


a-level exam questions & answers:

hazards (section c) >

mark scheme | 20-mark question #6



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Q.:	Sp. Ref.:	Information For Markers:	B'down:	Marks:
1)	3.1.5. 1 	<p>Assess the relative usefulness of the Park Model and the Hazard Management Cycle in understanding the impact of seismic events.</p> <p>AO1 – Knowledge and understanding of models associated with managing natural disasters</p> <p>AO2 – Application of knowledge and understanding to assess the usefulness of the models in understanding the impact of seismic events.</p> <p>Notes for answers</p> <p>Candidates struggled with this question as it is very theoretical, although to gain the top bands, reference to at least one relevant case study as well as keeping both models roughly even in their answers.</p> <p>AO1</p> <ul style="list-style-type: none">• Nature, forms and potential impacts of natural hazards (geophysical, atmospheric and hydrological).• Hazard perception and its economic and cultural determinants Characteristic human responses – fatalism, prediction, adjustment/adaptation, mitigation, management, risk sharing – and their relationship to hazard incidence, intensity, magnitude, distribution and level of development.• The Park model of human response to hazards. This runs with quality of life on the Y axis and Duration on the X axis. From hazard onset through to the point at which quality of life returns (near) to its pre-hazard level. This can depend on factors both human and physical e.g. level of development, bilateral or multilateral aid, severity of hazard, land use etc..• The Hazard Management Cycle and its 4 stages: Preparation, Response, Recovery and Mitigation.• The nature of seismicity and its relation to plate tectonics: forms of seismic hazard: earthquakes, shockwaves, tsunamis, liquefaction, landslides. Spatial distribution, randomness, magnitude, frequency, regularity, predictability of hazard events.• Impacts: primary/secondary; environmental, social, economic, political. Short and long-term responses; risk management designed to reduce the impacts of the	AO1=10 AO2=10	20

hazard through preparedness, mitigation, prevention, and adaptation.

- Impacts and human responses as evidenced by a recent seismic event.

AO2

- The Park Model is arguably more useful in that it charts the stages following a natural disaster. The curve charts the changes to a community's quality of life, before during and after a natural disaster.
- Normality is experienced before the event. The downward curve charts the decline (or disruption) which the affected community feels following the event. The steeper the curve and the deeper the drop, the greater the magnitude of the event and the greater the lack of preparedness. The return to normality or recovery to a better quality of life is also charted in Park's Model. This is useful in helping to understand how prepared a community was for the event and how successful it has been in responding to the crisis. The longer it takes to recover normality, the greater the suffering on the people.
- Expect to see exemplification such as the Haiti earthquake of 2010. The country was totally unprepared. It had neither the means nor the communication strategy to manage the event. Poor building design exacerbated the tragedy. Estimates of up to 230 000 deaths may be conservative and fail to identify the secondary impacts.
- The model arguably falls short in helping to understand the situation in Haiti. When Hurricane Matthew struck in 2016, this plunged the community into yet another crisis when it had not yet recovered from the seismic event. It is difficult to see how the model can help with understanding this very complex event.
- The hazard management cycle is more concerned with the management of natural event before and after its inception. Whilst it does help in understanding the impact of the event, this is more implicit. Its primary purpose is to provide a model of action both prior to and after the event. The actions are designed to speed up the recovery process as well as minimise the impact.
- Both models chart the movement of a community through a natural disaster. However, expect most to argue to that the Park Model, despite some limitations, is more useful in helping to understand seismic events compared to the hazard management cycle.

Credit any other valid assessment.

Level/Mark Range	Criteria/Descriptor
<p>TOP LEVEL 4 (16-20 marks – 80+% - typically an A* answer)</p>	<ul style="list-style-type: none"> • Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question. Interpretations are comprehensive, sound and coherent (AO2). • Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout (AO2). • Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout (AO1). • Full and accurate knowledge and understanding of key concepts, processes and interactions and change throughout (AO1).
<p>HIGH LEVEL 3 (11-15 marks – 55-75% - B to A grade answer)</p>	<ul style="list-style-type: none"> • Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question. Interpretations are generally clear and support the response in most aspects (AO2). • Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding (AO2). • Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Generally clear and relevant knowledge and understanding of place(s) and environments (AO1). • Generally clear and accurate knowledge and understanding of key concepts, processes and interactions and change (AO1)
<p>LOWER LEVEL 2 (6-10 marks – 30-50% - D-C grade answer)</p>	<ul style="list-style-type: none"> • Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question (AO2). Interpretations are partial but do support the response in places. • Some partially relevant analysis and evaluation in the application of knowledge and understanding (AO2). • Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Some relevant knowledge and understanding of place(s) and environments which is partially relevant (AO1). • Some knowledge and understanding of key concepts, processes and interactions and change. There may be a few inaccuracies (AO1).
<p>LOW LEVEL 1 (1-5 marks) - <25% - E or below answer</p>	<ul style="list-style-type: none"> • Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question (AO2). Interpretation is basic. • Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence (AO2). • Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Very limited relevant knowledge and understanding of place(s) and environments (AO1). • Isolated knowledge and understanding of key concepts, processes and interactions and change. There may be a number of inaccuracies (AO1)
<p>LEVEL 0 (0 marks) – no answer provided</p>	<ul style="list-style-type: none"> • Nothing worthy of credit (something has gone ridiculously wrong if you're here!)