Advance Information for Summer 2022

A Level

Geography

H481

We have produced this advance information to support teachers and students with revision for the Summer 2022 examinations.

Information

- This notice covers all examined components.
- This notice does **not** cover non-examined assessment (NEA) components.
- There are no restrictions on who can use this notice.
- You are not permitted to take this notice into the exam.
- This document has **26** pages.

Advice

- This notice is meant to help students to focus their revision time.
- It is advised that teaching and learning should still cover the entire subject content in the specification.
- Students' responses to individual questions may draw upon other areas of specification content where relevant, and credit will be given for this where appropriate.
- Students and teachers can discuss this advance information.

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GUIDANCE

The following areas of content are key areas of focus for revision and final preparation. The information is presented in specification order and not in question order. The focus of the synoptic questions in component 03 will be from the content areas identified in the table at the end of this document. Assessment of geographical skills will occur throughout the three papers.

H481/01 Physical systems

Topic 1.1 Landscape systems

1.1.1 Option A - Coastal landscapes

1. How can coastal landscapes be viewed as systems?

Key ideas	Content
1.a. Coastal landscapes can be viewed as systems.	A conceptual overview of: - the components of coastal landscape systems, including inputs, processes and outputs - the flows of energy and material through coastal systems
1.b. Coastal landscape systems are influenced by a range of physical factors.	Potential influences on coastal landscape systems of: - winds, including speed, direction and frequency - waves, including wave formation, development and breaking - tides, including tidal cycles and range - geology, including lithology and structure - global pattern of ocean currents.
1.c. Coastal sediment is supplied from a variety of sources.	The various sources of coastal sediment: - terrestrial, including fluvial deposition, weathering and mass movement, marine erosion, aeolian deposition and longshore drift - offshore, including marine deposition - human, including beach nourishment.

2. How are coastal landforms developed?

Key ideas	Content
2.a. Coastal landforms develop due to a variety of interconnected climatic and geomorphic processes.	The influence of flows of energy and materials on geomorphic processes, including weathering, mass movement, wave, fluvial and aeolian erosion, transportation and deposition. The formation of distinctive landforms, predominantly influenced by erosion, including bays, headlands, cliffs, shore platforms, geos, blow holes, caves, arches, stacks and stumps. The formation of distinctive landforms, predominantly influenced by deposition, including beaches, spits, on-shore bars, tombolos and salt marshes.

Key ideas	Content
2.b. Coastal landforms are inter-related and together make up characteristic landscapes.	Case studies of **one** high energy coastline (such as rocky) and **one** low energy coastline, such as estuarine, to illustrate: - the physical factors which influence the formation of landforms within the landscape system - the inter-relationship of a range of landforms within the characteristic landscape system - how and why the landscape system changes over time from millennia to seconds, such as cliff collapse in seconds, seasonal changes in beach profile and spit growth over millennia. At least **one** of the case studies must be from beyond the UK.

3. How do coastal landforms evolve over time as climate changes?

Key ideas	Content
3.a. Emergent coastal landscapes form as sea level falls.	How landforms in emergent landscapes are influenced by falling sea levels due to a cooling climate, including: - climate changes that occurred during a previous time period and the resultant sea level fall - the influence of sea level fall and geomorphic processes in shaping landforms, including raised beaches, marine terraces and abandoned cliffs - the modification of these landforms by processes associated with present and future climate and sea level changes.
3.b. Submergent coastal landscapes form as sea level rises.	How landforms in submergent landscapes are influenced by rising sea level due to a warming climate, including: - climate changes that occurred during a previous time period and the resultant sea level rise - the influence of sea level rise and geomorphic processes in shaping landforms, including rias, fjords and shingle beaches - the modification of these landforms by processes associated with present and future climate and sea level changes.

4. How does human activity cause change within coastal landscape systems?

Key ideas	Content
4.a. Human activity intentionally causes change within coastal landscape systems.	Case study of **one** coastal landscape that is being managed, including: - the management strategy being implemented and the reason for its implementation, such as groyne construction or off-shore dredging - their intentional impacts on processes and flows of material, processes and/or energy through the coastal system, such as their effect on the sediment budget.

