HONG KONG EXAMINATIONS AND ASSESSMENT AUTHORITY

HONG KONG DIPLOMA OF SECONDARY EDUCATION EXAMINATION

GEOGRAPHY

SAMPLE FIELDWORK-BASED QUESTIONS

(Applicable to the 2019 HKDSE and Onwards)

SAMPLE FIELDWORK-BASED QUESTION: RIVER STUDY

1. A group of Geography students carried out a field study along a river in the New Territories in February. Figure 1a is a sketch map of the river showing sites A to D where the students were assigned to.   Table 1b shows the data of the river recorded at different sites.
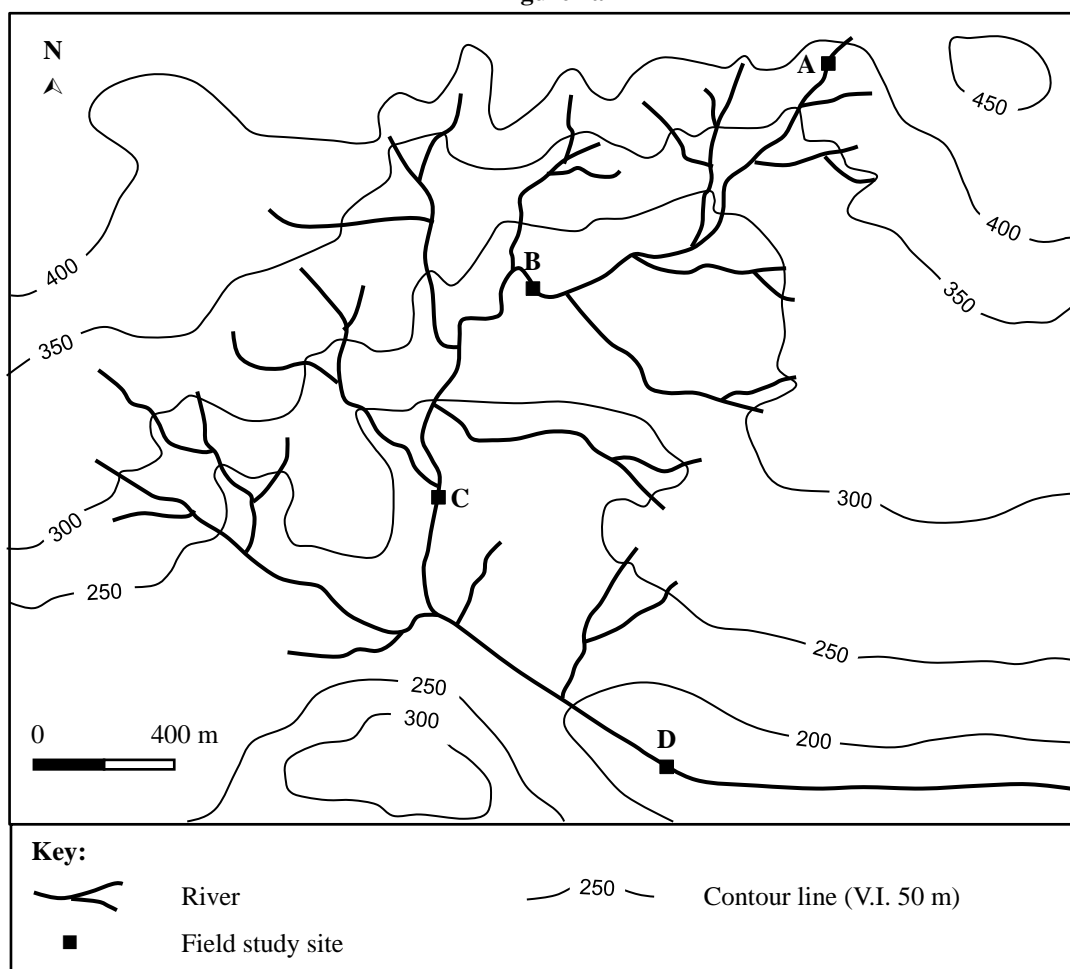
Figure 1a

Table 1b

	Site A	Site B	Site C	Site D
Mean channel gradient (degrees)	11.0	7.0	4.5	0.4
Mean channel velocity (m/s)	0.06	0.10	0.56	0.88
Mean channel discharge (m³/s)	0.003	0.054	0.310	0.550

(a)   Refer to Figure 1a and Table 1b.

    (i)   List one merit and one demerit of conducting a field study on rivers in Hong Kong in February. (2 marks)

    (ii)   The students set the hypothesis for the field study as 'The greater the channel discharge, the higher the channel velocity'.

