



Cambridge O Level

GEOGRAPHY

2230/01

Paper 1 Geographical Themes

For examination from 2021

MARK SCHEME

Maximum Mark: 75

Specimen

This document has **22** pages. Blank pages are indicated.

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 descriptors 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.

LEVELS OF RESPONSE MARKING

Using the principle of 'best-fit' and the level descriptors:

- decide which level best describes the overall quality of the response
- annotate the script at the end of the response with the level annotation
- award a mark for the relative position of the response within that level

Level	Marks	Descriptors
Level 3	6–7	Responses at this level: • demonstrate a good knowledge and understanding of the content • use detailed example(s) which are relevant and integrated effectively • make a clear argument using well-reasoned judgements • provide a clear conclusion / decision
Level 2	3–5	Responses at this level: • demonstrate a sound knowledge and understanding of the content • use example(s) which are relevant and have some detail • make an argument using some reasoned judgements • provide a basic conclusion / decision
Level 1	1–2	Responses at this level: • demonstrate a basic knowledge and understanding of the content • use example(s) which are generic or in name only • make an attempt at a basic argument • provide a yes / no statement
Level 0	0	No creditable response

Theme 1: Population and settlement

Question	Answer	Marks	Guidance
1(a)	Number of people per (unit) area (or similar) (2) Idea of crowdedness / sparseness of population (1)	2	Population in a country = 0
1(b)	Any two from ideas such as: decreases inland; highest (100+ pskm) on (east) coast / sporadic places on east coast / Tasman Sea / sea; 10–100 pskm near / on coast in south / Coral Sea; 1–10 pskm near / on coast in north / further inland (look for sequence if given); 0–1 pskm in east / furthest inland.	2	
1(c)	The higher the rainfall total, the higher the population density. (1) The highest population densities do not always occur in the areas of highest rainfall e.g. on the south coast (Adelaide) where the rainfall is about 500 mm. (1)	2	Inverse credited
1(d)	Any four from ideas such as that areas can be important centres of: industry / factories; employment; finance; business; retailing; entertainment; mining; tourism; education; agriculture; fishing.	4	Wages = 0
1(e)(i)	Wide base / 0 to 4 is high	1	

Question	Answer	Marks	Guidance
1(e)(ii)	Any three from ideas such as: problems of contraception; high infant mortality; children seen as economic assets / help with farming; education limited especially for girls; importance of sons; low status of women; early marriage; society; religion encourages large families.	3	Defence of country = 0
1(e)(iii)	Any four from ideas such as: future population growth; educational provision; adequate health services; food / water supply; housing; sanitation; poverty.	4	Overpopulation / crowding / Crime = 0

Question	Answer	Marks	Guidance
1(f)	Content Guide <u>Answers are likely to refer to:</u> policies in specific countries; incentives / disincentives. <u>More developed answers are likely to refer to:</u> details of the policy in either China or Singapore. China: Incentives: 5% to 10% salary increase; free education for one child; priority housing. Disincentives: reduction of 10% in salary; loss of government jobs; Success: 300–400 million births have been prevented. However, there is a gender imbalance / ageing population / increased labour cost. Singapore: baby bonus or cash gift S\$6000 for 3rd and 4th child; tax relief given for up to 4 children; help with child care through subsidies, child care leave. Success: Limited success – in the first few years an increase in births but not sustained; fertility rate has fallen from 1.4 in 1986 to 1.2 in 2011.	7	There must be reference to one named country with a population strategy. Levels marking Please ensure that you refer to the Levels of response marking section at the front of the mark scheme before marking this question.

