PAPER 1: TOPIC 1 - TECTONIC HAZARDS AND PROCESSES		
TOPIC	**WHEN EXAMINED?**	**QUESTION STEM**
Distribution of tectonic hazards	2019: Q1a (i) [1]	**Calculate** the mean number of deaths recorded.
	2019: Q1a (ii) [1]	**Calculate** the median number of deaths recorded.
	2019: Q1a (iii) [2]	**Calculate** the interquartile range for the number of deaths recorded.
Theory of plate tectonics	2018: Q1a (i) [2]	**Calculate** the average monthly frequency of earthquakes at the two plate boundaries.
	2018: Q1a (ii) [1]	Using the partially completed Student's t-test below, **calculate** the value of t.
	2018: Q1a (iii) [1]	Using the Student's t-test value calculated in (a) (ii), **state** whether there is a significant difference between the mean focal depth of the earthquakes.
	2020: Q1b [12]	**Assess** the relative importance of physical factors and processes in explaining the impacts of volcanic eruptions.
	2026: Q1a (i) [1]	
	2026: Q1a (ii) [1]	
	2026: Q1a (iii) [1]	
Causes of tectonic hazards	2020: Q1a (i) [1]	**Complete** Figure 1 by calculating Σd2.
	2020: Q1a (ii) [2]	**Calculate** the value of rs to two decimal places for the data given.
	2020: Q1a (iii) [1]	Using the Spearman's rank correlation rs value calculated in (a)(ii), **state** which hypothesis can be accepted.
	2020: Q1b [12]	**Assess** the relative importance of physical factors and processes in explaining the impacts of volcanic eruptions.
	2026: Q1b [12]	
Vulnerability to impacts of hazards	2018: Q1b [12]	**Assess** the reasons why some communities are more vulnerable than others to tectonic hazards.
	2021: Q1b [12]	**Assess** the view that the social and economic impacts of earthquakes are mainly the result of their magnitude.
	2024: Q1b [12]	**Assess** the importance of levels of development in understanding the impacts of tectonic hazards.
	2025: Q1b [12]	**Assess** the importance of community preparedness in influencing the vulnerability of people to tectonic hazards.
	2026: Q1b [12]	
Tectonic hazard profiles		
Understanding disaster impact	2020: Q1b [12]	**Assess** the relative importance of physical factors and processes in explaining the impacts of volcanic eruptions.
	2021: Q1b [12]	**Assess** the view that the social and economic impacts of earthquakes are mainly the result of their magnitude.
	2024: Q1b [12]	**Assess** the importance of levels of development in understanding the impacts of tectonic hazards.
	2025: Q1b [12]	**Assess** the importance of community preparedness in influencing the vulnerability of people to tectonic hazards.

	2026: Q1b [12]	
Trends and patterns of tectonic hazards	2021: Q1a (i) [1]	Using Figure 1b **complete** Figure 1a by stating the duration of earthquake C.
	2021: Q1a (ii) [2]	**Complete** Figure 1b by plotting earthquake F using the data from Figure 1a.
	2021: Q1a (iii) [1]	**Draw** a regression (best-fit) line on Figure 1b to show the relationship between earthquake magnitude and duration.
	2022: Q1a (i) [1]	**Calculate** the mean magnitude of these earthquakes.
	2022: Q1a (ii) [1]	**Calculate** the median number of deaths caused by these earthquakes.
	2022: Q1a (iii) [2]	**Calculate** the interquartile range of deaths caused by these earthquakes.
	2023: Q1a (i) [1]	**Calculate** Σd2.
	2023: Q1a (ii) [2]	**Calculate** the value of rs, to two decimal places, for the data given.
	2023: Q1a (iii) [1]	Using the Spearman's rank correlation rs value calculated in (a)(ii), **state** which hypothesis can be accepted.
	2024: Q1a (i) [2]	**Calculate** the mean number of deaths for these earthquake events.
	2024: Q1a (ii) [2]	**Calculate** the median number of deaths caused by these earthquake events.
	2025: Q1a (i) [1]	**Calculate** the value of (xi −μ)2 for the year 2000.
	2025: Q1a (ii) [1]	**Calculate** Σ (xi −μ)2.
	2025: Q1a (iii) [2]	Using the answer to a(ii) and the formula below, **calculate** the Standard Deviation (SD) for this data.
Theoretical frameworks to understand tectonic hazards	2022: Q1b [12]	**Assess** the importance of prediction and forecasting in reducing the vulnerability of communities to earthquake hazards.
Mitigation and adaptation strategies	2019: Q1b [12]	**Assess** the reasons why managing the impacts of tectonic hazards varies in its effectiveness.
	2022: Q1b [12]	**Assess** the importance of prediction and forecasting in reducing the vulnerability of communities to earthquake hazards.
	2023: Q1b [12]	**Assess** the effectiveness of strategies used to manage the impacts of volcanic hazards.
	2025: Q1b [12]	**Assess** the importance of community preparedness in influencing the vulnerability of people to tectonic hazards.

