CAMBRIDGE
International Education

Cambridge O Level

GEOGRAPHY **2230/02**

Paper 2 Geographical Skills **May/June 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 May/June 2024 series for most Cambridge IGCSE, Cambridge International A and AS Level and Cambridge Pre-U 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)	**Use the map extract to identify the following shown on Fig. 1.1:** **feature A** Golf (course)	**1**	
1(a)(ii)	**area B** Quarry / landfill	**1**	**= 0** Training track
1(a)(iii)	**land use at C** Orchard or vineyard or plantation	**1**	**= 0** Trees
1(a)(iv)	**type of road at D** Two lanes (includes passing lanes)	**1**	**Allow** Sealed (Road surface) **= 0** Four lanes
1(a)(v)	**type of building at E** School	**1**	**= 0** Sch Large building
1(a)(vi)	**height of the land where the hospital is built at F.** 60–80 m	**1**	**Need units (m)** **Allow** Any value in between

Question	Answer	Marks	Guidance
1(b)(i)	**Explain why this is a good location for the airport.** Flat land so easy to build on / runway / planes Large space so room to develop / cheap land / for building / for runway Near to town for workers / workforce / supplies Near roads for workers / supplies / access Low population so noise pollution will not affect many people / away from towns No / away from mountains which obstruct planes	**2**	**2 × 1** **Only credit explanations** **No double credit** **= 0** Near petroleum tanks
1(b)(ii)	**State the distance and general direction of the airport runway.** **Distance** 2350 m / 2.35 km **Direction** east to west / west to east	**2**	**Need units (either m or km)** **Allow** 2300 to 2400 **= 0** East West
1(c)(i)	**Identify two services found in the settlement of Avarua in grid square 1954.** Hotel Police station Post office	**2**	**2 × 1** **= 0** PO (abbreviation) School (grid square 1854)

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>1(c)(ii)</td><td>Use the map extract and satellite image to describe the pattern of settlement.

Dispersed / scattered / not close to each other
Along / near the coast / between higher ground and sea
Close to roads / along roads
On flatter land / gentler gradients / flat land
Low lying land
Three towns on the north coast; one on the west coast
Some settlement in valleys
Some isolated buildings on lower slopes of hill area
Very few homesteads on high ground / centre of island / inland
More in north / fewer in south</td><td>3</td><td>3 × 1

= 0
Linear
Edge
Nucleated
Mostly / many isolated buildings / homesteads
Deeper land</td></tr>
<tr><td>1(d)(i)</td><td>Tick (✓) <u>three</u> correct statements to describe the relief and drainage of the area shown in Fig. 1.3.

<table>
<tr><th>statements</th><th>tick (✓)</th></tr>
<tr><td>There is a lake.</td><td></td></tr>
<tr><td>The rivers have waterfalls and rapids.</td><td></td></tr>
<tr><td>The land rises over 500m.</td><td>✓</td></tr>
<tr><td>There is a large river.</td><td></td></tr>
<tr><td>There are plateaus.</td><td></td></tr>
<tr><td>There are many steep slopes.</td><td>✓</td></tr>
<tr><td>There is a lot of surface drainage.</td><td>✓</td></tr>
<tr><td>There are many gentle slopes.</td><td></td></tr>
</table>
</td><td>3</td><td>3 × 1</td></tr>
</table>

Question	Answer	Marks	Guidance
1(d)(ii)	**<u>On Fig. 1.3, add the route of the Cross Island Track</u> in grid squares 1850 and 1851.** Start at 519 (below 52) Finish at 184 (just less than halfway)	**1**	
1(d)(iii)	**Give a six-figure grid reference for the *Te Kou* mast.** 193 508	**1**	

Section B: Geographical skills

Question	Answer	Marks	Guidance
2(a)(i)	**Complete Fig. 2.1 to show that 72% of Brunei was forest in 2020.** **1 mark** for line in correct place at 72% **1 mark** for correct shading	**2**	Shading must be neat and similar to key.
2(a)(ii)	**Calculate the change in forest cover from 2000 to 2020.** Decreased by 3% / decline of 3% / –3%	**1**	**Must have negative** **Need units (%)**
2(b)(i)	**Use Fig. 2.2 to complete the following:** In 2001 **1240** hectares of tree cover were lost in Brunei. This amount increased to 2600 hectares in the year **2011**. The amount of tree cover loss declined to 1160 hectares in 2020.	**2**	**2 × 1**
2(b)(ii)	**What is the main cause of tree cover loss shown in Fig. 2.2?** Commercial agriculture (large-scale)	**1**	
2(c)	**Which districts of Brunei have the greatest and least amount of tree cover loss?** Greatest tree cover loss **Brunei-Muara** Least tree cover loss **Temburong**	**2**	**2 × 1**