Question	Answer	Marks	Guidance
2(a)	The increasing proportion of the population living in towns and cities / urban areas. (2) Accept: movement of people from rural to urban / rural urban migration. (1)	2	
2(b)(i)	Any four from ideas such as: urban (continuous) increase 1940–2000 (any years); urban slow increase 1940–60; then rapid increase 1960–90 / 2000; then slower increase after 1990; rural slight increase then decrease; rural increase 1940–1970; peaks in 1970; decrease from 1970–2000.	4	Reserve for rural changes and urban changes – for full marks reference to both rural and urban is required. If just one part is referred to max. 3 marks.
2(b)(ii)	Any four relevant push / pull factors such as: employment; healthcare / better life / inc. wealth; education; housing; food supply / water supply; gas supply / electricity supply; sanitation; entertainment; landlessness; migration; higher birth rate.	4	Standard of living with no explanation = 0 No credit for opposites – e.g. There are jobs in urban and no jobs in rural is 1 mark.

Question	Answer	Marks	Guidance
2(c)(i)	Any four from ideas such as: overcrowded / little space / close together; many levels of housing; square-shaped poor buildings; flat-topped / roofed; bricks / concrete; mainly tall buildings; alleyways; confused / haphazard organisation; water tanks on roofs / blue water tanks; grey / brown colour.	4	
2(c)(ii)	Any four from ideas such as: lack of privacy; fire risk; lack of space for playing; problems of access at ground level; problems of access above ground level; risk of building collapse / unsafe appearance / not built properly; noise pollution; damp from flat roofs; absence of greenery; little space for sewers; crime (narrow enclosed streets make robbery easy).	4	

Question	Answer	Marks	Guidance
2(d)	Content Guide <u>Answers are likely to refer to:</u> people move out of cities; people avoid urban air pollution e.g. cities; there are lower land costs in rural areas; there is less crime in rural areas; causes environmental change. <u>Developed statements are likely to refer to:</u> migration of people from cities to countryside or nearby villages. people move away from the air pollution of cities to the cleaner air of the countryside. Urban: Urban sprawl could develop when city areas link with nearby rural areas. Problems occur as businesses in urban areas have fewer customers and less profit. Urban areas may lose their highly skilled workers. However, this may result in less unemployment in some urban areas as the workforce is reduced. Rural: causes deforestation when trees are felled to make way for village / satellite expansion. Community spirit is lost as commuters don't engage in village life. However, more development may result in a more vibrant village life.	7	There must be reference to named rural and urban areas. Levels marking Please ensure that you refer to the Levels of response marking section at the front of the mark scheme before marking this question.

Theme 2: The natural environment

Question	Answer	Marks	Guidance
3(a)(i)	Constructive / divergent	1	
3(a)(ii)	A – mantle (1) B – (oceanic) crust (1)	2	
3(a)(iii)	Any three from ideas such as: (magma rises) due to heat from mantle / convective heat flow (1); magma cools at surface to form ridge (1); plates move apart (as magma spreads) / sea floor spreading / diverging process (1); oldest rock furthest from ridge (1).	3	Lateral movement / younger than older rock = 0 The processes must be explained – no credit for magma rises alone so this is kept in brackets and awarded when the link to the heat from mantle is given
3(b)(i)	Credit correct labelling at 1 mark each. Reserve 1 mark for an appropriate diagram. Any features such as: crater; magma chamber; pipe / vent; wide base; gentle slope; low / short; narrow top; triangular.	4	Text = 0, unless link to the diagram is obvious. Labels must be in the correct places to get credit

Question	Answer	Marks	Guidance
3(b)(ii)	Any four from ideas such as: - type of lava / acid or basic; - whether runny or viscous; - some volcanoes are far more explosive; - can be affected by pyroclastic materials / ash / dust / landslide; - cause devastation to living things / people; - especially where densely populated; - flowing lava only affects static features; - degree of preparedness / evacuation plans; - dormant volcano becoming active.	4	Reserve one mark for why they are more violent. Reserve one mark for how they cause more damage. If just one part is referred to max. 3 marks.
3(b)(iii)	Any four from ideas such as: - volcanoes are tourist attractions; - allow development, e.g. hot springs, geysers, benign eruptions; - can supply thermal power; - volcanic soil very fertile; - can be areas rich in minerals / mining.	4	Marks can be awarded for individual points. However, when statements are developed, development marks can be given – so two developed statements could gain four marks.