PAPER 1: TOPIC 2A - GLACIATED LANDSCAPES AND CHANGE

TOPIC	WHEN EXAMINED?	QUESTION STEM
Causes of climate change	2020: Q2a [6]	**Explain** the role of Milankovitch cycles in causing variations in the relative global ice volume.
	2018: Q2a [6]	**Explain** how changes in the position of the snout of the Mer de Glace may provide evidence for changing climate.
	2020: Q2b [6]	**Explain** the role of mean annual air temperature in influencing the distribution of permafrost across Canada.

	2021: Q3c [8]	**Explain** the importance of vegetation in stabilising coastal landscapes.
	2021: Q3d [20]	**Evaluate** the view that coastal management policies are mainly based on economic judgements.
	2023: Q3d [20]	**Evaluate** the view that without hard engineering there is little future for coastal communities threatened by coastal recession and flooding.
	2025: Q3d [20]	**Evaluate** the view that coastal management should always prioritise the environment over economic considerations.
	2026: Q3a [6]	

PAPER 1: TOPIC 5 - THE WATER CYCLE AND WATER INSECURITY

TOPIC	WHEN EXAMINED?	QUESTION STEM
Global water cycle	2020: Q4a [3]	**Explain** one impact of an El Nino event on the hydrological system.
	2024: Q4a [3]	**Suggest** one possible impact of the changes shown on forest ecosystems.
The drainage basin system	2026: Q4c [8]	
Water budgets, hydrographs and river systems	2018: Q4a [3]	**Explain** the relationship between precipitation and soil moisture.
	2019: Q4d [12]	**Assess** the role of physical factors in influencing the pattern of future water stress.
	2020: Q4b [6]	**Explain** how the physical features of a drainage basin affect the shape of storm hydrographs.
	2022: Q4e [20]	**Evaluate** the view that land use changes are the main cause of the increasing risk of river flooding.
	2023: Q4d [12]	**Assess** the extent to which land use affects the shape of these storm hydrographs.
	2024: Q4b [6]	**Explain** why hard engineering may increase the risk of river flooding in some places.
	2025: Q4a [3]	**Explain** one reason why the global water budget limits water availability for human use.
	2025: Q4b [6]	**Explain** the possible impacts of climate change on river discharge.
	2026: Q4a [3]	
	2026: Q4b [6]	
	2026: Q4c [8]	
Deficits within the hydrological cycle	2019: Q4d [12]	**Assess** the role of physical factors in influencing the pattern of future water stress.
	2022: Q4c[8]	**Explain** the contribution of human activity to the risk of drought.
	2024: Q4a [3]	**Suggest** one possible impact of the changes shown on forest ecosystems.
Surpluses within the water cycle	2018: Q4b [6]	**Explain** why land use changes can increase flood risk.
	2022: Q4e [20]	**Evaluate** the view that land use changes are the main cause of the increasing risk of river flooding.

	2024: Q4b [6]	**Explain** why hard engineering may increase the risk of river flooding in some places.
	2026: Q4b [6]	
Climate change and the water cycle	2021: Q4d [20]	**Assess** the impacts of climate change on the flows (processes) in the hydrological cycle.
	2025: Q4b [6]	**Explain** the possible impacts of climate change on river discharge.
	2026: Q4a [3]	
Causes of water insecurity	2018: Q4c [8]	**Explain** why the price of water varies globally.
	2019: Q4d [12]	**Assess** the role of physical factors in influencing the pattern of future water stress.
	2020: Q4c [8]	**Explain** why human actions often increase water insecurity.
	2022: Q4c[8]	**Explain** the contribution of human activity to the risk of drought.
	2026: Q4a [3]	
Consequences and risks of water insecurity	2018: Q4c [8]	**Explain** why the price of water varies globally.
	2020: Q4e [20]	**Evaluate** the view that changes to the carbon cycle pose more threats to people than changes to the water cycle.
	2023: Q4c [8]	**Explain** how water insecurity can cause both social and economic problems.
	2026: Q4a [3]	
Approaches to managing water supply	2019: Q4e [20]	**Evaluate** the view that large-scale water management projects often create more problems than they solve for people and the environment.
	2021: Q4e [20]	**Evaluate** the view that most trans-boundary water conflicts are impossible to solve.
	2023: Q4b [6]	**Explain** how adaptation strategies, such as water conservation, may help communities cope with a changed climate.
	2024: Q4b [6]	**Explain** why hard engineering may increase the risk of river flooding in some places.
	2024: Q4e [20]	**Evaluate** the view that trans-boundary water conflicts will inevitably increase in the future.
	2025: Q4d [12]	**Assess** the extent to which future demand for water can be met using sustainable approaches.

PAPER 1: TOPIC 6 - THE CARBON CYCLE AND ENERGY INSECURITY

TOPIC	WHEN EXAMINED?	QUESTION STEM
Global carbon in terrestrial stores	2018: Q4d [12]	**Assess** the role of oceans in regulating the carbon cycle.
	2022: Q4b [6]	**Explain** how oceans regulate the composition of the atmosphere.
	2026: Q4d [12]	