Question	Answer	Marks	Guidance
2(d)	**State <u>two</u> environmental problems caused by the loss of tree cover.** Habitat loss Extinction / loss of biodiversity Soil erosion / landslides Desertification / drought / drier weather Floods Less CO_2 removed from atmosphere / increased CO_2 / air pollution / <u>more</u> greenhouse gases Increase temperature (local) / global warming Forest fires	**2**	**2 × 1** **= 0** Oxygen
3(a)	**Use the data below to <u>complete the divided bar graph on Fig. 3.1</u>. Oceania, South America and North America have been completed for you.** **2 marks** for accurate plotting: Line at 22% Line at 40% **1 mark** for neat and accurate shading.	**3**	**3 × 1** Segments need to be plotted in correct order: Europe 9% Africa 18% Asia 60%

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>3(b)(i)</td><td>Use data from Fig. 3.2 to describe how the population of Asia is expected to change from 1950 to 2100.

<u>Overall / 1950 to 2100</u>
Increased
From 1400 million to 4700 million / by 3300 million

<u>1950–2010*</u>
Increased rapidly
From 1400 million to 4200 million

<u>2010 to 2050–60</u> [or dates between]
Increased slower
From 4200 million to 5300 million [see table for other dates]

<u>2050–60</u>
Peak at 5300 million

<u>2050–60 to 2100</u>
Decreased
From 5300 million to 4680 million

*OR
<u>1950–2020</u>
Increased rapidly
From 1400 million to 4640 million

<u>1950–2022</u>
Increased rapidly
From 1400 million to 4700 million

<u>1950–2050–60</u>
Increased
From 1400 million to 5300 million</td><td>3</td><td>Only allow increase once unless qualified

Reserve 1 mark for data [use ✓d]
Must have units (million)

= 0
Constant 2050–60 (not a change)

Allow
Dates within the ranges given
± 20 million

<table><tr><th>year</th><th>Asia</th></tr><tr><td>1950</td><td>1400</td></tr><tr><td>1960</td><td>1700</td></tr><tr><td>1970</td><td>2100</td></tr><tr><td>1980</td><td>2600</td></tr><tr><td>1990</td><td>3200</td></tr><tr><td>2000</td><td>3700</td></tr><tr><td>2010</td><td>4200</td></tr><tr><td>2020</td><td>4640</td></tr><tr><td>2022</td><td>4700</td></tr><tr><td>2030</td><td>4950</td></tr><tr><td>2040</td><td>5170</td></tr></table></td></tr>
</table>

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>3(b)(i)</td><td></td><td></td><td>
<table>
<tr><td>2050</td><td>5300</td></tr>
<tr><td>2060</td><td>5300</td></tr>
<tr><td>2070</td><td>5200</td></tr>
<tr><td>2080</td><td>5060</td></tr>
<tr><td>2090</td><td>4900</td></tr>
<tr><td>2100</td><td>4700</td></tr>
</table>
</td></tr>
<tr><td>3(b)(ii)</td><td><u>Use Fig. 3.2 to complete Table 3.1</u> by putting the continents in rank order from highest to lowest.

1 or 2 answers correct = 1 mark
All 4 answers correct = 2 marks

<table>
<tr><th>rank order</th><th>1950</th><th>2100</th></tr>
<tr><td>1</td><td>Asia</td><td>Asia</td></tr>
<tr><td>2</td><td>Europe</td><td>Africa</td></tr>
<tr><td>3</td><td>Africa</td><td>North America</td></tr>
<tr><td>4</td><td>North America</td><td>Europe</td></tr>
<tr><td>5</td><td>South America</td><td>South America</td></tr>
<tr><td>6</td><td>Oceania</td><td>Oceania</td></tr>
</table>
</td><td>2</td><td>2 × 1