Question	Answer	Marks	Guidance
3(c)	Content Guide <u>Answers are likely to refer to:</u> people are more aware of the danger; regular checks made on the volcano; setting up observatories at active volcanoes; carrying out field observations; locals practise safety drills; the volcano name or location or types of technology used. <u>More developed answers are likely to refer to:</u> Warning signs: presence of steam may indicate a more serious eruption likely; increase in the temperature of surface layer rocks detected; change in the shape of the surface, i.e. a swelling takes place. Declare exclusion zones which will ensure that people are not in danger areas. United States Geological Survey has devised a 4-level early warning alert system to warn people and how they should respond to each level. Successful if: evacuation procedures have been practised regularly; locals have emergency equipment packed and ready. However, volcanoes are still unpredictable and the scale of the eruption and time of eruption cannot be predicted with complete accuracy, despite great advances in prediction methods and evacuation plans.	7	No credit is awarded for reference to earthquakes. There must be reference to named volcanic areas with prediction / evacuation plans in place. Levels marking Please ensure that you refer to the Levels of response marking section at the front of the mark scheme before marking this question.

Question	Answer	Marks	Guidance
4(a)	Weathering is the breakdown of rocks.	1	
4(b)	Any three from ideas such as: seeds fall into cracks in rocks; seeds / plants / roots grow in cracks; cracks widened / rocks broken apart.	3	
4(c)(i)	Any three from ideas such as: bare rock outcrop; vertical / very steep slope / cliff; flat top; scree / broken rock at base / gravel; few trees / scattered vegetation / mainly grass; cracks / joints / pot holes; tree growing out of crack; layers / sedimentary; etc.	3	
4(c)(ii)	Any four from ideas such as; limestone is eroded by carbonation / caused by carbonation; rainwater reacts with carbon dioxide; to produce (carbonic) acid / acid rain / acids in rain / water's acidity; which dissolves limestone / acid reacts with the limestone; as calcium carbonate reacts with acidic water (dev.); washed away in solution; water passes through joints / bedding planes; widening them as acid reacts with the rock; etc.	4	
4(d)	Emergents (1) Canopy (1) Shrub layer / forest floor (1)	3	

Question	Answer	Marks	Guidance
4(e)	Any four from ideas such as: - employment / income / earning; - supplies fruit / food / hunting; - medicines / cures; - supplies timber; - settlement / housing for forest tribes; - maintains the quality / quantity of water / water supply; - enriches soil; - attracts tourists.	4	

Question	Answer	Marks	Guidance
4(f)	Content Guide <u>Answers are likely to refer to:</u> slash and burn techniques; shifting cultivation is carried out; trees are cut down to make space to plant crops; these crops could be cash crops, which are grown in the rainforest. <u>More developed answers are likely to refer to:</u> Trees are cut down as coffee etc. can be grown in the rainforest and sent to overseas markets. Agriculture uses up nutrients from the soil leading to decreasing crop yields and so after a number of years the farming moves elsewhere. The rainforest cannot recover quickly and further deforestation occurs in the new area of agriculture. Cattle ranching has resulted in large areas of deforestation due to the impact of grazing. However, there are other causes of deforestation in the rainforest including the following: Trees have been felled by companies to supply the international timber trade. This has involved creating new roads such as the Trans-Amazonia highway. There are great demands for tourism and areas have been cleared for hotels. New settlements have been developed as overcrowding occurs in Brazilian cities.	7	There must be reference to named areas of deforestation. Levels marking Please ensure that you refer to the Levels of response marking section at the front of the mark scheme before marking this question.

