the tropical rainforest ecosystem</li><li>• Accurate and detailed description of the nutrient storage compartments:<ul style="list-style-type: none"><li>- biomass (greatest storage)</li><li>- soil (smaller storage)</li><li>- litter (smallest storage)</li></ul></li><li>• Accurate and detailed explanation of the process of nutrient cycling:<ul style="list-style-type: none"><li>- biomass → litter → soil → biomass</li></ul></li></ul> | 6     |
| <ul style="list-style-type: none"><li>• Accurate description of the nutrient storage compartments in the tropical rainforest</li><li>• Accurate explanation of the process of nutrient cycling in the tropical rainforest</li><li>• Award higher marks to answers with more detailed description and/ or explanation</li></ul>   | 3 – 5 |
| <ul style="list-style-type: none"><li>• Description of the nutrient storage compartments in the tropical rainforest <b>only</b></li><li>• No explanation of the process of nutrient cycling in the tropical rainforest</li></ul>   | 1 – 2 |
| <b>Assess the impact of plantation on the nutrient cycling of the tropical rainforest</b>  |       |
| <ul style="list-style-type: none"><li>• Accurate and comprehensive understanding of the impact of plantation on the nutrient cycling of the tropical rainforest</li><li>• Accurate and detailed explanation of the various impact of plantation:<ul style="list-style-type: none"><li>- changes in biomass: from complex to simple</li><li>- losses of biomass from harvesting</li><li>- changes in litter</li><li>- changes in soil: nutrient increased with additional fertilisers</li></ul></li></ul>                                     | 6     |
| <ul style="list-style-type: none"><li>• Appropriate understanding of the impact of plantation on the nutrient cycling of the tropical rainforest</li><li>• Accurate description of the changes in nutrient storage and flow</li><li>• Award higher marks to answers with explanation based on the impact of plantation</li></ul>   | 3 – 5 |
| <ul style="list-style-type: none"><li>• Description of the changes in nutrient storage of the tropical rainforest <b>only</b></li><li>• No assessment of the impact of plantation on nutrient cycling</li></ul>  | 1 – 2 |
| Max. 12  |       |

Paper 2 Section D

Question 1

(a) (i) landslide

Marks  
1 (1)

(ii) Characteristics of rock: (Max. 2)

- composed of quartz, feldspar and mica
- well-jointed/ permeable
- coarse-grained
- interlocking structure of minerals

1  
1  
1  
1 (2)

Occurrence of geological hazard X: (Max. 3; must be related to the above characteristics of rock)

- easily weathered
- by chemical weathering
- weathering agents (e.g. water) seep along joints into rock mass
- weathering weakens shear strength of rocks
- thick weathering profile/ abundant weathered materials facilitate mass movement

1  
1  
1  
1  
1 (3)

| (b) | Reasons                                    | Evidence  |         |
|-----|--|---|---------|
|     | - increasing stress on slope               | - large slope gradient/ closed contour lines<br>- slope cutting | 1,1     |
|     | - inducing biological/ chemical weathering | - dense vegetation cover on slope                               | 1,1     |
|     | - increasing pore water pressure           | - heavy rainfall  | 1,1 (4) |

| (c) (i) | Measure Y | Name              | - shotcrete/ drainage system (weep holes)   | 1 (1)                |
|---------|-----------|-------------------|---|----------------------|
|         |           | Functions (Any 1) | - increase slope cohesion (shotcrete)<br>- reduce infiltration of water (shotcrete)<br>- reduce pore water pressure (drainage system)<br>- reduce stress on slope (drainage system) | 1<br>1<br>1<br>1 (1) |
|         | Measure Z | Name              | - soil nails  | 1 (1)                |
|         |           | Functions (Any 1) | - consolidation of loosen soil on slope<br>- increase cohesion/ strength in slope   | 1<br>1 (1)           |

(ii) Marking criteria:

Notes:

1. Award appropriate marks according to the **QUALITY** and **DEPTH** of arguments; 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.
- Candidates should refer to the following arguments to discuss whether the measures mentioned in (c) (i) are suitable to be adopted at the site in Figure 1b with standpoints: (Max. 4)
    - Measure Y:
      - suitable: slope consolidation/ reduce pore water pressure/ short completion time/ low engineering cost/ low disturbance to residents/ better outlook with slope greening
      - unsuitable: require periodic maintenance/ low effectiveness in reducing risk of hazard
    - Measure Z:
      - suitable: increase strength in slope/ consolidate steep slope
      - unsuitable: damage natural slope/ confined space/ expensive engineering cost
  - **2 marks** for discussion of any argument with **detailed description and explanation**
    - *Example: Measure Y is a small scale engineering work which could be completed in a shorter time. It causes fewer disturbances to the nearby residents. Hence, it is more suitable at this site.*
  - **1 mark** for discussion of any argument with **brief description or explanation only**
    - *Example: Measure Y is more suitable as it could be completed in a shorter time.*
  - **No marks** for merely mentioning which measure is more suitable without elaboration

Max. 18



| Question 2  | Marks    |
|---|----------|
| (a) (i) - mean annual temperature of HK (23.1°C) higher than city X (13.4°C)  | 1        |
| - annual range of temperature in HK (12.2°C) smaller than city X (26.8°C)   | 1        |
| - minimum temperature in city X falls below 0°C/ much lower than that in HK (16.1°C)  | 1        |
| - maximum temperature is higher in HK (28.3°C) than in city X (26.3°C)  | 1 (3)    |
| (ii) - city X located at higher latitude/ HK located at lower latitude  | 1        |
| - smaller angle of the sun in city X/ larger angle of the sun in HK   | 1        |
| - insolation less concentrated in city X/ insolation more concentrated in HK  | 1        |
| - city X receives less intense insolation/ HK receives more intense insolation  | 1        |
| - in winter, shorter duration of sunshine in city X/ longer duration of sunshine in HK  | 1        |
| - city X located at interior of China/ HK located along the coast   | 1        |
| - temperature in city X not regulated by onshore wind/ temperature in HK regulated by onshore wind in summer  | 1        |
| - lower specific heat capacity of land causes larger annual range of temperature in city X  | 1 (5)    |
| (b) (i) cold front  | 1 (1)    |
| (ii) <u>Description:</u> (Max. 2)   |          |
| - air temperature dropped (from 21°C to 17°C)   | 1        |
| - air pressure increased (from 1 012 – 1 014 hPa to 1 026 – 1 028 hPa)  | 1        |
| - wind direction changed to NE  | 1        |
| - no wind on 14 Feb; wind speed increased to 7.5 m/s on 15 Feb  | 1        |
| - no rain on 14 Feb; shower on 15 Feb   | 1        |
| <u>Explanation:</u> (Max. 3; must be related to description above)  |          |
| - cold front/ temperate cyclone brings strong NE winds  | 1        |
| - high pressure system developed over the continental interior  | 1        |
| - steep pressure gradient   | 1        |
| - anticyclone/ strong, cold, dry air mass moves southward   | 1        |
| - warm air in Hong Kong lifted up by cold air mass along cold front   | 1        |
| - condensation takes place and clouds formed  | 1        |
| - frontal rain formed   | 1 (5)    |
| (iii) <u>Marking criteria:</u>  |          |
| <u>Notes:</u>   |          |
| 1. Award appropriate marks according to the <b>QUALITY</b> and <b>DEPTH</b> of arguments; <b>do not</b> count the number of points <b>only</b> .                |          |
| 2. Max. marks should be given to good quality answers with <b>well-elaborated arguments</b> and demonstrating good knowledge on relevant geographical concepts. |          |
| - Candidates should refer to the following weather elements when forecasting the weather conditions of Hong Kong on 16 February:                                | (Max. 4) |
| • air pressure, temperature, rainfall, wind direction, relative humidity, etc.  |          |
| - <b>2 marks</b> for any weather forecast with <b>detailed description and explanation</b>  |          |
| • <u>Examples:</u>  |          |
| - Sunny weather will prevail as air sinks due to higher air pressure.   |          |
| - Relative humidity is low as decreasing temperature results in lower water-holding capacity in the air.  |          |
| - <b>1 mark</b> for any weather forecast with <b>brief description or explanation only</b>  |          |
| • <u>Examples:</u>  |          |
| - The weather on 16 February will become dry.   |          |
| - Relative humidity will become lower.  |          |
|   | Max. 18  |

