CAMBRIDGE
International Education

Cambridge O Level

GEOGRAPHY **2230/02**

Paper 2 Geographical Skills **October/November 2024**

MARK SCHEME

Maximum Mark: 60

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the October/November 2024 series for most Cambridge IGCSE, Cambridge International A and AS Level components, and some Cambridge O Level components.

PUBLISHED

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptions for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5: Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).
GENERIC MARKING PRINCIPLE 6: Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

2230/02 (Geographical Skills) – Specific Marking Instructions

Examiners must use the following annotations:

Annotation	Meaning	Use
	Correct point	All questions
	Incorrect	All questions
	Reserve mark	All questions
	Just	All questions
	Omission or further development/detail needed to gain credit	All questions
	Unclear or validity is doubted	All questions
	Repetition	All questions
	Benefit of doubt	All questions
	Too vague	All questions
	Material that does not answer the question	All questions

Annotation	Meaning	Use
SEEN	1. Diagram has been seen but no specific credit given 2. Additional page has been checked	1. Any diagrams 2. All blank pages in the provided generic answer booklet and/or extension answer booklet(s).
d	Accurate data mark	All questions

Section A: Mapwork skills

Question	Answer	Marks	Guidance
1(a)(i)	**Name the airport in grid square 5305.** Sangster (International Airport)	**1**	
1(a)(ii)	**Use the map to describe the site and situation of the airport in grid square 5305.** <u>Site</u> Flat Large / spacious / big space Has swamp / marsh / lake / lagoon <u>Situation</u> NW of island / Jamaica On coast / along coast / near sea / near shore <u>North</u> of Montego Bay (settlement) / NW of Montego Bay Near / next / surrounded by roads Between Montego Bay Point and Umbrella Point / Mahoe Bay Next to / near Chatham or Providence / between Chatham and Providence Next to swamp / marsh / lake / lagoon	**3**	**Reserve 1 mark** for site and **1 mark** for situation. **= 0** Jamaica There is a road (needs to be near) Montego Bay / Mahoe Bay / White House town / water / beach / edge / hotel / jetties / named services / coral **No double credit (site and situation) for:** Swamp / marsh / lake / lagoon
1(a)(iii)	**If you travel along the road towards the airport, from 630077 to the Police Station (PS) at 585076:** • **In which direction will you travel?** West • **How far will you travel?** 4.5 km	**2**	**Must have units (km/miles)** **Allow** 4.4–4.6 km or 2.7–2.9 miles

Question	Answer	Marks	Guidance
1(b)	**Name <u>three</u> different services found in grid square 5202 in the settlement of Montego Bay.** Cemetery School Library Church Market Fire Station Hospital Post Office Court House Police Station	**3**	**= 0** Abbreviations e.g. PO, Sch Freeport / yacht club / quays Educational / religious / medical / healthcare Health centre / infirmary
1(c)	**Describe the <u>physical</u> features of the coastal area.** Tombolo Islands Bays Beaches / sand or gravel Marsh / swamp Mangroves Coral / reef Lagoon	**3**	**= 0** Low lying / irregular / flat land Headland / point Estuary / river Sugar cane (plantation) Coconut plantation / palms **Allow** Bogue islands Montego Bay **only** if it is clear it is not the settlement

Question	Answer	Marks	Guidance
1(d)	**<u>Complete the table below</u> by drawing an arrow between the map location and the correct land use. One has been completed for you.** **1 mark** for each correctly plotted arrow **map location** / **land use** 5300 → Woodland 5098 → Banana Plantation 5698 → Mixed or scattered Cultivation 5804 → Sugar Cane Plantation 5903 → Trees and Scrub	**4**	
1(e)(i)	**Use the map to identify features X and Y shown on Fig. 1.2.** • X = Road (Class C) • Y = Lake	**2**	**= 0** Class C Pond **List rule** e.g. pond, lake = 0
1(e)(ii)	**<u>Add a dot and the letter Z onto Fig. 1.2 above</u> to show the location of a quarry.** 612/3 and 024/5 Level with LEOGAN / at approximately mid-point between northings 02 and 03	**1**	**= 0** Only a dot / Z (need both)
1(e)(iii)	**State the total area covered by the grid squares in Fig. 1.2. Give your answer in square kilometres (km^2).** 9 (km^2)	**1**	

Section B: Geographical skills

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>2(a)</td><td>Using Fig. 2.1, describe the locations of Golden Corporation’s aquaculture activities in Brunei.

