**Paper 1: Living with the Physical Environment. Monday 22nd May (pm). 1 hour 30 minutes. (35% of your GCSE)**

***Section A: The challenge of natural hazards (Question 1).***

1. Natural hazards
2. Tectonic hazards
3. Weather hazards
4. Climate change

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|  | **Key idea** | **Specification content** | See the source image **C:\Users\ac02\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\0HSQYAAH\smiley-silhouette[1].gif** | See the source image | See the source image |
| 1 | **Natural hazards.**  Natural hazards pose major risks to people and property. | Definition of a natural hazard. |  |  |  |
| Types of natural hazard. |  |  |  |
| Factors affecting hazard risk. |  |  |  |
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| 2 | **Tectonic hazards.**  Earthquakes and volcanic eruptions are the result of physical processes. | Plate tectonics theory. |  |  |  |
| Global distribution of earthquakes and volcanic eruptions and their relationship to plate margins. |  |  |  |
| Physical processes taking place at different types of plate margin (constructive, destructive and conservative) that lead to earthquakes and volcanic activity. |  |  |  |
|  | The effects of, and responses to, a tectonic hazard vary between areas of contrasting levels of wealth. | Primary and secondary effects of a tectonic hazard (earthquake). |  |  |  |
| Immediate and long-term responses to a tectonic hazard (earthquake). |  |  |  |
| Use named examples to show how the effects and responses to a tectonic hazard vary between two areas of contrasting levels of wealth (earthquakes - New Zealand and Nepal). |  |  |  |
|  | Management can reduce the effects of a tectonic hazard. | Reasons why people continue to live in areas at risk from a tectonic hazard. |  |  |  |
| How monitoring, prediction, protection and planning can reduce the risks from a tectonic hazard. |  |  |  |
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| 3 | **Weather hazards.**  Global atmospheric circulation helps to determine patterns of weather and climate. | General atmospheric circulation model: pressure belts and surface winds. |  |  |  |
|  | Tropical storms (hurricanes,  cyclones, typhoons) develop as a result of particular physical conditions. | Global distribution of tropical storms and know their regional names. (hurricanes, cyclones, typhoons). |  |  |  |
|  | An understanding of the relationship between tropical storms and general atmospheric circulation. |  |  |  |
| Causes of tropical storms and the sequence of their formation and development, including how and why they end. |  |  |  |
| The structure and features of a tropical storm. |  |  |  |
| How climate change might affect the distribution, frequency and intensity of tropical storms. |  |  |  |
|  | Tropical storms have significant effects on people and the environment. | Primary and secondary effects of tropical storms. |  |  |  |
| Immediate and long-term responses to tropical storms. |  |  |  |
| Use a named example of a tropical storm to show its effects and responses. E.g. Typhoon Haiyan. |  |  |  |
| How monitoring, prediction, protection and planning can reduce the effects of tropical storms. |  |  |  |
|  | The UK is affected by a number of weather hazards. | An overview of types of weather hazard experienced in the UK. |  |  |  |
|  | Extreme weather events in the UK have impacts on human activity. | An example of a recent extreme weather event (flooding. E.g. Boscastle or Somerset Levels) in the UK to illustrate:   * Causes. * Social, economic and environmental impacts. * How management strategies can reduce risk. |  |  |  |
| Evidence that weather is becoming more extreme in the UK. |  |  |  |
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| 4 | **Climate change.**  Climate change is the result of natural and human factors, and has a range of effects. | Evidence for climate change from the beginning of the Quaternary period to the present day. |  |  |  |
| Possible causes of climate change:  •• Natural factors – orbital changes, volcanic activity and solar output  •• Human factors – use of fossil fuels, agriculture and deforestation. |  |  |  |
| Overview of the effects of climate change on people and the environment. |  |  |  |
|  | Managing climate change involves both mitigation (reducing causes) and adaptation (responding to change). | Managing climate change:  •• Mitigation – alternative energy production, carbon capture, planting trees, international agreements.  •• Adaptation – change in agricultural systems, managing water supply, reducing risk from rising sea levels. |  |  |  |

***Section B: The living world (Question 2).***

1. Global distribution of ecosystems and an example of a small-scale ecosystem.
2. Tropical rainforests
3. Hot deserts **(DO NOT CHOOSE COLD ENVIRONMENTS!)**