1.1.2 Option B - Glaciated landscapes

1. How can glaciated landscapes be viewed as systems?

Key ideas	Content
1.a. Glaciated landscapes can be viewed as systems.	A conceptual overview of: - the components of glaciated landscape systems, including inputs, processes and outputs - the flows of energy and material through glaciated systems
1.b. Glaciated landscapes are influenced by a range of physical factors.	Potential influences on glaciated landscape systems of: - climate, including precipitation totals and patterns - geology, including lithology and structure - latitude and altitude - relief and aspect on microclimate and glacier movement.
1.c. There are different types of glacier and glacier movement.	The characteristics of different types of glacier and their movement, including: - the formation of glacier ice - valley glaciers and ice sheets - warm-based and cold-based glaciers - basal sliding and internal deformation.

2. How are glacial landforms developed?

Key ideas	Content
2.a. Glacial landforms develop due to a variety of interconnected climatic and geomorphic processes.	The influence of flows of energy and materials on geomorphic processes, including weathering, mass movement, glacial erosion, nivation, transportation and deposition. The formation of distinctive landforms, predominantly influenced by erosion, including corries, arêtes, pyramidal peaks, troughs, roche moutonnée and striations. The formation of distinctive landforms, predominantly influenced by deposition, including terminal, lateral and recessional moraines, erratics, drumlins and till sheets.
2.b. Glacial landforms are inter-related and together make up characteristic landscapes.	Case studies of **one** landscape associated with the action of valley glaciers and **one** associated with the action of ice sheets to illustrate: - the physical factors which influence the formation of landforms within the landscape system - the inter-relationship of a range of landforms within the characteristic landscape system - how and why the landscape system changes over time from millennia to seconds, such as rock fall in seconds, seasonal changes in deposition rates and erosion of basins over millennia. At least **one** of the case studies must be from beyond the UK.

3. How do glacial landforms evolve over time as climate changes?

Key ideas	Content
3.a. Glacio-fluvial landforms exist as a result of climate change at the end of glacial periods.	How landforms in glaciated landscapes are influenced in post-glacial periods, including: - climate changes that occurred during a post-glacial period and the effect on resultant geomorphic processes - the influence of these processes in forming landforms, including kames, eskers and outwash plains - the modification of these landforms by processes associated with present and future climate changes.
3.b. Periglacial landforms exist as a result of climate change before and/or after glacial periods.	How landforms in periglacial landscapes are influenced by climate change, including: - climate changes that occurred during a previous time period and the effect on resultant geomorphic processes - the influence of these processes in forming landforms, including patterned ground and pingos - the modification of these landforms by processes associated with present and future climate changes.

4. How does human activity cause change within glaciated and periglacial landscape systems?

Key ideas	Content
4.a. Human activity causes change within periglacial landscape systems.	Case study of **one** periglacial landscape that is being used by people, to illustrate: - the human activity taking place and the reasons for it taking place, such as resource extraction - the impacts on processes and flows of material, processes and/or energy through the periglacial system, such as increased heat produced by buildings.

1.1.2 Option C - Dryland landscapes

1. How can dryland landscapes be viewed as systems?

Key ideas	Content
1.a. Dryland landscapes can be viewed as systems.	A conceptual overview of: - the components of dryland landscape systems, including inputs, processes and outputs - the flows of energy and material through dryland systems
1.b. Dryland landscapes are influenced by a range of physical factors.	Potential influence on dryland systems of: - climate, including precipitation totals and patterns - geology, including lithology and structure - latitude and altitude - relief and aspect on microclimate - the availability of sediment.
1.c. There are different types of dryland.	The characteristics of different types of dryland landscapes: - polar drylands - mid- and low-latitude deserts - semi-arid environments.

2. How are landforms of mid and low latitude deserts developed?

Key ideas	Content
2.a. Dryland landscapes develop due to a variety of interconnected climatic and geomorphic processes.	The influence of flows of energy and materials on geomorphic processes, including weathering, mass movement, fluvial and aeolian erosion, transportation and deposition. The formation of distinctive landforms, predominantly influenced by erosion, including wadis, canyons, pedestal rocks, ventifacts and desert pavements. The formation of distinctive landforms, predominantly influenced by deposition, including barchans, linear dunes, star dunes, alluvial fans and bajadas.
2.b. Dryland landforms are inter-related and together make up characteristic landscapes.	Case studies of **one** mid-latitude desert and **one** low-latitude desert to illustrate: - the physical factors which influence the formation of landforms within the landscape system - the inter-relationship of a range of landforms within the characteristic landscape system - how and why the landscape system changes over time from millennia to seconds, such as the impact of flash floods on alluvial fans in seconds, seasonal and ephemeral streams on canyons and pediment development over the millennia.

