



SH2 Preliminary Examination 2026

9173 H2 Geography Paper 1

Suggested Marking Guide

Disclaimer:

*The Suggested Marking Guide should be treated with confidentiality,
and should be used with discretion.*

Notes on Marking:

Marking Approaches

- a. **Point marking** is used for marking all sub-parts of the structured questions, except for the 10-mark fieldwork evaluative sub-part.

For point marking, the general rule is that each creditworthy response is awarded one mark. More detailed guidance is provided in the marking guide for each question.

- b. **Generic level descriptors** are used for marking:

- 20-mark essays.

Possible approaches are provided for questions marked using generic level descriptors. They provide guidance on how the questions could be approached. The possible approaches provided are **neither exhaustive nor should they be treated as model approach to questions**.

Generic Level Descriptors

Levels	Marks	Generic Level Descriptors for H2 Essays
5	18–20	Evaluation is consistently analytical and coherent. Response is well-supported by relevant material, including the effective use of examples. Response features accurate geographical knowledge and reflects good understanding of the subject content relevant to the question.
4	14–17	Evaluation is analytical and coherent. Response is mostly well-supported by relevant material, including the appropriate use of examples. Response features accurate geographical knowledge and reflects adequate understanding of the subject content relevant to the question.
3	10–13	Evaluation is broadly analytical and generally coherent. Response is moderately well-supported by relevant material, including some appropriate use of examples. Response features accurate geographical knowledge and reflects adequate understanding of the subject content relevant to the question.
2	6–9	Response is largely descriptive with limited analysis and evaluation. Response is partly coherent and may lack clarity in parts. Response is poorly supported by relevant materials, including the limited use of examples. Response features inaccurate geographical knowledge and poor understanding of the subject content relevant to the question.
1	1–5	Response is descriptive with no analysis or evaluation. Response is fragmented and lacks clarity. Response consists of unsupported assertions. Response features largely inaccurate geographical knowledge and a lack of understanding of the subject content relevant to the question.
0	0	No creditworthy response

Note:

Assessment using generic level descriptors involves qualitative rather than quantitative evaluation. Judgements on the level to be awarded to an answer will be based on the principle of ‘best fit’ determined by the descriptors within each level.

As a general guideline, responses deemed to have fulfilled all the descriptors within a level may be awarded the top mark in that level.

Section A

Cluster 1: Development, Economy and Environment

Question	Answer	Marks
1	Boeing is an aerospace transnational corporation (TNC) based in the USA. It is involved in the design, manufacture and servicing of commercial aircraft. Its operations depend on specialised component suppliers, service locations and access to raw materials such as titanium. Ilmenite is the main ore from which titanium is obtained. Resource 1 shows selected global suppliers of major Boeing aircraft components. Resource 2 shows the locations of selected Boeing operations. Resource 3 shows ilmenite production and reserves in selected countries in 2006. Resource 4 shows the location where 1 million cubic metres of wastewater from ilmenite mining was released from the Rio Tinto QMM mine in southeastern Madagascar on 5 March 2022.	
1(a)	Using Resources 1 and 2, describe Boeing's global production network.	5
	<i>Award 1 mark for each valid description of Boeing's global production network up to a maximum of 5 marks.</i> <i>Award a maximum of 1 additional mark for further development of each description.</i> Possible responses include: - Boeing's global production network is extensive across several world regions. Resource 1 shows that aircraft component suppliers are located in North America, Europe, Asia and Oceania, while Resource 2 shows that Boeing's service operations are found in North America, Europe, the Middle East and Oceania. - The network of component suppliers is unevenly distributed and concentrated in CHLDs. The home countries of firms shown in Resource 1 are based in the USA, Japan, Canada, Australia and Western European countries such as the UK, France, Italy and Sweden. - The home country, United States remains a major node in the network. Resource 1 shows that Boeing's corporate headquarters is in Virginia, USA. Inventory and repair functions and firms producing several major aircraft components are also found in the USA. - US-based firms such as Spirit, Vought, GE and Goodrich produce components such as the forward fuselage, tail fin, aft fuselage; as well as fixed and moveable leading edge. - Boeing's service functions are regionally dispersed and functionally specialised across three world regions. Regional headquarters are located in Paris, France in Europe, Bangalore, India in South Asia as well as Singapore in South-east Asia. AO2	