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| 1 | **Global distribution of ecosystems.**  Ecosystems exist at a range of scales and involve the interaction between biotic (living) and abiotic (non-living) components. | An example of a small-scale UK ecosystem (e.g. pond) to show the interrelationships with the natural system. This includes an understanding of; producers, consumers, decomposers, food chain, food web and nutrient cycling. |  |  |  |
| The balance between components in the ecosystem and the impact on the ecosystem if one component is changed by either people or nature. |  |  |  |
| An overview of the distribution (location) and characteristics of large scale natural global ecosystems (biomes). E.g. Tundra, Coniferous forest, Mediterranean, tropical rainforest, hot desert etc. |  |  |  |
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| 2 | **Tropical Rainforests.**  Tropical rainforest ecosystems have a range of distinctive characteristics | The physical characteristics of a tropical rainforest. |  |  |  |
| The interdependence of climate, water, soils, plants animals and people. |  |  |  |
| How plants and animals adapt to the physical conditions. |  |  |  |
| Issues related to biodiversity. |  |  |  |
|  | Deforestation has economic and environmental impacts | Changing rates of deforestation. |  |  |  |
| A case study (e.g. Amazon or Malaysia) of a tropical rainforest to show:   * Causes of deforestation: subsistence and commercial farming, logging, road building, mineral extraction, energy development (e.g. HEP), settlement and population growth. * Impacts of deforestation: economic development, soil erosion and contribution to climate change. |  |  |  |
|  | Tropical rainforests need to be managed to be sustainable. | Value/importance of tropical rainforests to people and the environment. |  |  |  |
| Strategies used to manage rainforests sustainably: selective logging and replanting, conservation and education, ecotourism and international agreements about the use of tropical hardwoods and debt reduction. |  |  |  |
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| 3 | **Hot deserts.**  Hot desert ecosystems have a range of distinctive characteristics. | The physical characteristics of hot deserts. |  |  |  |
| The interdependence of climate, water, soils, plants animals and people. |  |  |  |
| How plants and animals adapt to the physical conditions. |  |  |  |
| Issues related to biodiversity. |  |  |  |
|  | Development of hot desert environments creates opportunities and challenges. | A case study of a hot desert (e.g. Thar) to show:   * Development opportunities in hot desert environments: mineral extraction, energy, farming, tourism. * Challenges of developing hot desert environments: extreme temperatures, water supply and inaccessibility. |  |  |  |
|  | Areas on the fringe of hot deserts are at risk of desertification (Sahel region) | Causes of desertification: climate change, population growth, removal of fuel wood, overgrazing, over-cultivation and soil erosion. (E.g. Sahel region) |  |  |  |
| Strategies used to reduce the risk of desertification: water and soil management, tree planting and use of appropriate technology. (E.g. Sahel region). |  |  |  |

***Section C: Physical landscapes in the UK (Questions 4 & 5).***

**MISS OUT QUESTION 3 – COASTAL LANDSCAPES!!!**

1. UK physical landscapes
2. River landscapes in the UK (**Question 4**)
3. Glacial landscapes in the UK (**Question 5**)

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| 1 | **UK physical landscapes.**  The UK has a range of diverse landscapes. | An overview of the location of major upland/lowland areas and river systems. |  |  |  |
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| 2 | **River landscapes – Qu 4.**  The shape of river valleys changes as rivers flow downstream. | The long profile and changing cross profile of a river and its valley. |  |  |  |
| Fluvial (river) processes:  •• Erosion – hydraulic action, abrasion, attrition, solution, vertical and lateral erosion.  •• Transportation – traction, saltation, suspension and solution.  •• Deposition – why and where rivers deposit sediment. |  |  |  |
|  | Distinctive fluvial landforms result from different physical processes. | Characteristics and formation of landforms resulting from erosion – interlocking spurs, waterfalls and gorges. (Upper course). |  |  |  |
| Characteristics and formation of landforms resulting from erosion and deposition – meanders and ox-bow lakes. (Middle course). |  |  |  |
| Characteristics and formation of landforms resulting from deposition – levées, flood plains and estuaries. (Lower course). |  |  |  |
| An example of a river valley in the UK to identify its major landforms of erosion and deposition. (E.g. River Severn). |  |  |  |
|  | Different management strategies can be used to protect river landscapes from the effects of flooding. | How physical and human factors affect the flood risk – precipitation, geology, relief and land use (e.g. urbanisation, agriculture, deforestation). |  |  |  |
| The use of hydrographs to show the relationship between precipitation and discharge. |  |  |  |
|  |  | The costs and benefits of the following management strategies:  •• Hard engineering – dams and reservoirs, straightening, embankments, flood relief channels  •• Soft engineering – flood warnings and preparation, flood plain zoning, planting trees and river restoration. |  |  |  |
|  |  | An example of a flood management scheme in the UK (E.g. Boscastle) to show:   * Why the scheme was required. * The management strategy (what they did to help prevent future floods). * The social, economic and environmental issues of the scheme. |  |  |  |
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| 3 | **Glacial landscapes – Qu 5.**  Ice was a powerful force in shaping the physical landscape of the UK. | Maximum extent of ice cover across the UK during the last ice age. |  |  |  |
| Glacial processes:   * Freeze-thaw weathering * Erosion – abrasion and plucking * Movement and transportation – rotational slip and bulldozing * Deposition – why glaciers deposit sediment (till and outwash). |  |  |  |
|  | Distinctive glacial landforms result from different physical processes. | Characteristics and formation of landforms resulting from erosion – corries, arêtes, pyramidal peaks, truncated spurs, glacial troughs, ribbon lakes and hanging valleys. |  |  |  |
| Characteristics and formation of landforms resulting from transportation and deposition – erratics, drumlins, types of moraine. |  |  |  |
| An example of an upland area in the UK affected by glaciation to identify its major landforms of erosion and deposition (E.g. Snowdonia or the Lake District). |  |  |  |
|  | Glaciated upland areas provide opportunities for different economic activities, and management strategies can be used to reduce land use conflicts. | An overview of economic activities in glaciated upland areas – tourism, farming, forestry and quarrying. |  |  |  |
| Conflicts between different land uses, and between development and conservation. |  |  |  |
| An example of a glaciated upland area in the UK (E.g. the Lake District) used for tourism to show:   * The attractions for tourists. * Social, economic and environmental impacts of tourism. * Strategies used to manage the impact of tourism. |  |  |  |