3. How do dryland landforms evolve over time as climate changes?

Key ideas	Content
3.a. Fluvial landforms can exist in dryland landscapes as a result of earlier pluvial periods.	How dryland landforms have been influenced by previous pluvial conditions, including: - climate changes that occurred during a previous time period and the resultant pluvial conditions - the influence of pluvial conditions and geomorphic processes in shaping landforms, including inselbergs and pediments - the modification of these landforms by processes associated with present and future climate changes.
3.b. Periglacial landforms exist as a result of climate change before and/or after glacial periods.	How dryland landscapes have been influenced by colder climatic conditions, including: - climate changes that occurred during a previous time period and the resultant colder conditions - the influence of colder climatic conditions and geomorphic processes in shaping landforms, including frost shattered debris, nivation hollows and solifluction deposits - the modification of these landforms by processes associated with present and future climate changes.

4. How does human activity cause change within dryland landscape systems?

Key ideas	Content
4.a. Water supply issues can cause change within dryland landscape systems.	Case study of **one** dryland landscape that is being used by people, to illustrate: - the water supply issue taking place and the reasons for it taking place, such as water shortage due to drought - its impacts on processes and flows of material, processes and/or energy through the dryland landscape system, such as high rates of sediment trapping behind dams or modifying rivers to distribute and store water.

Topic 1.2 Earth's Life Support Systems

1. How important are water and carbon to life on Earth?

Key ideas	Content
1.a. Water and carbon support life on Earth and move between the land, oceans and atmosphere.	Carbon is the building block of life on Earth. It is available for use in the natural world and by humans. Water and carbon cycling between the land, oceans and atmosphere through open and closed systems.
1.b. The carbon and water cycles are systems with inputs, outputs and stores.	The distribution and size of the major stores in the carbon and water systems, including the atmosphere, oceans, water bodies, ice (cryosphere), soil, vegetation and groundwater. The characteristics of the main inputs and outputs of the water cycle, including precipitation and snowmelt (ablation) and evapotranspiration. The characteristics of the main inputs and outputs of the carbon cycle, including precipitation, photosynthesis, decomposition, weathering (including main forms of chemical weathering) respiration and combustion.
1.c. The carbon and water cycles have distinctive processes and pathways that operate within them.	The processes of the water cycle, including evaporation, transpiration, condensation (including formation of clouds), precipitation (including causes of precipitation), interception, ablation, runoff (including overland flow and saturated overland flow), catchment hydrology (including infiltration, percolation, throughflow, groundwater flow and cryospheric processes). The processes of the carbon cycle, including photosynthesis, respiration, decomposition, combustion (including natural and fossil fuel use), natural sequestration in oceans, vegetation, sediments and weathering.

2. How do the water and carbon cycles operate in contrasting locations?

Key ideas	Content
2.b. It is possible to identify the physical and human factors that affect the water and carbon cycles in an Arctic tundra area.	Case study of the Arctic tundra, including: - water and carbon cycles specific to Arctic tundra, including the rates of flow and distinct stores - physical factors affecting the flows and stores in the cycles, including temperature, rock permeability and porosity and relief - seasonal changes in the water and carbon cycle in the Arctic tundra - the impact of the developing oil and gas industry on the water and carbon cycles.

3. How much change occurs over time in the water and carbon cycles?

Key ideas	Content
3.a. Human factors can disturb and enhance the natural processes and stores in the water and carbon cycles.	The impact of fossil fuel combustion and carbon sequestration on flows and stores of carbon.
3.b. The pathways and processes which control the cycling of water and carbon vary over time.	Short term changes to the cycles and the significance of these changes, including diurnal and seasonal changes of climate, temperature, sunlight and foliage. Long term (millions of years) changes in the water and carbon cycles, including changes to stores and flows.