Only 2 ticks</td></tr>
</table>

Question	Answer	Marks	Guidance
3(b)(iii)	**Suggest <u>two</u> problems a declining population could cause for countries.** Economically active / workforce group gets smaller Fewer people to support growing dependent population Fewer soldiers to defend the country Need foreign workers Increase labour costs Ageing population Increased demand for health care Increased demand for social care / care homes Difficult to provide satisfactory pensions / pension burden Underpopulation or resources not fully utilised <u>which</u> hinders economic growth <u>[Fewer babies and children mean:]</u> Less need for schools and teachers Some industries may suffer e.g. pram manufacturers, children's clothes In future, companies may have problems recruiting young workers	**2**	**2 × 1** **= 0** GDP / economy decreases

Section C: Geographical investigation

Question	Answer	Marks	Guidance
4(a)(i)	**Describe how the students would carry out the traffic survey.** Work in pairs or groups Divide up jobs / one counts, other records Go to specific sites / each group goes to a different location Record the day / time Use stopwatch / watch for timing Synchronise timing / start (and finish) at same time / at a specific time / at same time Count traffic / vehicles / types of vehicles / all transport types **(Reserve)** Using a counter / clicker / tally method For a fixed period of time / for 5 minutes Record on sheet / table / chart Count up the tally marks and record totals	**3**	**3 × 1** **Reserve 1 mark** for counting traffic **= 0** Decide on the categories of vehicle to record Draw up a recording sheet At each location / 6 different locations count cars
4(a)(ii)	**Give two pieces of advice about safety which the students would be given by their teacher before carrying out the traffic survey.** Watch out for traffic / keep away from road / be careful crossing road / stay on pavement/sidewalk Stay in your group / do not go off by yourself / do not work alone / stay together Take a mobile phone Wear appropriate clothing / high visibility jacket Find a shaded area to work / wear sunscreen Do not: talk to strangers / take valuables with you / go into dangerous areas Do not: obstruct the pavement/sidewalk	**2**	**2 × 1** **= 0** Work in pairs

Question	Answer	Marks	Guidance
4(b)(i)	**State the <u>two</u> locations where the number of bikes is greater than the number of vans/lorries.** 3 <u>and</u> 4 / Söderstaden and Ljura / 800 m and 1100 m from city centre	**1**	Only 1 tick
4(b)(ii)	**Which <u>one</u> of the following data presentation techniques would you choose to show the results of the <u>total amount</u> of traffic shown in Table 4.1 (Insert)?** **<u>Circle your answer below and explain your choice.</u>** <u>Scatter graph</u> Plot distance from city centre (x-axis) against total amount of traffic (y-axis) / shows correlation between … <u>Flow lines on a map</u> Draw flow lines width to represent total amount of traffic at different locations on a map <u>Choropleth shading</u> Use different shading (light to dark) to represent different total amount of traffic at each location on a map	**1**	**Mark is for explanation** <u>not</u> choice. **= 0** Easy to compare Easy to understand

<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 is correct for <u>Hypothesis 1:</u> The amount of traffic decreases as distance from the city centre increases? Use evidence from Table 4.1 (Insert) and Fig. 4.2 (Insert) to support your decision.

<table>
<tr><th>conclusion</th><th>tick (✓)</th></tr>
<tr><td>Hypothesis 1 is accepted</td><td></td></tr>
<tr><td>Hypothesis 1 is inconclusive</td><td>✓</td></tr>
<tr><td>Hypothesis 1 is rejected</td><td></td></tr>
</table>

<u>Evidence inconclusive</u>

Argument: [1 mark]
Traffic totals go up and down / total amount of traffic is fluctuating
Location 2 near city centre has lower total than locations further out
Second lowest total is second from city centre
Location 6 farthest out has a higher total than locations nearer the city centre
Second highest total is farthest from the city centre

Data: [1 mark]
Location 6 has a high total of 70 but Locations 2/3/4/5/nearer the city centre have lower totals 26/45/37/24.
Location 2 has a low total of 26 but Locations 3/4/6/further out have higher totals of 45/37/70.</td><td>3</td><td>3 × 1

= 0
Cars/bikes etc.