Coastal / on the coast / near ocean/sea
(Only) in Tutong and Brunei-Muara
Mostly / mainly / many / 6 in Tutong (district)
Some/2 in Brunei-Muara / NE of BSB / near airport or Brunei Bay or Muara Port
Most / mainly / 6 close to (Golden Corporation) seafood processing factory</td><td>2</td><td>= 0
All in Tutong
Found in 2 of the 4 districts
North
Near each other

Allow
Accurate direction instead of near/at</td></tr>
<tr><td>2(b)</td><td><u>Complete the table below</u> by adding the words primary, secondary, tertiary or quaternary in the correct place.

<table><tr><th>photograph</th><th>industry sector</th></tr><tr><td>A</td><td>quaternary</td></tr><tr><td>B</td><td>primary</td></tr><tr><td>C</td><td>secondary</td></tr></table></td><td>3</td><td></td></tr>
</table>

Question	Answer	Marks	Guidance
2(c)	**Do you think that Golden Corporation made a good choice of location for their factory? Explain your decision.** Explanation Near district capital / Tutong town for workers / for market Near (South China) sea for fish Near aquaculture activity for raw materials / save transport costs / fish will be fresh Near roads for transport of goods / fish / workers / to market Near coast / sea for export / transport goods / transport to markets/USA/Asia Flat land near the coast for ease of construction Land for future expansion / is cheaper **BUT** Away from the capital/BSB so fish may not be fresh / land cheaper / far from market Away from (Muara) Port for export / transport, etc.	**3**	**Must explain** not just describe Only credit explanation. No mark for decision. **Allow** Positive and negative points **No double credit** of transport costs / labour / market **= 0** Near town / city for workers Water supply Energy In Tutong for workers Near raw materials Near sea for transport (on own) **NOTE** Question does not state 'Use **only** Fig. 2.1 and Fig. 2.3'.
2(d)	**State two reasons why Brunei was keen to increase the value of aquaculture production from B$ 10 million in 2015 to B$ 400 million by 2020.** Increase GDP Jobs Diversification / reduced reliance on oil and gas Growing population / high demand (for fish) / demand > supply Reduce imports / more self sufficient Increase exports Foreign exchange Widen trade contacts	**2**	**= 0** To improve the economy / economic development / economy grows To increase production / supply Easy More income / profit Workers gain new skills Fish important food in Brunei

Question	Answer	Marks	Guidance
3(a)(i)	**Name the tectonic plate on which the Philippines is located.** Eurasian (Plate)	**1**	
3(a)(ii)	**How many major volcanoes are there in the Philippines as shown in Fig. 3.1?** 5	**1**	
3(a)(iii)	**The Philippines is located on a convergent plate boundary. <u>On Fig. 3.1</u>:** • **draw an arrow at A to show the direction of movement of the Eurasian Plate** arrow pointing west to east • **draw an arrow at B to show the direction of movement of the Philippine Plate.** arrow pointing east to west	**2**	
3(b)(i)	**Calculate the total cost of losses in agriculture, fisheries, livestock and poultry. Show your working.** 3.8 + 0.5 = $4.3 million	**2**	**Must have $ <u>and</u> million**

Question	Answer	Marks	Guidance
3(b)(ii)	**Use Fig. 3.2 to explain why more people were displaced from Legazpi City than Ligao City.** Legazpi City closer to the volcano than Ligao City Legazpi 10 km away whereas Ligao 15–20 km / >10 km away from the volcano Legazpi in the danger zone whereas Ligao outside danger zone / Legazpi nearer the danger zone Legazpi bigger built-up area than Ligao Legazpi one evacuation centre whereas Ligao has two / Lagazpi only has 1 / Ligao has more	**2**	**Must be a comparison** **= 0** population
3(c)	**Describe two ways scientists try to predict volcanic eruptions.** Set up research stations to gather data Use seismometers / equipment to measure tremors / earthquakes Use tiltmeters / equipment to measure the tilt of the ground surface Measure / monitor amount of gas released from the volcano Measure changes in the ratios of different gases released Measure temperature increases Set up observatories / watch 24/7 / continuously observe Monitor deformation / shape of the volcano / bulge Study period of time since the last eruption / frequency of eruptions Monitor number of earthquakes at the volcanic site Use satellites to monitor volcanoes	**2**	**Must be prediction** **= 0** Monitor volcanoes / earthquakes = TV Manual checks Richter scale Monitor smoke Analyse signs of an eruption Animal behaviour **= 0** Drills / early warning / evacuation / diversion canals / exclusion zones