4. To what extent are the water and carbon cycles linked?

Key ideas	Content
4.a. The two cycles are linked and interdependent.	How human activities cause changes in the availability of carbon (including fossil and terrestrial) stores, such as the use of these as resources.
4.b. The global implications of water and carbon management.	Global management strategies to protect the carbon cycle as regulator of the Earth's climate, including afforestation, wetland restoration, improving agricultural practices and reducing emissions (including carbon trading and international agreements).

Topic Specific Skills:

- Analysis and presentation of field data (OS map analysis)

H481/02 Human interactions

Topic 2.1 Changing Spaces; Making Places

1. What's in a place?

Key ideas	Content
1.a. Places are multi-faceted, shaped by shifting flows and connections which change over time.	Case studies of **two** contrasting place profiles at a local scale, including: - their demographic, socio-economic, cultural, political, built and natural characteristics that shape their place identity. - their past and present connections that shape the place identity and embed them in regional, national, international and global scales - how shifting flows of people (such as commuter, migration), resources (such as natural, technology), money and investment (such as EU funding, TNCs) and ideas (such as knowledge economy) have helped shape the demographic, socio-economic and cultural profile of these places over time.

2. How do we understand place?

Key ideas	Content
2.b. Places are represented through a variety of contrasting formal and informal agencies.	How informal representations of a place differ through contrasting media such as TV, film, music, art, photography, literature, graffiti and blogs. Identify how formal and statistical representations of a place, such as census and geospatial data, contrasts with informal representations.

3. How does economic change influence patterns of social inequality in places?

Key ideas	Content
3.a. The distribution of resources, wealth and opportunities are not evenly spread within and between places.	The concept of social inequality and how this can be measured through indices such as housing, healthcare, education, employment and access to services. How and why spatial patterns of social inequalities vary both within and between places.
3.b. Processes of economic change can create opportunities for some while creating and exacerbating social inequality for others.	The role of government in reducing, reinforcing and creating patterns of social inequality in places through spending or cuts in key services such as availability and accessibility of education, healthcare, infrastructure and community services.
3.c. Social inequality impacts people and places in different ways.	Case studies of **two** contrasting places to illustrate: - the types of evidence of social inequality that can be found there such as housing, environmental quality, crime rates, digital divide - the range of factors that influence people's social inequality such as income, gender, age, health, personal mobility, ethnicity, and education - how social inequality impacts upon people's daily lives in different ways.

4. Who are the players that influence economic change in places?

Key ideas	Content
4.a. Places are influenced by a range of players operating at different scales.	Case study of **one** country or region that has been impacted by structural economic change, including: - socio-economic, demographic, cultural and environmental characteristics of the place before the economic change - the economic change/changes that took place and the role of players involved in driving the change - socio-economic, demographic, cultural and environmental impacts on people and place.

5. How are places created through placemaking processes?

Key ideas	Content
5.a. Place is produced in a variety of ways at different scales.	How local community groups shape the place they live, such as residents associations, heritage associations and social media.

Topic Specific Skills:

- appreciate how qualitative approaches actively create particular place representations
- analysing the impacts of different media on place meanings and perceptions
- the use of geospatial data to present place characteristics
- how quantitative data is used to present place characteristics.

Topic 2.2 - Global Connections

Topic 2.2.1 Global Systems: Option A – Trade in the Contemporary World

1. What are the contemporary patterns of international trade?

Key ideas	Content
1.a. International trade involves flows of merchandise, services and capital which vary spatially.	An understanding of the terms merchandise, services and capital as components of international trade.
1.b. Current patterns of international trade are related to global patterns of socioeconomic development.	How international trade can promote stability, growth and development within and between countries, through flows of people, money, ideas and technology. How international trade causes inequalities, conflicts and injustices for people and places, through flows of people, money, ideas and technology.

2. Why has trade become increasingly complex?

Key ideas	Content
2.a. Access to markets are influenced by a multitude of interrelated factors.	International trade has increased connectivity due to changes in the 21st century, including: - technology, transport and communications have increased connectivity of global supply chains - increasing influence of MNCs in EDCs, including outsourcing - role of regional trading blocs, such as the EU - growth of 'south-south' trade, between developing countries - growth of services in the global economy - increasing labour mobility and new international division of labour.
2.b. There is interdependence between countries and their trading partners.	Case study of **one EDC** to illustrate: - direction and components of its current international trade patterns - changes in its international trade patterns over time - economic, political, social and environmental interdependence with trading partners - impacts of trade on the EDC, including economic development, political stability and social equality.