| Question 3   | Marks    |
|--|----------|
| (a) (i) - decrease in percentage of public light bus passengers  | 1        |
| - fall in percentage of other public transport means passengers  | 1        |
| - fluctuations in percentage of franchised bus passengers/ decreased in the period of 1984 to 1994 and 2004 to 2014 but increased in the period of 1994 to 2004  | 1        |
| - rise in percentage of railway passengers   | 1 (2)    |
| (ii) - population increase   | 1        |
| - government encourages the use of mass transit system   | 1        |
| - new town development/ provision of transport between suburban and urban areas  | 1        |
| - <u>wider coverage</u> of railways/ <u>higher</u> connectivity  | 1        |
| - faster/ efficient  | 1        |
| - punctual/ reliable/ safe   | 1 (3)    |
| (b) (i) - concentrated in urban areas  | 1        |
| - radial pattern/ extending to east/ west/ north of New Territories  | 1        |
| - Island north: east to west   | 1        |
| - Kowloon Peninsula: south to north  | 1        |
| - new towns/ suburban areas  | 1        |
| - connecting cross-border transport  | 1 (3)    |
| (ii) - carrying capacity <u>oversaturated</u> / increase in passenger flow exceeds carrying capacity of the system   | 1        |
| - congested in peak hours  | 1        |
| - decrease in efficiency/ delay of train services increases  | 1        |
| - stuffy air   | 1        |
| - easily ageing of system  | 1 (3)    |
| (iii) Explanation must be related to the problems mentioned in (b) (ii):   |          |
| - too many railway lines interchanged at X   | 1        |
| - high connectivity induces <u>higher</u> concentration of population/ economic activities   | 1        |
| - concentration of commercial activities at Central & Admiralty generates high passenger flow  | 1        |
| - deteriorating environment on platforms with too many passengers waiting  | 1        |
| - ageing of system causes delay of train services/ break down  | 1 (3)    |
| (c) <u>Marking criteria:</u>   |          |
| <u>Notes:</u>  |          |
| 1. Award appropriate marks according to the <b>QUALITY</b> and <b>DEPTH</b> of arguments; <b>do not</b> count the number of points <b>only</b> .   |          |
| 2. Max. marks should be given to good quality answers with <b>well-elaborated arguments</b> and demonstrating good knowledge on relevant geographical concepts.  |          |
| - Candidates should refer to the following arguments when commenting whether HK should continue to adopt the transport strategy of 'According Priority to Railways':   | (Max. 4) |
| • <u>Should:</u> able to channel surface road traffic/ mass transit system with high passenger capacity/ further dispersing population and economic activities/ alleviating traffic problems from urban to suburban areas/ reduce traffic congestion on some main roads/ reduce roadside air pollution from road traffic |          |
| • <u>Should not:</u> carrying capacity already saturated, especially during rush hours in business districts/ railway stations mainly located in densely populated areas/ will lead to more serious traffic problems due to increase in accessibility  |          |
| - <b>2 marks</b> for any comment with <b>detailed description and explanation</b>  |          |
| • <u>Example (should):</u> Railway transport can channel part of the commuters to underground or overhead lines and utilise the vertical space effectively. / Railway can channel traffic flow on surface road and reduce traffic congestion.  |          |
| • <u>Example (should not):</u> Railway transport increases the accessibility of an area and attracts more flow of people and economic development, thus intensifying the transport problems in the area instead.   |          |
| - <b>1 mark</b> for any comment with <b>brief description or explanation only</b>  |          |
| • <u>Example (should):</u> Railway transport can channel traffic flow on surface roads.  |          |
| • <u>Example (should not):</u> Railway transport increases the accessibility of an area, thus leading to more traffic flow.  |          |
|  | Max. 18  |