Question	Answer	Marks
1 (b)	With reference to Resources 1 and 2, suggest reasons for Boeing's global production network.	5
	<i>Award 1 mark for each valid suggested reason, up to a maximum of 5 marks.</i> <i>Award a maximum of 1 additional mark for further development of each suggestion where applicable.</i> Possible responses include: - Boeing's aircraft component production is concentrated in CHLDs because commercial aircraft production requires highly skilled labour and specialised aerospace expertise. This helps explain the concentration of suppliers in the USA, Japan and Western Europe where established aerospace clusters and engineering workforces are found. - High-value aircraft components require capital-intensive and technology-intensive production facilities. Parts such as engines, landing gear and wings require precision manufacturing, advanced materials expertise which are more likely to be found in CHLDs and advanced industrial economies. - This accounts for the concentration of US-based firms such as GE, Spirit and Vought, as well as European firms such as Rolls-Royce, Messier-Dowty, Alenia and Saab in high-value added aerospace engineering. Long-standing research and development capabilities and established supplier relationships influence Boeing's sourcing. Countries such as the USA, the UK, France, Italy, Sweden and Japan have mature aerospace industries and firms with specialised intellectual property. International partnerships can provide market access and strengthen commercial relationships. Using suppliers in Japan, South Korea and China may help Boeing build links with major and growing aviation markets in East Asia. AO2	
1 (c)	Compare ilmenite production and reserves for the countries shown in Resource 3.	5
	<i>Award 1 mark for each valid comparison between the distribution of ilmenite reserves and production, up to a maximum of 5 marks.</i> <i>Award a maximum of 3 marks if only similarities or differences are addressed in the comparison.</i> Possible responses include: Similarities: Both reserves and production are concentrated in Australia and China, having very high reserves of ~130,000 kilotonnes and ~200,000 kilotonnes as well as very high production of ~1,200 kilotonnes per year and ~450 kilotonnes per year respectively. Both reserves and production are present across a mix of CHLDs and CLLDs. Developed countries such as Australia and	

Question	Answer	Marks
	Canada as well as developing countries such as India, China and South Africa feature in both metrics. • Both reserves and production are comparatively lower in Vietnam and Brazil with about 5,000 kilotonnes and 10,000 kilotonnes of reserves as well as ~50 kilotonnes per year and <150 kilotonnes per year for production respectively. Differences • China dominates reserves far more than it does production. China holds the largest reserves of ~200,000 kilotonnes, yet its production of ~450 kilotonnes per year is much lower than Australia's ~1,200 kilotonnes. • Australia is the leading producer but not the leading holder of reserves. Australia produces the most ilmenite at roughly ~1,200 kilotonnes per year, yet its reserves are significantly smaller than China's at ~130,000 kilotonnes. AO2	
1 (d)	Explain the socio-economic impacts of TNCs' decisions on labour in host countries.	6
	<i>Award 1 mark for each explanation, up to a maximum of 6 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable.</i> Possible responses include: Positive Impacts • TNCs establish factories, offices and service centres in host countries which generate jobs for the locals. This reduces unemployment rates and provides income for households, improving living standards. ○ For example, manufacturing TNCs in Vietnam such as Samsung have employed hundreds of thousands of workers in their production facilities. • TNCs enable the transfer of skills as they often train local workers in technical, managerial, and operational skills that may not have existed in the host country previously. Negative Impacts • TNCs frequently locate in host countries to take advantage of low labour costs and weaker regulatory environments. ○ Workers, particularly in export processing zones, may face long hours, unsafe conditions and very low wages, as seen in garment factories in Bangladesh or electronics assembly plants in parts of Southeast Asia. • The host countries face capital flight risks by TNCs. Since TNCs prioritise profit, they may relocate production to cheaper locations when labour costs rise or incentives expire. ○ This leaves host country workers unemployed with few transferable skills, creating structural unemployment and economic instability in communities that had become dependent on TNC employment.	

Question	Answer	Marks
	AO1	
1 (e)	With reference to Resource 4, suggest possible impacts that the release of mine wastewater could have had in southeastern Madagascar.	5
	<i>Award 1 mark for each suggestion of impact, up to a maximum of 5 marks.</i> <i>Award a maximum of 1 additional mark for further development of each suggestion of impact, where applicable.</i> Possible responses include: • The release of wastewater could cause substantial deterioration in water quality because about one million cubic metres of mine wastewater was released from the Rio Tinto QMM Mine on 5 March 2022. The large volume could introduce dissolved chemicals or other contaminants into surrounding surface-water systems, changing the chemical composition of the water. • Pollution could spread downstream beyond the release point. The impact of the water contamination may extend well beyond the immediate incident location because the release occurred beside Lake Besaroy, which is connected to a wider drainage network. ○ Pollutants could be transported from inland freshwater environments to estuarine and coastal waters. Resource 4 shows water flow pathways from the area towards Lake Ambavarano, the weir, the Anony Estuary and eventually Baie de Faradofay. • The wastewater release could reduce the availability of safe water for nearby communities. Water from lakes or rivers may become less suitable for washing, and domestic use, creating health risks and increasing the need for alternative supplies. • Local communities may experience livelihood impacts. Fishing livelihoods and local food supplies may be affected. Contamination of the lakes, rivers, and estuary could cause fish deaths or reduce fish reproduction and stocks. This may lower catches, household income and access to an important source of protein. AO2	
1 (f)	Explain the difficulties that some countries may face in measuring progress towards sustainable development.	4
	<i>Award 1 mark for each explanation of difficulty that some countries may have in measuring progress towards sustainable development, up to a maximum of 4 marks.</i> <i>Award 1 additional mark for further development of each description, where applicable.</i> Possible responses include:	