Topic 2.2.2 Global Systems: Option B – Global Migration

1. What are the contemporary patterns of global migration?

Key ideas	Content
1.b. Current patterns of international migration are related to global patterns of socio-economic development.	How global migration can promote stability, growth and development within and between countries through flows of people, money, ideas and technology. How global migration causes inequalities, conflicts and injustices for people and places through flows of people, money, ideas and technology

2. Why has migration become increasingly complex?

Key ideas	Content
2.a. Global migration patterns are influenced by a multitude of interrelated factors.	Changes in the 21st century have increased the complexity of global migration, including: - economic globalisation leading to the emergence of new source areas and host destinations - high concentration of young workers and female migrants - flows in South-South corridors are now equal in magnitude to those in South-North corridors - conflict and persecution have increased numbers of refugees - changes in national immigration and emigration policies - development of distinct corridors of bi-lateral flows.
2.b. Corridors of migrant flows create interdependence between countries.	Case study of **one EDC** to illustrate: - current patterns of immigration and emigration - changes in immigration and emigration over time - economic, political, social and environmental interdependence with countries connected to the EDC by migrant flows - the impact of migration on the EDC's economic development, political stability and social equality

Topic 2.2.3 Global Governance: Option C – Human Rights

1. What is meant by human rights?

Key ideas	Content
1.a. There is global variation in human rights norms.	Understanding of what is meant by human rights. Understand the terms of norms, intervention and geopolitics and how they are fundamental in appreciating that human rights are complex issues.

2. What are the variations in women's rights?

Key ideas	Content
2.a. The geography of gender inequality is complex and contested.	Economic, political and social factors to explain variation in the patterns of gender inequality, including the challenges of access to reproductive health services.

3. What are the strategies for global governance of human rights?

Key ideas	Content
3.b. Global governance of human rights involves cooperation between organisations at scales from global to local, often in partnership	How human rights are promoted and protected by institutions, treaties, laws and norms. Case study of strategies for global governance of human rights in **one area** of conflict to illustrate: - contributions and interactions of different organisations at a range of scales from global to local, including the United Nations, a national government and an NGO - consequences of global governance of human rights for local communities.

4. To what extent has intervention in human rights contributed to development?

Key ideas	Content
4.a. Global governance of human rights has consequences for citizens and places.	How the global governance of human rights issues has consequences for citizens and places, including short term effects, such as immediate relief from NGOs, and longer term effects, such as changes in laws. Case study of the impact of global governance of human rights in an **LIDC,** including: - the human rights issue/issues - the global governance strategy/strategies used - opportunities for stability, growth and development - challenges of inequality and injustice.

Topic 2.2.4 Global Governance: Option D – Power and Borders

1. What is meant by sovereignty and territorial integrity?

Key ideas	Content
1.a. The world political map of sovereign nation-states is dynamic.	Definitions of state, nation, sovereignty and territorial integrity and how they are fundamental in understanding the world political map. Understand the terms of norms, intervention and geopolitics and how they are fundamental in appreciating that sovereignty and territorial integrity are complex issues.

2. What are the contemporary challenges to sovereign state authority?

Key ideas	Content
2.a. A multitude of factors pose challenges to sovereignty and territorial integrity.	Erosion of sovereignty and loss of territorial integrity are influenced by economic, political, social and environmental factors, including the challenges of: - current political boundaries - transnational corporations (TNCs) - supranational institutions such as regional trading blocs - political dominance of ethnic groups.

3. What is the role of global governance in conflict?

Key ideas	Content
3.b. Global governance involves cooperation between organisations at scales from global to local, often in partnership.	Case study of strategies for global governance in **one area** of conflict to illustrate: - interventions and interactions of organisations at a range of scales, including the United Nations, a national government and an NGO - consequences of global governance of the conflict for local communities

4. How effective is global governance of sovereignty and territorial integrity?

Key ideas	Content
4.a. Global governance of sovereignty and territorial integrity has consequences for citizens and places.	How the global governance of sovereignty issues has consequences for citizens and places, including short term effects, such as humanitarian aid, and longer term effects, such as changes in political regime. How the global governance of territorial integrity issues has consequences for citizens and places, including short term effects, such as maintaining peace, and longer term effects, such as trade relationships Case study of the impact of global governance of sovereignty or territorial integrity in **one LIDC** to illustrate and explain: - the sovereignty or territorial integrity issue/issues - the global governance strategy/strategies used - opportunities for stability, growth and development - challenges of inequality and injustices.