#### Question 4

- (a) - better river water quality in Zhongshan, Zhaoqing and Huizhou with ranking at 2 1  
 - poorer river water quality in Guangzhou and Foshan with ranking at 4 1  
 - river water quality in Dongguan was the worst with ranking at 5 1  
 - river water quality reduces from upper course to lower course (e.g. from Huizhou to Dongguan, from Zhaoqing to Guangzhou) 1 (2)
- (b) (i) - river water quality in Zhaoqing is better than that in Dongguan 1  
 - Dongguan has larger population size, thus produces greater amount of sewage entering rivers 1  
 - water consumption in Zhaoqing mainly from farming, thus less serious pollution 1  
 - water consumption in Dongguan mainly from industry and domestic uses, thus more serious pollution 1  
 - Zhaoqing at upper course of river, thus water quality better than Dongguan 1  
 - Dongguan at confluence of river tributaries, leading to accumulation of pollutants 1 (5)
- (ii) - polluting farm produce and aquatic products in Dongguan/ better water quality in Zhaoqing and Huizhou allows river water for irrigation directly 1  
 - increases production costs of some water-demanding industries in Dongguan 1  
 - hazardous to health of citizens/ increases medical expenses in Dongguan 1  
 - lowering values of recreational resources in Dongguan/ better water quality at Zhaoqing favours tourism development at upper course of river 1  
 - improvement in water quality necessary for Dongguan which increases expenses in sewage treatment 1  
 - poorer living environment along river in Dongguan 1 (5)
- (c) (i) - physical, chemical and biological processes are used 1  
 - solids, e.g. gravels, are allowed to settle and be removed from waste water in primary treatment 1  
 - secondary (biological) treatment makes use of micro-organisms to decompose organic pollutants 1 (2)
- (ii) Marking criteria:  
Notes:  
 1. Award appropriate marks according to the **QUALITY** and **DEPTH** of arguments; 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.
- Candidates should refer to the following arguments when discussing why facility X cannot improve the river water quality effectively in the Zhujiang Delta Region: (Max. 4)
- increase in population and economic activities
  - limitations of handling capacity of sewage treatment plants
  - unable to cope with increase in amount of sewage discharge
  - lenient monitoring
  - illegal discharge (problems of stealth discharge and leakage discharge serious)
  - healing but not curing the problem
- **2 marks** for any argument with **detailed description and explanation**  
 • *Example:* Part of the sewer system is not linked to the sewage treatment plant due to improper urban design.
- **1 mark** for any argument with **brief description or explanation only**  
 • *Example:* The amount of sewage handled by sewage treatment plant is limited, thus the river water quality in the Zhujiang Delta Region cannot be improved.

Max. 18

#### Section E

#### Question 5

Describe the formation and characteristics of volcanic rocks. Discuss the relative importance of the characteristics of these rocks in shaping the physical landscape of Hong Kong.

|             |   |
|-------------|---|
| Description | 6 |
| Discussion  | 6 |

#### Notes:

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

| Generic Marking Guidelines  |       |
|---|-------|
| Performance of Candidates   | Marks |
| <b>Describe the formation and characteristics of volcanic rocks</b>   |       |
| <ul style="list-style-type: none"> <li>Comprehensive knowledge of the formation and characteristics of volcanic rocks</li> <li>Detailed description of the formation of volcanic rocks with reference to extrusive vulcanicity</li> <li>Accurate description of the characteristics of volcanic rocks:               <ul style="list-style-type: none"> <li>fine crystals/ resistant rocks/ acidic rocks</li> <li>colours of the rocks determined by acidity (pH value) of lava and mineral content</li> <li>e.g. tuff in dark grey colour/ vertical (hexagonal columnar) joints</li> <li>examples of volcanic rocks: tuff and rhyolite</li> </ul> </li> </ul>  | 6     |
| <ul style="list-style-type: none"> <li>Adequate knowledge of the formation and characteristics of volcanic rocks</li> <li>Description of the formation of volcanic rocks with reference to extrusive vulcanicity</li> <li>Accurate description of some characteristics of volcanic rocks</li> <li>Award higher marks to answers with detailed description of the formation and/ or more characteristics of volcanic rocks</li> </ul>  | 3 – 5 |
| <ul style="list-style-type: none"> <li>Brief description of the formation or characteristics of volcanic rocks only</li> <li>No reference to extrusive vulcanicity in the description</li> </ul>  | 1 – 2 |
| <b>Discuss the relative importance of the characteristics of volcanic rocks in shaping the physical landscape of Hong Kong</b>  |       |
| <ul style="list-style-type: none"> <li>Coherent and logical discussion</li> <li>Accurate explanation of the characteristics of volcanic rocks in shaping the physical landscape of Hong Kong:               <ul style="list-style-type: none"> <li>characteristics of volcanic rocks: fine crystals/ high resistance to weathering and erosion/ columnar joints</li> <li>physical landscape:                   <ul style="list-style-type: none"> <li>relief: high hills/ steep slopes/ rugged relief</li> <li>landform: steep cliffs/ hexagonal column</li> </ul> </li> <li>relevant examples: Tai Mo Shan/ Lantau Peak/ Ninepin Group</li> </ul> </li> <li>Accurate description of other types of rocks in shaping the physical landscape of Hong Kong, e.g. plutonic rocks, sedimentary rocks</li> </ul> | 6     |
| <ul style="list-style-type: none"> <li>Appropriate discussion of the relative importance of some of the characteristics of volcanic rocks in shaping the physical landscape of Hong Kong</li> <li>Accurate description of the physical landscape related to volcanic rocks</li> <li>Award higher marks to answers discussing more physical landscape related to volcanic rocks</li> </ul>   | 3 – 5 |
| <ul style="list-style-type: none"> <li>Brief description of the physical landscape related to volcanic rocks only</li> <li>No discussion of the relative importance of the characteristics of volcanic rocks in shaping the physical landscape of Hong Kong</li> </ul>  | 1 – 2 |
| Max. 12   |       |