Section C: Geographical investigation

Question	Answer	Marks	Guidance
4(a)(i)	**Suggest <u>two</u> reasons why they did a pilot study.** HOW TO Practise / know what to do / gain experience / familiarise themselves with <u>techniques / equipment / fieldwork</u> HOW EFFECTIVE To see what problems arise / to see if the data collection techniques work effectively / to see if they had enough/appropriate questions / to discover/avoid mistakes HOW IMPROVE To improve methodology / to add to / amend / remove any chosen features and questions EQS (Environmental Quality Survey) To test descriptions are appropriate To test all features are covered in EQS To check consistency of applying scoring criteria GROUP DYNAMICS To <u>practise</u> working in a group	**2**	**Answers can be general or related to the EQS** **= 0** To <u>decide</u> sampling method Get to know the area How to work safely Test hypotheses **Allow** Practise or test specific (relevant) technique e.g. sampling, questionnaire, EQS, recording sheet

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>4(a)(ii)</td><td>Describe how the students used the recording sheet shown in Fig. 4.2.

Complete the heading / fill in the name of area, date and time
Observe each feature / look and listen
Decide / assess / judge if response (to feature) will be positive or negative
Discuss with other students to reach a decision
Score / rank / rate each feature / from –2 to +2
Record score / put a tick / mark on the sheet / in appropriate row / box / for feature
Total/add up the scores for each site</td><td>2</td><td>= 0
Total for each feature (needs to be each site)</td></tr>
<tr><td>4(a)(iii)</td><td><u>Complete Fig. 4.3 below</u> by adding the total score for Site 2.

–6</td><td>1</td><td></td></tr>
<tr><td>4(a)(iv)</td><td>The graph for Site 4 has been drawn on Fig. 4.4 below. <u>Complete the graph for Site 1 on Fig. 4.4 below</u> using the results shown in Fig. 4.3. Site 4 has been completed.

1 mark for 2 points correctly plotted
1 mark for next 2 points correctly plotted
1 mark for joining up the points with a <u>solid line</u> (as shown on key)</td><td>3</td><td><table><tr><th></th><th>Site 1</th></tr><tr><td>condition of buildings</td><td>+1</td></tr><tr><td>amount of greenery</td><td>–1</td></tr><tr><td>litter</td><td>–1</td></tr><tr><td>noise pollution</td><td>–2</td></tr><tr><td>air pollution</td><td>–1</td></tr><tr><td>crowdedness</td><td>–1</td></tr></table></td></tr>
</table>

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr>
<td>4(a)(v)</td>
<td>
The students compared the results for the three tourist sites (1–3) with the residential area (4) and decided that <u>Hypothesis 1</u>: Tourism has a negative impact on the environment was accepted. Use data from Fig. 4.3 and Fig. 4.4 to support their conclusion.

Results of Environmental Quality Survey
<table>
<tr><th></th><th>Site 1</th><th>Site 2</th><th>Site 3</th><th>Site 4</th></tr>
<tr><td>condition of buildings</td><td>+1</td><td>+1</td><td>+2</td><td>0</td></tr>
<tr><td>amount of greenery</td><td>–1</td><td>–2</td><td>–2</td><td>+2</td></tr>
<tr><td>litter</td><td>–1</td><td>–2</td><td>0</td><td>+1</td></tr>
<tr><td>noise pollution</td><td>–2</td><td>–1</td><td>0</td><td>+1</td></tr>
<tr><td>air pollution</td><td>–1</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>crowdedness</td><td>–1</td><td>–2</td><td>–1</td><td>+1</td></tr>
<tr><td>total score</td><td>–5</td><td>–6</td><td>–1</td><td>+5</td></tr>
</table>
From Fig. 4.3
<u>Total score:</u>
The (total) scores for Sites 1, 2 and 3 are all negative whereas Site 4 is positive = 1 mark
The (total) scores for the tourist sites are –5, –6 and –1 whereas the residential area is +5 = 1 mark (✓d)