H481/03 Geographical debates

Topic 3.1 Climate Change

2. How and why has the era of industrialisation affected global climate?

Key ideas	Content
2.a. Humans have influenced the climate system, leading to a new epoch, the Anthropocene.	Evidence the world has warmed since the late-nineteenth century, including: - increases in surface, atmospheric and oceanic temperatures - shrinking of valley glaciers and ice sheets - rising sea level - increasing atmospheric water vapour - decreasing snow cover and sea ice. Reasons why anthropogenic greenhouse gas emissions have increased since the pre-industrial era The balance of anthropogenic emissions around the world and how this has changed in recent history.

4. In what ways can humans respond to climate change?

Key ideas	Content
4.b. The impacts of climate change are global and dynamic.	Implications of climate change currently being experienced for people and the environment, such as from changes to ecosystems, health and extreme weather, and how these are projected to change in the future The vulnerability of people and the environment to the impacts of climate change.
4.c. Mitigation and adaptation are complementary strategies for reducing and managing the risks of climate change.	Mitigation strategies to cut global emissions of greenhouse gases, including: - energy efficiency and conservation - fuel shifts and low-carbon energy sources - carbon capture and storage - forestry strategies - geoengineering.

5. Can an international response to climate change ever work?

Key ideas	Content
5.a. Effective implementation depends on policies and co-operation at all scales.	Geopolitics associated with the human response to climate change, including: - role of the Intergovernmental Panel on Climate Change in shaping policy making - success of international directives, such as the Kyoto Protocol - significance of carbon trading and carbon credits - evolution of national, and sub-national policy that extends beyond the vision of international directives.

Topic 3.2 – Disease Dilemmas

1. What are the global patterns of disease and can factors be identified that determine these?

Key ideas	Content
1.a. Diseases can be classified and their patterns mapped. The spread of diseases is complex and influenced by a number of factors.	Patterns of disease, including global distributions of malaria, HIV, tuberculosis, diabetes and cardio-vascular disease. Disease diffusion and spread to new areas (Hägerstrand model), including the phases of diffusion, physical and socio-economic barriers.
1.b. There is a relationship between physical factors and the prevalence of disease which can change over time.	Global patterns of temperature, precipitation, relief and water sources and how they affect patterns of disease. Physical factors can influence vectors of disease such as the prevalence of mosquitoes in warm, humid areas close to water sources. How seasonal variations influence disease outbreaks such as periods of drought or monsoon rains. Climate change provides the conditions for emerging infectious diseases to spread to new places and new hosts such as West Nile virus, tsetse fly and tick seasons. The conditions for zoonotic infectious diseases such as bird flu or rabies to establish and spread from animals to humans.
1.c. Natural hazards can influence the outbreak and spread of disease.	Case study of **one** country which has experienced a natural hazard, such as an earthquake, drought or monsoon rains, and the implications this has on a named disease, such as cholera or typhoid: - geographical area covered by the hazard and its influence on the risk and outbreak of disease - environmental factors affecting the spread of disease such as climate, sanitation, water supply and food - human factors affecting the spread of the disease such as population density, access to clean water, immunisation programmes - impacts of the disease on resident populations - strategies used to minimise the impacts of the disease at national and international scales.

2. Is there a link between disease and levels of economic development?

Key ideas	Content
2.a. As countries develop economically the frequency of communicable diseases decreases, while the prevalence of noncommunicable diseases rises.	How rising standards of living, including access to food, clean water and sanitation, impact upon susceptibility to disease and influence a country's epidemiological transition. The reasons why LIDCs have a higher prevalence for communicable diseases (diseases of poverty) and ACs have a higher prevalence for noncommunicable diseases (diseases of affluence). Case study of **one** country experiencing air pollution and the impact this has on incidences of cancers (such as lung or bladder). The global and national solutions in dealing with this.