Question 6

Describe and explain the climatic characteristics of northwestern China. Comment on the significance of climate in causing severe sandstorms in northwestern China.

|                           |   |
|---------------------------|---|
| Description & explanation | 6 |
| Comment                   | 6 |

Notes:

- 1. Award appropriate marks according to the **QUALITY** and **DEPTH** of discussion; **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.

| Generic Marking Guidelines  |       |
|---|-------|
| Performance of Candidates   | Marks |
| <b>Describe and explain the climatic characteristics of northwestern China</b>  |       |
| <ul style="list-style-type: none"><li>• Coherent and logical description and explanation</li><li>• Clear description of the climatic characteristics of northwestern China with reference to the following items:<ul style="list-style-type: none"><li>- temperature: annual mean temperature, annual range of temperature, seasonality, etc.</li><li>- rainfall: annual rainfall, seasonality, etc.</li><li>- other climatic characteristics: winds</li></ul></li><li>• Logical explanation of the factors affecting the climatic characteristics of northwestern China with reference to the following items:<ul style="list-style-type: none"><li>- temperature: latitude, altitude, distance from the sea, etc.</li><li>- rainfall: distance from the sea, air pressure, monsoon system, etc.</li></ul></li></ul> | 6     |
| <ul style="list-style-type: none"><li>• Appropriate description of <b>at least one</b> of the above climatic characteristics of northwestern China</li><li>• Appropriate explanation of <b>at least one</b> of the above factors affecting the climatic characteristics of northwestern China</li><li>• Description and explanation <b>should be related</b></li><li>• Award higher marks to answers with description of more climatic characteristics of northwestern China and their related affecting factors</li></ul>  | 3 – 5 |
| <ul style="list-style-type: none"><li>• Brief description of the climatic characteristics of northwestern China <b>only</b></li><li>• <b>No</b> explanation of the related factors affecting the climatic characteristics of northwestern China, or explanation <b>inaccurate</b></li></ul>   | 1 – 2 |
| <b>Comment on the significance of climate in causing severe sandstorms in northwestern China</b>  |       |
| <ul style="list-style-type: none"><li>• Logical and in-depth comment on the significance of climate and <b>other factors</b> in causing severe sandstorms in northwestern China:<ul style="list-style-type: none"><li>- <u>Climate</u>:<ul style="list-style-type: none"><li>• strong winds in spring</li><li>• high evapotranspiration/ drought, very low annual rainfall</li></ul></li><li>- <u>Other physical factors</u>: nearby deserts, etc.</li><li>- <u>Human factors</u>:<ul style="list-style-type: none"><li>• farming activities, such as over-cultivation and overgrazing/ excessive cutting of trees/ desertification</li></ul></li></ul></li></ul>   | 6     |
| <ul style="list-style-type: none"><li>• Comment correctly the significance of climate in causing severe sandstorms in northwestern China</li><li>• Award higher marks to answers making reference to more climatic characteristics of northwestern China or mentioning the significance of other factors in the comment</li></ul>   | 3 – 5 |
| <ul style="list-style-type: none"><li>• Brief description of how climate causes sandstorms in northwestern China <b>only</b></li><li>• <b>No</b> comment on the significance of climate in causing severe sandstorms in northwestern China</li></ul>  | 1 – 2 |
| Max. 12   |       |

