Hazards: Haiti - A case study of a multi-hazardous environment *3.1.5.7* ANSWERS

Q1	*Which of these places is the 'Odd one out' and why?*	
A	Texas	
B	Sichuan	
C	Georgia	✓
D	Guizhou	
E	Oklahoma	
Georgia is not an EM-DAT area with the highest occurrence of natural disasters. The others are.		

Q2	**Match each type of vulnerability to the correct description**	
A	The degradation and depletion of natural resources	**Environmental**
B	Links to the level of development of people, communities and nations	**Economic**
C	The inability of people to cope with adverse hazard impacts	**Social**
D	Links to population density, remoteness and housing quality	**Physical**
Select from:	**Physical** **Environmental** **Social** **Economic**	

Q3	**One sentence is incorrect in each of the descriptions below. Identify the wrong one.**
A	~~Haiti is relatively small, with a population of 16.0 million~~. Haiti is located in a seismically active zone, intersected by two fault lines and lies in an active cyclone region. 60 per cent of Haiti is mountainous, and due to deforestation, landslides and mudslides are common.
Haiti's population is 10.6 million.	
B	The people of Haiti are particularly vulnerable to hazards as they mostly live in poor-quality housing. There are high levels of poverty (77 per cent living on less than US$2 a day). ~~People are concentrated on the flood-prone coastal areas (at population densities of up to 4,000 km^2 in Port au Price).~~
Population densities are up to 40 000 km2 on the flood prone coastal area.	
C	Haiti is the least developed country in the western hemisphere, with a GDP of £1,300. ~~Due to its low level of socio-economic, environmental and political vulnerability, Haiti can struggle to cope in most disaster situations.~~ The political instability is a further handicap to hazard management.
Haiti has a high level of socio economic, environmental and political vulnerability.	
D	Haiti has experienced severe economic losses due to disasters. T~~he country is located in the middle of the Atlantic hurricane path and is frequently hit by four or five storms between December and March each year.~~ Haiti had suffered nine serious storms over the previous 20 years affecting 3.5 million people and killing over 7 000.
Hurricane season occurs when seas are at their warmest: in the N. hemisphere this is June-November	
E	~~Haiti experienced a particularly severe hurricane season in 2008 when it was hit by Tropical Storm Fay and Hurricanes Gustav, **Hugo** and Ike (FGHI) over a three-week period.~~ As a result of flooding, hurricane-force winds, mudslides and coastal surges there were 793 deaths, 25 000 homes destroyed and economic damage of US$1bn. In total 825 000 people were affected.
The 'H' hurricane was 'Hannah'. Names alter between male and female in Atlantic storm-name lists.	

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Q4	***Analyse the risks presented by hazards in Haiti***
Social risks	Economic risks
• Without formal governance, social unrest can occur in Haiti after a hazard event • Hazards can disrupt education, health care and other public services which improve the lives of people	• Poor people lack the capital to spend on precautionary measures. • Countries with large numbers of people living in poverty have low resilience and struggle to rebound after a hazard event • When floods wipe out crops, this dents farmers incomes • Savings are wiped out re-equipping farms and workshops
Physical risks	Biological risks
• The poorest people live in slums, these houses are most likely to collapse in floods or earthquakes, unable to protect the inhabitants • Without being able to afford new building materials, deforestation rates may increase to rebuild homes.	• Flooding in slum areas can transport many viral diseases. • Earthquakes and flooding can disrupt access to fresh water • The 2010 earthquake brought cholera to Haiti apparently carried by UN peacekeepers from Nepal

Q5	***Think about how the response to the 2010 earthquake allowed continued human occupation in Haiti***
A	*Built environment*
	• Following the 2010 earthquake, the NDRMS Emergency Operations Centre, Port au Prince's main fire station and many government buildings were rebuilt to improved standards ready for the next disaster • The control tower at the airport was redesigned after it collapsed during the 2010 earthquake • Advice on seismic design is being implemented by NGOs working in Haiti. Homeowner-driven reconstruction is preferred over foreign company reconstruction to empower the local community.
B	*Preparation*
	• Expanding the number of weather-monitoring stations across the island can provide vital time for people to prepare or evacuate before storms or flooding occurs. • Improved mobile technology has improved crisis mapping and the sharing of actionable information for aid organisations. • Farmers are being educated as to how to manage soils and trees to improve agro-forestry practices and increase the size of the forest in Haiti.