3. How effectively are communicable and non-communicable diseases dealt with?

Key ideas	Content
3.a. Communicable diseases have causes and impacts with mitigation and response strategies which have varying levels of success	Case study of **one** communicable disease, such as malaria or tuberculosis, at a country scale, either an LIDC or EDC, including: - environmental and human causes of the disease - prevalence, incidence and patterns of the disease - socio-economic impacts of the disease - direct and indirect strategies used by government and international agencies to mitigate against the disease and respond to outbreaks.

Topic 3.3 – Exploring Oceans

2. What are the opportunities and threats arising from the use of ocean resources?

Key ideas	Content
2.a. Biological resources within oceans can be used in sustainable or unsustainable ways.	Case study of the management of **one** renewable biological resource within oceans, such as krill or whale, including: - the use and management of this resource - how the values, attitudes, socio-economic status and political context of the stake holders influence the use and management of the resource - the resilience of the resource and key thresholds to initiate management.
2.b. The use of ocean energy and mineral resources is a contested issue.	The use and management of ocean energy resources, including: - oil and gas (non-renewable resources) - wave and tidal energy (flow resources - renewable resources). The use of sea-bed minerals, including ferrous and non-ferrous minerals, as examples of non-renewable resource use.

3. How and in what ways do human activities pollute oceans?

Key ideas	Content
3.c. The pattern of global ocean currents can disperse and concentrate pollution.	How pollution, such as plastic, can spread around the globe via oceanic circulation and its impact on marine ecosystems. Case study of the accumulation of plastic in **one** ocean gyre such as in the North Pacific, including: - causes of the accumulation - the impacts on marine ecosystems.

4. How is climate change impacting the ocean system?

Key ideas	Content
4.a. Climate change is altering the nature of the ocean's water.	How acidification of oceans contributes to depleting fish stocks and has resulting impacts for people. The rising temperature of the oceans and its threat to coral ecosystems, such as coral bleaching, loss in biodiversity and threats to local communities.

5. How have socio-economic and political factors influenced the use of oceans?

Key ideas	Content
5.a. Oceans have been and continue to be vital elements in the process of globalisation.	The pattern of principal shipping routes across the oceans, including the influence of changes in the scale of ocean shipping. The direction and type of trade across the oceans.

Key ideas	Content
5.b. Oceans are important spaces where countries challenge each other	The use of oceans to exert their influence, including: - the distribution of naval strongholds for one country, such as USA, Russia or China, including its home and overseas ports - a marine conflict zone where countries dispute ocean territory areas
5.c. Oceans present hazardous obstacles to human activities.	The distribution of 21st century piracy and its management. The use of oceans as escape routes for migrants such as South East Asia to Australia or North Africa to Europe.

Topic 3.4 – Future of Food

1. What is food security and why is it of global significance?

Key ideas	Content
1.a. The concept of food security is complex and patterns of food security varies spatially	Defining what it means to be food secure and understanding that the concept of food security is built on three pillars of food access, food availability and food use. How the pattern of food security is dynamic and varies both between and within countries.
1.c. Globalisation is changing the food industry.	The influence of globalisation on the food industry such as increased demand and global tastes. Globalisation of the food industry creates a number of issues including food miles, inequality between TNCs and small suppliers, obesity and price crisis. Globalisation of the food industry creates a number of opportunities including technological innovation, short-term food relief and consumer choice.

2. What are the causes of inequality in global food security?

Key ideas	Content
2.a. A number of interrelated factors can influence food security.	Understand the range of physical factors that affect food security across the globe such as geology, soil, length of growing season. The social, economic and political factors affecting food security such as land ownership systems, competition and land grabbing and how these vary from place to place. Case study of **one** place to illustrate how human and physical factors are/have combined to cause issues with food security

3. What are the threats to global food security?

Key ideas	Content
3.a. Risks to food security can be identified to highlight the most vulnerable societies.	Regions, countries and people whose food security is most at risk across the development spectrum. Why issues related to storage or distribution create geographical pinchpoints where food security is at risk, such as the Suez Canal. Case study of **one** dryland area, including: - food security risks and vulnerability are influenced by the specific ecosystem, climate and hydrology.
3.b. The food system is vulnerable to shocks that can impact food security.	How climate change is leading to increasing frequency of extreme weather events such as wild-fire, El-Nino, floods, and drought which can affect food production. How water scarcity can exacerbate food production issues. How tectonic hazards can influence food production and distribution. Case study of **one** indigenous farming technique in an extreme environment, such as the Arctic, including: - the physical conditions of the environment including ecosystems, terrain and climate.