Question	Answer	Marks
	• Sustainable development is multidimensional and difficult to measure. The UN's Sustainable Development Goals (SDGs) comprise 17 goals and 169 targets spanning economic, social and environmental dimensions. Progress in one area may come at the expense of another – for instance, industrialisation may reduce poverty but increase carbon emissions. It is difficult to summarise overall progress using a single measure. ○ Single indicators such as GDP applied at national level, may hide substantial differences between places and social groups. An improvement in average income may be concentrated in cities while rural or minority communities may experience little improvement. • There is no universally accepted way of weighting different indicators. The choice and weighting of indicators are contested and context dependent. Governments may disagree over whether poverty reduction, economic growth, biodiversity protection or carbon reduction should be given greater importance. Different weighting systems may therefore produce different assessments of the same country. • Some countries have limited data-collection capacity and lack the financial, technological and human resources needed to collect data regularly. National statistical agencies may lack trained staff, monitoring equipment, digital databases or funding for censuses and household surveys. As a result, data may be incomplete, outdated or collected only at irregular intervals, making changes over time difficult to establish. AO1	

Cluster 2: Tropical Environments

Question	Answer	Marks
2	Resource 5 shows flood injuries by province in Vietnam. Resource 6 shows land use in Lao Cai province in northern Vietnam in 1987 and 2022. Resource 7 shows a mass movement which affected Khanh village, located in Hoa Binh province in northern Vietnam, on 12 October 2017. Resource 8 shows hourly and cumulative rainfall in Khanh village from 10 to 12 October 2017.	
2(a)	Using Resource 5, describe the distribution of flood injuries in Vietnam.	5
	<i>Award 1 mark for each description, to a maximum of 5 marks. Award 1 mark for further development of each description, where applicable.</i> Possible responses include: - The distribution of flood injuries across Vietnam is markedly uneven, ranging from very low numbers of 0 – 100 to very high numbers of 801 – 1287. - The highest flood injuries are concentrated in a distinct cluster along the central coastal region, with six provinces showing the highest numbers of 801–1287. - A secondary cluster of moderately high injuries (401–800) is visible in scattered provinces with two provinces each for the northern region, central coast and southern region. - The northern region generally records very low or low injury figures, with 10 provinces having injuries of 0 – 100 and 8 provinces with 101 – 200. - Comparatively, the provinces in the far south show generally the lowest injury counts, with 18 provinces having 0 – 100 flood injuries compared to the north. AO2	
2(b)	Using Resource 6, describe the changes in land use in Lao Cai province from 1987 to 2022.	4
	<i>Award 1 mark for each description of up to a maximum of 4 marks. Award a maximum of 1 additional mark for further development of each explanation where applicable.</i> Possible responses include: Overall, Lao Cai changed from a landscape that was predominantly and continuously forested in 1987 to a more mixed landscape containing more urban, agricultural and other land by 2022. Forest cover decreased significantly and became more fragmented. In 1987, forest formed an extensive and largely continuous area across most of the north, west and east. By 2022, forest remained mainly around the outer western, southwestern and eastern parts.	