Theme 3: Economic development

Question	Answer	Marks	Guidance
5 (a)(i)	Primary	1	
5 (a)(ii)	Primary decreases (1) Tertiary increases (1) Secondary increases then decreases (1)	3	
5 (a)(iii)	Any four from ideas such as: more income in other sectors; better working conditions in other sectors / easier work; urbanisation; mechanisation in farming; public sector employment / government jobs; improved education leads to different jobs; increased wealth creates different jobs; exhaustion of natural resources; growth of tourism.	4	People move to other sectors = 0
5(b)(i)	Quaternary industry involves specialised knowledge and information processing and people with high levels of skill work in this industry.	1	
5(b)(ii)	Consultancy services; Research and development.	2	

Question	Answer	Marks	Guidance
5(c)(i)	Any four from ideas such as: Factories: low / single storey; rectangular / square shapes; blue / grey colour; car parking areas; varying sizes. Location: rural countryside area; near farms; near road / railway.	4	Separate buildings = 0 Reserve one mark for factories and one mark for location. For full marks reference to both factories and location is required. If just one part is referred to max. 3 marks.
5(c)(ii)	Any three from ideas such as: takes up farmland; affects food production; increases visual / air / noise pollution; affects habitat of local flora and fauna / ref. to landscape, environment; increases run-off / reduces infiltration.	3	

Question	Answer	Marks	Guidance
5(d)	Content Guide <u>Answers are likely to refer to:</u> Two factors could include any of the following: government provides capital to help set up the industry; government policy may include the building of industrial estates; an efficient workforce is available; flat land is available; transport network allows good accessibility; there is a market and customers to demand the product. <u>More developed answers are likely to refer to:</u> Governments may attract overseas companies through various financial incentives. Governments may build industrial estates with gas, electricity and transport infrastructure. Brunei has developed their IT skills and technology level available so that global companies are attracted there. The Brunei government has set up industrial parks to attract companies, each specialising in a different type of industry – e.g. at Serembangun near Tutong. The population in Gadong provide a ready market for the goods and services produced at Beribi Industrial Park. Transport costs are reduced due to the closeness of the population as many industrial parks have good transport links to cities. A large skilled workforce provides the labour needed for industries.	7	Two factors only should be referred to. There must be reference to named locations of secondary industry in Brunei. Levels marking Please ensure that you refer to the Levels of response marking section at the front of the mark scheme before marking this question.

Question	Answer	Marks	Guidance
6(a)(i)	760 (billion kWh).	1	
6(a)(ii)	Any four from ideas such as: 1965–1975 little change / constant; 1975–1985 slight increase; 1985–1995 steady growth; 1995–2005 rapid increase; 2005–2011 growth less rapid. Allow unqualified increase once only.	4	No credit awarded for the overall change as the question refers to trends.
6(b)(i)	France (1) Any three from ideas such as: radioactivity is dangerous / nuclear accidents / site contamination / leakage; problem of nuclear waste; waste takes many years to decontaminate / store; high construction costs; uranium supplies are finite; danger re: earthquakes / tsunamis / terrorists.	4	
6(b)(ii)	Any four from ideas such as: high consumption of fossil fuel; air pollution / harmful gases / smoke / haze; greenhouse gases / named greenhouse gases; global warming / climate change / ice melt; acid rain; effect of acid rain; open cast / mining damages visual environment.	4	non-renewable = 0

Question	Answer	Marks	Guidance
6(b)(iii)	Any five ideas such as: green / clean energy; use of reservoir for other activities / sailing / fishing; employment / income; electricity supplied; tourism; flood control; water for people; water for industry / farming.	5	Marks can be awarded for individual points. However, when statements are developed, development marks can be given.
6(c)	Content Guide <u>Answers are likely to refer to:</u> The amount of oil extracted will decline in the future. The numbers employed in the oil industry in the future will decline. Brunei will have to diversify into other areas and has started to do so. <u>More developed answers are likely to refer to:</u> Oil is still very important to the economy of Brunei as it is still a major employer in the country. Brunei is diversifying, to invest in education so that the population is prepared for high end services and information technology. Brunei will need to prepare for the time when oil is exhausted by diversifying into other industries such as tourism. Brunei has set up a large number of industrial parks to attract investments as it realises that the oil industry will not last forever. A lot of money has been spent developing the food processing industry. A great deal of money has been spent encouraging tourism in Brunei and many tourist attractions have been developed. However, although Brunei is adapting, a large number of people are still employed in the oil industry.	7	There must be reference to named examples of change in Brunei. Levels marking Please ensure that you refer to the Levels of response marking section at the front of the mark scheme before marking this question.

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