5. Is there hope for the future of food?

Key ideas	Content
5.b. There is a spectrum of strategies that exist to ensure and improve food security.	Approaches to increasing food security can vary from short-term relief to capacity-building and long-term system redesign. The effectiveness and sustainability of a range of techniques that exist to improve food security from large-scale technological techniques down to small-scale bottom up and appropriate approaches. Case studies of **two** contrasting places at different levels of development and the strategies and techniques that have been used to ensure or improve food security.

Topic 3.5 – Hazardous Earth

2. What are the main hazards generated by volcanic activity?

Key ideas	Content
2.a. There is a variety of volcanic activity and resultant landforms and landscapes.	Different types of volcanoes to investigate their causes and features including: - explosive eruptions (higher viscosity magma) located at convergent (destructive) plate boundaries - effusive eruptions (lower viscosity magma) and landforms located at divergent (constructive) plate boundaries - eruptions not at plate boundaries (hot spots) such as the Hawaiian chain and the East African Rift valley - size and shape of different types of volcanoes, including super-volcanoes
2.b. Volcanic eruptions generate distinctive hazards.	Different types of volcanic eruptions and the different types of hazards they generate including: - lava flows, pyroclastic flows, gas emissions, tephra and ash - lahars and flooding associated with the melting of ice - tsunamis associated with explosive eruption.

3. What are the main hazards generated by seismic activity?

Key ideas	Content
3.b. Earthquakes generate distinctive hazards.	Hazards generated by earthquakes, including: - ground shaking and ground displacement - liquefaction - landslides and avalanches - tsunamis associated with sea-bed uplift and underwater landslides - flooding

4. What are the implications of living in tectonically active locations?

Key ideas	Content
4.a. There are a range of impacts people experience as a result of volcanic eruptions.	Case studies of **two** countries at contrasting levels of economic development to illustrate: - reasons why people choose to live in tectonically active locations - the impacts people experience as a result of volcanic eruptions - economic, environmental and political impacts on the country.
4.b. There are a range of impacts people experience as a result of earthquake activity	Case studies of **two** countries at contrasting levels of economic development to illustrate: - reasons why people choose to live in tectonically active locations - the impacts people experience as a result of earthquake activity - economic, environmental and political impacts on the country.

5. What measures are available to help people cope with living in tectonically active locations?

Key ideas	Content
5.a. There are various strategies to manage hazards from volcanic activity.	Case studies of **two** countries at contrasting levels of economic development to illustrate strategies used to cope with volcanic activity including: - attempts to mitigate against the event, such as lava diversion channels - attempts to mitigate against vulnerability, such as community preparedness - attempts to mitigate against losses, such as rescue and emergency relief.
5.b. There are various strategies to manage hazards from earthquakes.	Case studies of **two** countries at contrasting levels of economic development to illustrate strategies used to cope with hazards from earthquakes including: - attempts to mitigate against the event, such as land-use zoning - attempts to mitigate against vulnerability, such as building design - attempts to mitigate against losses, such as insurance.
5.c. The exposure of people to risks and their ability to cope with tectonic hazards changes over time.	The relationship between disaster and response including the Park model.

Synoptic connections for H481/03

Topic 1	Climate Change and Global Systems
Topic 2	Disease Dilemmas and Landscape Systems
Topic 3	Exploring Oceans and Changing Spaces; Making Places
Topic 4	Future of Food and Global Governance
Topic 5	Hazardous Earth and Earth's Life Support Systems

Geographical Skills for H481/01, H481/02 and H481/03

4.1 Geographical Information
c) understand the nature of and use different types of geographical information, including: - images, maps, diagrams and graphical representations e) undertake informed and critical questioning of data sources, analytical methodologies, data reporting and presentation, including the ability to identify sources of error in data and to identify the misuse of data

4.3 Qualitative skills
b) interpret, analyse and evaluate a range of source material including textual and visual sources

4.5 Quantitative skills
b) tests of association and significance tests c) correlation on graphical representations d) measurement

END OF ADVANCE INFORMATION