        Explain whether the data collected were applicable in proving the hypothesis.
(2 marks)

    (iii)   Name **two** instruments and explain their uses in measuring channel gradient.
(4 marks)

(b)   Refer to Table 1b.

    (i)   Draw a statistical diagram to show the relationship between mean channel gradient and mean channel velocity **on a piece of graph paper**. (2 marks)

    (ii)   Explain why the statistical diagram in (b) (i) can best present the data. (2 marks)

(c)   Other than the data shown in Table 1b, suggest other data and information you might need to further investigate the river environment.   Explain your answer. (6 marks)

MARKING SCHEME FOR SAMPLE FIELDWORK-BASED QUESTION

River Study   **Marks**

(a) (i) <u>Merit</u>:
-   more comfortable weather conditions   1
-   more stable weather conditions/ less rainstorms/ thunderstorms   1
-   safer to carry out field study   1 (1)

<u>Demerit</u>:
-   dry season in Hong Kong   1
-   not much water in the river   1
-   data collected may be insignificant/ unreliable   1 (1)

(ii)
-   data applicable to show positive relationship between channel discharge and channel velocity   1
-   higher discharge of the river at downstream as a result of more streams/ higher stream order   1
-   channel discharge increases when two tributaries meet at confluence   1
-   higher velocity at the lower course   1 (2)

(iii)
-   abney level   1 (1)
-   for measuring degrees of elevation   1
-   along river channel   1 (1)
-   ranging rod   1 (1)
-   for marking the position of stations   1
-   for sightings of stations   1 (1)

(b) (i)
-   accuracy   2 (2)
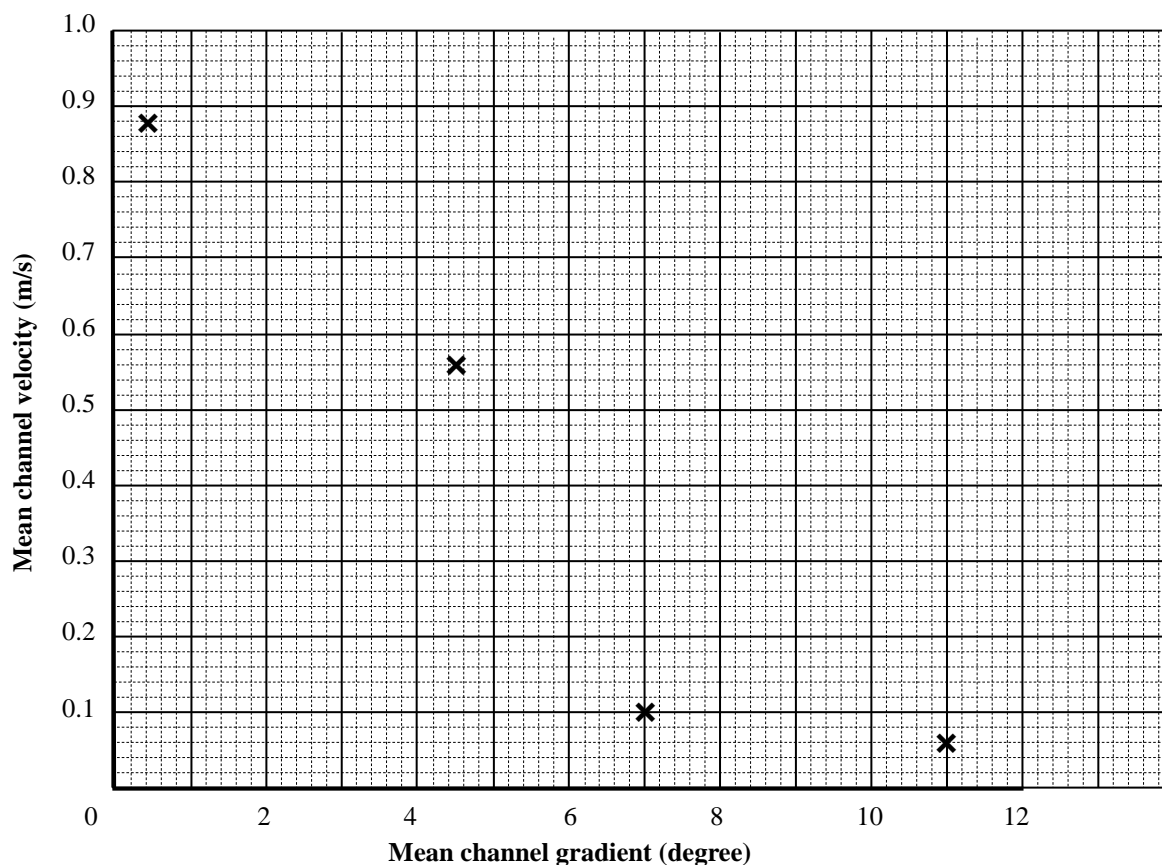
River Study (cont.)   **Marks**

(b)   (ii)   - a tool for analysing relationship between two variables   1
                   - best to examine theories about cause-and-effect relationship   1
                   - generally shows strong/ weak positive or negative correlation between the variables   1
                   - easy to interpret   1 (2)

(c)   **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.