Question	Answer	Marks
	• Urban land expanded markedly. In 1987, urban land occupied only a relatively small area in the centre, mainly beside the river. By 2022, it had developed into a broad, almost continuous northwest-southeast corridor spanning >9 km in length through the central part of the mapped area, extending farther north and south. • Agricultural land became more extensive and more widely dispersed. In 1987, agriculture was concentrated mainly in the central and southern parts. By 2022, substantial agricultural areas were found farther east and southeast, together with smaller scattered areas elsewhere. AO2	
2(c)	Explain how land use changes may alter the characteristics of a storm hydrograph in a drainage basin.	5
	<i>Award 1 mark for each explanation of how land-use change would alter the characteristic of a flood hydrograph, up to a maximum of 5 marks.</i> <i>Award a maximum of 1 additional mark for further development of each explanation, where applicable.</i> <i>Award maximum 2m if students address how it alters the hydrology without explicit links to the hydrograph.</i> Possible responses include: • Reduced forest cover would lower interception storage, as fewer leaves and branches store rainfall. More rainfall reaches the ground quickly and is available for surface runoff, causing discharge to rise more rapidly. ○ The resultant hydrograph would therefore have a steeper rising limb and a shorter lag time. • Deforestation can also result in soil compaction and the exposed soil prevents rainwater from infiltrating the ground to recharge underlying aquifers. With less groundwater stored during storms, long-term streamflow drops significantly during dry periods, often leaving riverbeds completely dry between rain events. ○ This reduces the baseflow in the hydrograph over time. • Urban drains and channels transfer runoff quickly to the river, reducing temporary storage on the land surface. Water from different parts of the drainage basin reaches the channel over a shorter period, ○ producing a steeper rising limb and shorter lag time, hence producing a flashier hydrograph. AO1	
2 (d)	Using Resource 7, describe the characteristics of the mass movement shown.	5

Question	Answer	Marks
	<i>Award 1 mark for each description of the mass movement, up to a maximum of 5 marks.</i> <i>Award 1 mark for further development of each description, where applicable.</i> Possible responses include: • The mass movement was large in scale and extended from a high upper slope to a lower area. • The failure slope is extremely steep and exceeds 45°. • Exposed brown regolith and bare rock scars are visible where vegetation cover has been stripped away. • Multiple failure scarps can be seen on both flanks of the slope. • Multiple slope failures converged on a centralised channel. AO2	
2 (e)	With reference to Resources 7 and 8, suggest factors that may have led to the occurrence of the mass movement.	6
	<i>Award 1 mark for each valid explanation of factor influencing the occurrence of mass movement, up to a maximum of 6 marks.</i> Possible responses include: Resource 7 • R7 shows very steep slope gradients on the hillsides above the village. Steep slopes increase the gravitational component acting parallel to the slope surface, meaning that even reductions in shear strength, such as those caused by saturation, could initiate slope failure. • The presence of dense vegetation cover on the upper slopes shown in R7 suggests that tree root systems may have been contributing to slope stability prior to the mass movement event. However, the weight of saturated vegetation during prolonged rainfall could also have added to the overall load on the slope, contributing to slope failure. • The terraced agricultural fields at the foot of the slope in R7, suggests that human modification of the slope may have undercut the natural slope angle, reducing the support for overlying material. Resource 8: • The prolonged antecedent rainfall over the three-day period meant that soil became saturated. As pore water pressure increased within the regolith, the shear strength of the slope material was reduced which made the slope unstable. • The cumulative rainfall reached ~380 mm over the period, a very high total that would have exceeded the soil's infiltration capacity. This would have led to waterlogging of the slope material, adding considerable weight to the	

Question	Answer	Marks
	overlying regolith and increasing the gravitational stress acting on the slope. The peak hourly rainfall of 44.1 mm, recorded in the hours preceding the landslide on 12 October, acted as the immediate trigger. Such high-intensity rainfall would have rapidly increased pore water pressure beyond a critical threshold, causing the slope to fail suddenly. AO2	
2 (f)	Explain how geomorphic processes may result in the development of a delta.	5
	<i>Award 1 mark for each explanation of geomorphic processes influencing development of a delta, up to a maximum of 5 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable.</i> Possible responses include: Weathering and mass movement supply sediments to the river system. Physical weathering may produce rock fragments, clay and dissolved material, while slope wash will transfer material into channels. A greater sediment supply increases the potential for delta growth downstream. Fluvial erosion adds further sediment to the river load. Hydraulic action, abrasion and bank erosion remove materials from the channel bed and banks. These sediments can subsequently be transported towards the river mouth. Fluvial transportation carries sediment downstream. Coarser particles move by traction and saltation, while finer material is transported in suspension. During high-discharge events, increased river competence and capacity allow a larger sediment load to reach the lower course of the river. Deposition occurs towards the river mouth. Velocity and energy decrease as the channel widens and encounters the sea or a lake. The river loses competence, depositing coarser sediment nearer the mouth and finer material farther offshore, building the delta outward. Flocculation encourages fine sediment to settle. When freshwater mixes with saline seawater, clay particles combine into larger aggregates and sink. This promotes the accumulation of silt and clay within the delta. Continued deposition causes channel aggradation and distributary formation. Sediment raises the riverbed. Distributaries spread sediment forming new lobes and extending the delta plain. AO1	