<u>Individual features:</u>
The amount of greenery / litter / noise pollution / air pollution / crowdedness is worse in the tourist sites than the residential area = 1 mark
Data example = 1 mark (✓d) Only allow 1
</td>
<td>4</td>
<td>
Must compare

Reserve 1 mark for data [use ✓d]

No double credit
For condition of buildings from Fig. 4.3 and also Fig. 4.4

Tourist sites = Sites 1, 2 and 3
Residential area = Site 4

= 0
Sites 1, 2 and 3 added together e.g. total –12

Allow 1 data mark for an individual feature comparison

Allow 1 mark for a conclusion
</td>
</tr>
</table>

Question	Answer	Marks	Guidance
4(a)(v)	e.g. The litter scores for the tourist sites are –1, –2 and 0 whereas the residential area litter score is +1 Only the condition of buildings in the tourist sites is better than the residential area = 1 mark **From Fig. 4.4** At Site 1 most (individual) scores are negative whereas at Site 4 most are positive = 1 mark Site 1 has 5 negatives whereas Site 4 has no negative features = 1 mark Site 4 has 4 positives whereas Site 1 has only 1 positive feature = 1 mark Only condition of buildings is better at Site 1 than Site 4 = 1 mark Amount of greenery / litter / noise pollution / air pollution / crowdedness is worse at Site 1 than Site 4 = 1 mark **Conclusion** = 1 mark **(not a reserve**) Credit <u>one</u> statement such as: The results show that the tourist areas have a poorer environmental quality than the residential area. This proves that tourism can really harm the environment. This supports that tourism has a negative impact on the environment. The EQS shows that there are many negative impacts on the environment.		

Question	Answer	Marks	Guidance
4(b)(i)	**Name and describe <u>one</u> sampling method to select 100 residents of Venice to complete the questionnaire.** **1 mark** for sampling method **1 mark** for brief description which matches the named sampling method <u>Name of sampling method</u> Random Systematic Opportunistic Stratified <u>Description</u> Random – use random numbers / after finishing a questionnaire turn and ask the next person they meet Systematic – ask every tenth / nth person / regular intervals Opportunistic – ask any available and willing person Stratified – ask appropriate age / gender balance / in proportion to population	**2**	If method wrong can give description mark.
4(b)(ii)	**Use the results in Fig. 4.6 <u>to construct a pie graph on Fig. 4.7 below</u>.** Completion of pie graph: 45% more advantages and 55% more disadvantages **1 mark** for plotting line accurately at 45% / 55% **1 mark** for accurate shading using key	**2**	

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr>
<td>4(b)(iii)</td>
<td>Which <u>one</u> of the following conclusions can you make about <u>Hypothesis 2</u>: Tourism creates more advantages than disadvantages for local people? Use evidence from Fig. 4.6, Fig. 4.7, Fig. 4.8 and Fig. 4.9 to support your decision.

<table>
<tr><th>conclusion</th><th>tick (✓)</th></tr>
<tr><td>Hypothesis 2 is accepted</td><td></td></tr>
<tr><td>Hypothesis 2 is inconclusive</td><td></td></tr>
<tr><td>Hypothesis 2 is rejected</td><td>✓</td></tr>
</table>

<u>Evidence rejected</u>
There are more disadvantages (than advantages) = 1 mark
55% disadvantages / <u>only</u> 45% advantages = 1 mark (✓d)
a difference of 10% = 1 mark (✓d)
Total disadvantages 239 and total advantages 187 = 1 mark (✓d)
a difference of 52 = 1 mark (✓d)

<u>Evidence inconclusive</u>
The difference / 55% versus 45% is too close for the decision to be really conclusive = 1 mark (✓d)
The difference is only 10% = 1 mark (✓d)</td>
<td>4</td>
<td>Reserve 1 mark for correct decision that hypothesis is <u>rejected</u>

Reserve 1 mark for data [use ✓d]

When conclusion is wrong or missing, credit any arguments on mark scheme.

Allow
1 valid argument from Figs. 4.8 and 4.9
e.g. The highest number of answers for an advantage is only 71 (for create jobs), whereas the highest number for a disadvantage is 84 (for traffic congestion).

Pie chart instead of Fig. 4.7
Bar charts instead of Figs. 4.8 and 4.9

NB Allow 2 marks for statements or statistics that support hypothesis is <u>inconclusive</u>.</td>
</tr>
</table>