    3. Award appropriate marks to **relevant and reasonable answers** not included in this marking scheme.

    4. Answers may take **either** of the forms below:
      - A wider range of suggestions with appropriate and adequate elaboration
      - A narrower range of suggestions with accurate and detailed elaboration

Marking criteria:

• Detailed and clear description and explanation of how other primary data **and** secondary information help further investigation on the river environment
• Answers may include the following with explanations:
  - characteristics of different sections of river (e.g. bed load with different sizes at different sites, amount of vegetation along the river)
  - human impact on river quality (e.g. pollution levels of the river, including pH value, dissolved oxygen content, phosphate/ nitrates/ ammonia test, etc.)
  - human modification of river channel (e.g. channelisation along the river, flood management strategies, etc.)
  - other relevant secondary information (e.g. land use maps along the river channel, newspaper articles/ development plans, Google Earth, etc.)
• Demonstrating comprehensive knowledge of relevant geographical concepts and principles
• Coherent, creative and logical presentation
	6

• Appropriate description and explanation of how other primary data **and** secondary sources of information help further investigation on the river environment • Demonstrating adequate knowledge of relevant geographical concepts and principles • Appropriate presentation	3 – 5
• Brief description and explanation of how other primary data **and/ or** secondary sources of information help further investigation on the river environment. • General presentation	1 – 2

Max. 18

SAMPLE FIELDWORK-BASED QUESTION: URBAN STUDY

1. Two groups (X and Y) of Geography students carried out a field study on urban environmental quality, adopting the 'Assessment Form on Urban Environmental Quality' in Table 1a for collecting data.   Table 1b shows the data collected by the two groups.

Table 1a

Assessment item			Assessment criteria
Assessment on building environment	Building design	3	Adopting attractive design
		2	Adopting general building design
		0	Exterior wall with outdated design/ no decorations
Assessment on environmental conditions	Air quality	3	Good
		2	Fair
		0	Poor
	Noise level	3	Low
		2	Medium
		0	High

Table 1b

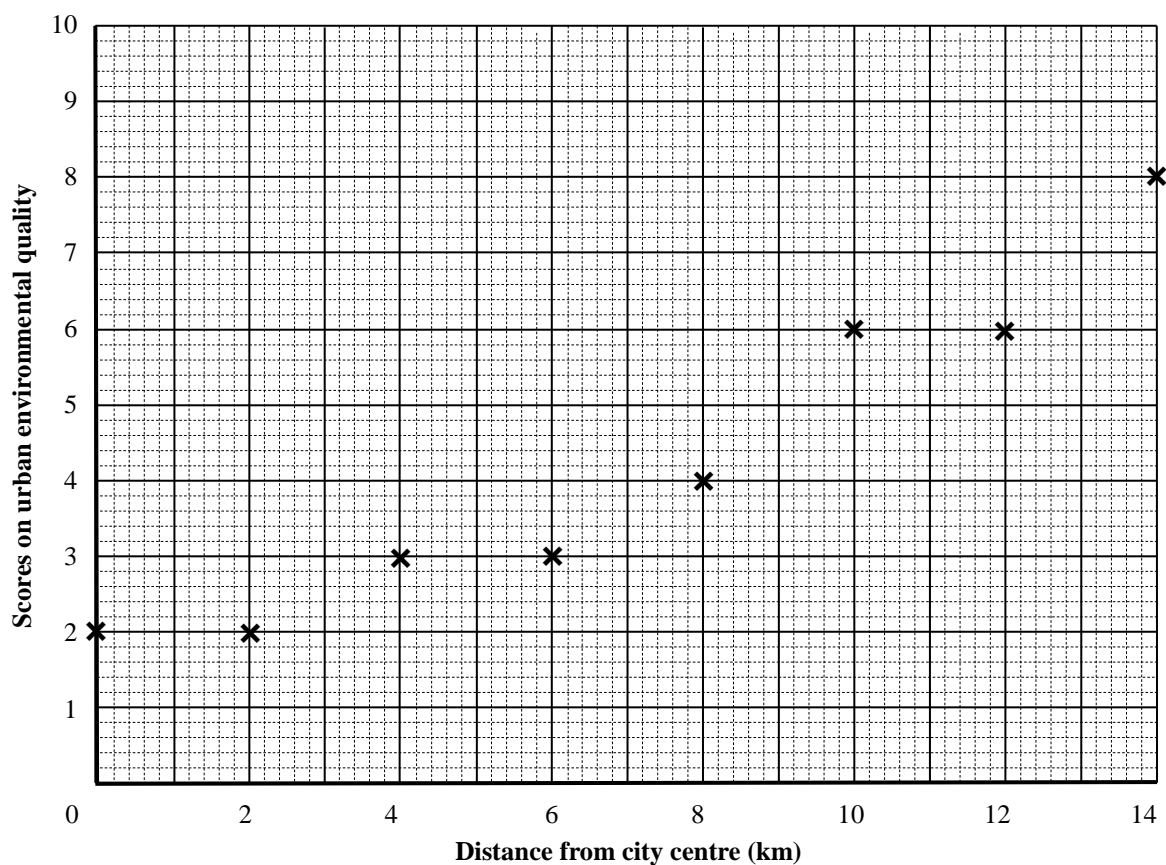|		Field study sites							
		A	**B**	**C**	**D**	**E**	**F**	**G**	**H**
Distance from city centre (km)		0	2	4	6	8	10	12	14
Scores on urban environmental quality	**Group X**	2	2	3	3	4	6	6	8
	Group Y	4	6	6	8	8	9	8	8