Reserve 1 mark for correct decision that hypothesis is <u>inconclusive</u>

<u>Evidence inconclusive</u>

1 mark for correct conclusion
1 mark for argument
1 mark for accurate data [use ✓d]

Arguments need to support their conclusion

Note:
Max. 2 marks if hypothesis is accepted or rejected</td></tr>
</table>

Question	Answer	Marks	Guidance
4(b)(iii)	<u>Evidence rejected</u> **Argument: [1 mark]** There is no gradual reduction from city centre to edge of city Traffic totals go up and down / total amount of traffic is fluctuating Location 2 near city centre has lower total than locations further out Second lowest total is second from city centre Location 6 farthest out has a higher total than locations nearer the city centre Second highest total is farthest from the city centre High total farthest from city centre **Data: [1 mark]** Location 2 has a low total of 26 but Locations 3/4/6/further out have higher totals of 45/37/70. Location 6 has a high total of 70 but Locations 2/3/4/5/nearer the city centre have lower totals 26/45/37/24. <u>Evidence accepted</u> **Argument: [1 mark]** Highest total at city centre Lower totals away from centre Lowest total is fifth from the city centre Locations 1, 3, 4 and 5 show a gradual reduction from the city centre **Data: [1 mark]** Location 1 at city centre with high total of 74 and Locations 3/4/5/further out with a lower total of 45/37/24		

Question	Answer	Marks	Guidance
4(c)	**Suggest <u>two</u> ways in which the Environmental Quality Survey should be carried out to make sure that the results are reliable.** Work in pairs or groups <u>so</u> it is not down to one individual to decide Same person decides the scores each time / all the EQSs Several students do the survey and then calculate average scores Agree what descriptions mean e.g. agree on criteria to define what is 'noisy', 'polluted', 'poor state of repair', etc. Do a pilot or practice survey Repeat the survey … <u>on</u> different times / days …. and calculate average Do survey on same day All surveys done at same time Take photos for future reference	**2**	**2 × 1** **= 0** Repeat the survey (on its own)
4(d)	**Describe <u>one</u> similarity and <u>one</u> difference between Location 1 and Location 4.** <u>Similarity</u> Condition of roads and pavements Noise and air pollution Litter Condition of buildings <u>Difference</u> Location 1 has less graffiti and vandalism than Location 4 Location 1 has more / better street furniture and art than Location 4 Location 1 has less / a lower amount of greenery / landscaping than Location 4 Location 1 has a higher <u>total</u> score than Location 4	**2**	**Describe** so need to know: more or less / better or worse / lower or higher score. Not just lift the numbers.

Question	Answer	Marks	Guidance
4(e)(i)	**Complete the graph for locations 4, 5 and 6 on Fig. 4.4 using the results shown in Table 4.2 (Insert).** **1 mark per bar correctly plotted:** Location 4 = +1 Location 5 = –5 Location 6 = +2	**3**	**3 × 1** No marks for shading **Max. 2 marks** if no locations
4(e)(ii)	**What conclusion would the students make for Hypothesis 2: *The quality of the urban environment increases as distance from the city centre increases*? Use evidence from Table 4.2 (Insert) and Fig. 4.4 to support your decision.** **Conclusion: [1 mark]** Hypothesis is rejected / false / untrue / not true / not proven / quality does not increase with distance / inconclusive Hypothesis rejected **Argument: [1 mark]** e.g. Table 4.2 shows high or positive scores nearer to centre / negative or low scores away from centre Fig. 4.4 shows the only negative score is fifth away from the city centre The highest score is at Location 2, near the centre Highest three scores are closest to the city centre Two very high scores are next to the city centre Locations 2 to 5 show a gradual decline in quality as distance from city centre increases **Data: [1 mark]** e.g. Location 2 / city centre with high score of +8 and Location 5 / 1300m from city centre / further away with a lower score of –5	**3**	If no conclusion credit evidence **= 0** Yes / No Hypothesis rejected **1 mark** for correct conclusion **1 mark** for argument **1 mark** for accurate data [use ✓d] **Credit any 2 locations that support argument.** Refer to Table 4.2 in Insert. Totals only, not individual scores. Allow **max. 1 mark** for statement **or** data that **accepts** the hypothesis. Allow **max. 2 marks** for statement or data that **partly accepts** the hypothesis. Need a for and against point for both marks (1 data mark).

Question	Answer	Marks	Guidance
4(e)(ii)	Evidence for hypothesis accepted **[max. 1 mark]** Location 6 / further from centre has a higher score than areas nearer centre Location 6 / 1500 m from city centre / further away with +2 BUT Location 5 / 1300 m from city centre / closer to city centre has lower score of –5 Location 2 / further from city centre has a higher score of +10 BUT Location 1 / city centre has +8 (Could also use: Location 4 with +1 compared to Location 6 with +2)		