Section B

Cluster 1 Development, Economy and Environment

Question	Answer	Marks
3	Evaluate the role of multilateral organisations in managing the opportunities and challenges of the global economy. Possible Approaches: Candidates should evaluate the extent to which multilateral organisations effectively manage the opportunities and challenges of the global economy. This can be assessed through criteria such as financial assistance, international coordination, rule-setting and dispute resolution. While organisations like the WTO, World Bank and ASEAN facilitate cooperation through funding, expertise and negotiation platforms, their effectiveness is constrained by unequal voting power, conflicting state interests and weak enforcement. Candidates may also take a case-study approach, comparing the roles of two or more multilateral organisations across different areas of global governance – for example, the WTO’s management of trade liberalisation and disputes, the World Bank’s development finance, and ASEAN’s promotion of regional integration. Candidates should weigh cases where organisations have created opportunities against cases where they have struggled with protectionism, unequal development or weak environmental regulation, and consider why outcomes differ across contexts such as between CHLDs and CLLDs or between countries with strong and weak governance. □ <i>Levels marked using H2 generic level descriptors for 20m H2 essays.</i> AO3	20

Question	Answer	Marks
4	‘Solar energy is the most sustainable solution to meeting rising energy demand.’ Evaluate this statement. Possible Approaches: Candidates should evaluate solar energy against the economic, social and environmental dimensions of sustainability, considering how it offers significant advantages as a renewable energy source with low operational carbon emissions that reduces fossil fuel dependence and improves energy security. Candidates may assess its contribution to meeting rising energy demand in terms of affordability, reliability, accessibility and long-term viability, while also acknowledging its limitations such as intermittency and the need for storage, grid upgrades and backup systems.	20

	Candidates may also take a case-study approach, comparing the sustainability of solar energy across different places. For example, candidates may examine contexts where solar has expanded rapidly to reduce coal reliance, such as China, India and Singapore. Candidates may also compare solar with alternatives such as hydropower in specific contexts. <i>Levels marked using H2 generic level descriptors for 20m H2 essays.</i> AO3	
--	---	--

Section C

Cluster 2 Tropical Environments

Question	Answer	Marks
5	‘Fluvial floods in the humid tropics are becoming more difficult to manage.’ Evaluate this statement. Possible approaches: Candidates should evaluate whether fluvial floods in the humid tropics are becoming more difficult to manage over time and whether this varies between places. Management may become more challenging where climate change increases the frequency and intensity of extreme rainfall, tropical cyclones and monsoonal variability, while rapid urbanisation, deforestation, floodplain occupation and river modification increase runoff, exposure and vulnerability. Candidates may assess this using criteria such as hazard magnitude, predictability, exposure, governance capacity and the long-term sustainability of management strategies. Conversely, candidates should also consider how improvements in forecasting, early warning systems and flood management strategies can reduce flood impacts. Candidates may also take a case-study approach, comparing fluvial flood management across two or more tropical contexts. For example, candidates may examine Bangladesh and the Ganges-Brahmaputra-Meghna Delta, where multiple hazards compound management challenges, or the Mekong Delta, where fluvial flooding interacts with sea-level rise, subsidence and upstream river regulation. Fluvial floods in urban contexts such as Jakarta or Bangkok illustrate how rapid urbanisation and drainage limitations intensify flood risk, while other cases may highlight improvements through early warning systems, embankments or integrated river basin management. <i>Levels marked using H2 generic level descriptors for 20m H2 essays.</i> AO3	20

Question	Answer	Marks
6	Evaluate the influence of geological factors on the formation of karst landforms. Possible approaches: Candidates should evaluate the relative importance of geology in controlling the development of karst landscapes. Candidates may argue that geological factors are most important since karst cannot develop without soluble rock such as limestone or dolomite, with rock type, mineral composition, purity, jointing, bedding planes and permeability all influencing where water infiltrates, how solution occurs and what landforms develop. Climate may be assessed as a modifying factor that determines the amount of water available for chemical weathering and the rate of karstification. Candidates may evaluate the statement using criteria such as rate of process, spatial variation, landform type and factor interaction. Candidates may also take a case-study approach, comparing karst landscapes across different tropical settings such as Guilin in China, Mulu in Malaysia, Ha Long Bay in Vietnam or Jamaica's cockpit karst, to show how soluble rock, geological structure, rainfall, vegetation and hydrology interact to produce distinctive landforms including tower karst, cockpit karst, dolines and caves. Through these comparisons, candidates may evaluate whether geology or climate better accounts for the development and variation of karst landforms within the tropics. <i>Levels marked using H2 generic level descriptors for 20m H2 essays.</i> A03	20