(a)   Refer to Table 1a. List the merits of using the 'Assessment Form on Urban Environmental Quality' for data collection. (3 marks)

(b)   Refer to Tables 1a and 1b. Explain **two** possible reasons for the differences in data collected by groups X and Y. Suggest ways that may reduce the above differences. (4 marks)

(c)   Refer to Table 1b.

        (i)   Draw a statistical diagram to show the relationship between urban environmental quality and distance from city centre collected by group X on a piece of graph paper.
                                                                                                (2 marks)

        (ii)   The students set the hypothesis for the field study as 'The environmental quality degrades with proximity to the city centre'.

                With reference to the statistical diagram in (c) (i), explain how the hypothesis can be proved. (3 marks)

(d)   Other than the data shown in Table 1b, suggest other data and information necessary for a further study on the urban environmental quality. Explain your answer. (6 marks)

MARKING SCHEME FOR SAMPLE FIELDWORK-BASED QUESTION

Urban Study   **Marks**

(a)   - lower cost   1
- less technical support needed   1
- allowing different groups to collect data simultaneously/ data collection not confined by quantities of instruments   1
- quantification of qualitative data   1
- time-efficient   1 (3)

(b) <u>Reasons for differences in data:</u>
- differences in time/ sites/ frequencies of data collection   1
- personal judgement (differences in criteria of scoring)   1
- personal reasons (misinterpretation of scoring criteria/ errors in calculation)   1
- different opinions among group members   1 (2)

    <u>Ways to reduce differences:</u> (Should be related to the above reasons)
- compromising time/ sites/ frequencies of data collection   1
- compromising scoring criteria before field study   1
- raising reliability of data among different group members by collecting data at the same site   1
- taking photos as evidence   1
- collecting data by more objective ways, e.g. measuring noise levels with decibel meter   1 (2)

(c) (i)   - accuracy   2 (2)

Urban Study (cont.)   **Marks**

(c)   (ii)   - hypothesis valid: the closer to the city centre, the worse is the environmental quality   1
             - scores on urban environmental quality rise with increasing distance from the city centre   1
             - site A closer to city centre: environmental quality worse (scores on urban environmental
               quality: 2)/
             - site H further away from city centre: environmental quality better (scores on urban
               environmental quality: 8)   1 (2)

             Explanation:
             - higher vehicle flow/ lower air quality/ more severe noise problem near city centre   1
             - lower building quality in inner city   1 (1)

(d)   **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.
      3. Award appropriate marks to **relevant and reasonable answers** not included in this marking
         scheme.

      Marking criteria:

• Accurate and detailed description of other information/ data necessary for a further study on the urban environmental quality and their methods of collection • Relevant information/ data: - types and flow of vehicles - flow of people - types of land uses - height and quality of buildings • Date collection methods/ Sources of data: - questionnaire survey - street interview - instruments - maps - websites/ government data • Coherent, systematic and logical presentation of relevant arguments • Quoting accurate and detailed examples of field study
• Accurate description of other information/ data necessary for a further study on the urban environmental quality and their methods of collection • Systematic and logical presentation of relevant arguments • Quoting appropriate examples of field study
• Brief description of other information/ data necessary for a further study on the urban environmental quality and their methods of collection • General presentation of relevant arguments • Quoting brief examples of field study

Marks (right column): 6, 3 – 5, 1 – 2

Max. 18