Question 7

Account for the favourable factors of Hong Kong to be a regional logistics hub. Discuss whether the completion of the Hong Kong-Zhuhai-Macao Bridge will enhance cooperation or create competition between Hong Kong and Guangdong Province in logistics industry.

|                           |   |
|---------------------------|---|
| Description & explanation | 6 |
| Discussion                | 6 |

Notes:

- 1. Award appropriate marks according to the **QUALITY** and **DEPTH** of discussion; **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.

| Generic Marking Guidelines   |       |
|--|-------|
| Performance of Candidates  | Marks |
| <b>Describe and explain the favourable factors of Hong Kong to be a regional logistics hub</b>   |       |
| <ul style="list-style-type: none"><li>• Comprehensive knowledge of the favourable factors of Hong Kong to be a regional logistics hub, including the following factors and their related concepts:<ul style="list-style-type: none"><li>- <u>Internal (site) factors</u>:<ul style="list-style-type: none"><li>• location and transport infrastructure in the territory/ skills and technology/ management strategies/ legal system</li></ul></li><li>- <u>External (regional) factors</u>:<ul style="list-style-type: none"><li>• international linkages/ cross-border transport infrastructure</li></ul></li></ul></li><li>• The concepts of location and transport infrastructure should be mentioned in the answers</li></ul>  | 6     |
| <ul style="list-style-type: none"><li>• Appropriate description and explanation of the internal or external factors favouring Hong Kong to be a regional logistics hub</li><li>• Award higher marks to answers with more related factors correctly described and explained</li></ul>   | 3 – 5 |
| <ul style="list-style-type: none"><li>• Brief description of the location and transport infrastructure of Hong Kong as the internal factors <b>only</b></li><li>• <b>No</b> description and explanation of the external (regional) factors favouring Hong Kong to be a regional logistics hub, e.g. relationship with the Zhujiang Delta Region</li></ul>  | 1 – 2 |
| <b>Discuss whether the completion of the Hong Kong-Zhuhai-Macao Bridge will enhance cooperation or create competition between Hong Kong and Guangdong Province in logistics industry</b>   |       |
| <ul style="list-style-type: none"><li>• Coherent, logical and in-depth discussion</li><li>• Considerations in enhancing cooperation between the two areas in logistics industry:<ul style="list-style-type: none"><li>- improving cross-border transport linkages/ saving time and costs/ attracting more businessmen to establish their firms/ more third party or fourth party logistics/ enlarging hinterland/ improving cross-border management</li></ul></li><li>• Considerations in creating competition between the two areas in logistics industry:<ul style="list-style-type: none"><li>- lower production costs in the Zhujiang Delta Region attract foreign direct investment/ improved management skills in the Zhujiang Delta Region/ other supporting infrastructure/ government support in Mainland China</li></ul></li></ul> | 6     |
| <ul style="list-style-type: none"><li>• Appropriate discussion of the influence of the completion of the Hong Kong-Zhuhai-Macao Bridge to the logistics industry in Hong Kong and Guangdong Province</li><li>• Discussion focusing on enhancing cooperation or creating competition between the two areas</li><li>• Award higher marks to answers with more considerations mentioned in the discussion</li></ul>   | 3 – 5 |
| <ul style="list-style-type: none"><li>• Describing <b>only</b> the influence of the completion of the Hong Kong-Zhuhai-Macao Bridge on logistics industry</li><li>• <b>No</b> discussion of whether the completion of the Hong Kong-Zhuhai-Macao Bridge will enhance cooperation or create competition between Hong Kong and Guangdong Province in logistics industry</li></ul>  | 1 – 2 |
| Max. 12  |       |



Question 8

Describe and explain the industrial development of the Zhujiang Delta Region in the last decade. Discuss the importance of scientific research and human resources on the industrial development of the region.

|                           |   |
|---------------------------|---|
| Description & explanation | 6 |
| Discussion                | 6 |

Notes:

1. Award appropriate marks according to the **QUALITY** and **DEPTH** of discussion; **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.

| Generic Marking Guidelines  |       |
|---|-------|
| Performance of Candidates   | Marks |
| <b>Describe and explain the industrial development of the Zhujiang Delta Region in the last decade</b>  |       |
| <ul style="list-style-type: none"><li>• Comprehensive knowledge of the industrial development of the Zhujiang Delta Region in the last decade</li><li>• Accurate and comprehensive description and explanation of the changes brought about by the industrial development mentioned above:<ul style="list-style-type: none"><li>- changes in nature/ types of production</li><li>- creating agglomeration pattern</li><li>- government policies, strong competition with foreign countries, pollution control, labour supply</li></ul></li><li>• Appropriate locational examples in supporting the analysis</li></ul> | 6     |
| <ul style="list-style-type: none"><li>• Adequate knowledge of the industrial development of the Zhujiang Delta Region in the last decade</li><li>• Describing and explaining <b>at least one</b> of the changes brought about by the industrial development mentioned above</li><li>• Award higher marks to answers with description and explanation of more changes</li></ul>  | 3 – 5 |
| <ul style="list-style-type: none"><li>• Brief description of the industrial development of the Zhujiang Delta Region in the last decade <b>only</b></li><li>• No explanation of the reasons for the above changes</li></ul>   | 1 – 2 |
| <b>Discuss the importance of scientific research and human resources on the industrial development of the Zhujiang Delta Region</b>   |       |
| <ul style="list-style-type: none"><li>• Coherent and logical arguments</li><li>• In-depth discussion of the importance of scientific research and human resources in changing the following items:<ul style="list-style-type: none"><li>- the nature of industries</li><li>- the modes of production</li><li>- marketing and management strategies of industries</li></ul></li><li>• Mentioning the importance of other factors for industrial development, e.g. government policies, infrastructure, etc.</li></ul>  | 6     |
| <ul style="list-style-type: none"><li>• Appropriate discussion of the importance of scientific research and human resources on the industrial development of the Zhujiang Delta Region</li><li>• Discussion referring to the changes in <b>at least one</b> of the above items</li><li>• Award higher marks to answers with discussion referring to more of the above items</li></ul>   | 3 – 5 |
| <ul style="list-style-type: none"><li>• Brief description of how scientific research and human resources influence industrial development <b>only</b></li><li>• No discussion of the importance of scientific research and human resources on the industrial development of the Zhujiang Delta Region</li></ul>   | 1 – 2 |
| Max. 12   |       |

Candidates' Performance

Paper 1 Section A

There were 40 multiple-choice questions in this paper. The average number of questions answered correctly by candidates was 24. The overall performance of the candidates was similar to that in previous years. Six questions in which distractors were more popular than the key have been selected for further discussion.

In Item 3, the most popular answer was Option B. Candidates choosing option B likely calculated the average gradient of the section of Hospital Road using the straight line distance between the two spot heights instead of the actual length of the road.

|     |   |       |
|-----|---|-------|
| Q.3 | Which of the following is the average gradient of the section of Hospital Road from spot height 22.3 (467127) to spot height 69.1 (475121)? |       |
|     | A. 1:7  | (14%) |
|     | B. 1:10   | (49%) |
|     | *C. 1:13  | (33%) |
|     | D. 1:16   | (4%)  |

In Item 9, the most popular answer was Option A. Candidates who chose Option A might have overlooked the evidence related to intrusive volcanicity discovered in the Himalayan region, e.g. hot springs and geothermal power.

|     |  |       |
|-----|--|-------|
| Q.9 | Which of the following tectonic processes have occurred in the Himalayan region? |       |
|     | (1) folding  |       |
|     | (2) faulting   |       |
|     | (3) volcanicity  |       |
|     | A. (1) and (2) only  | (52%) |
|     | B. (1) and (3) only  | (22%) |
|     | C. (2) and (3) only  | (3%)  |
|     | *D. (1), (2) and (3)   | (23%) |