



# Geography Option Classes Syllabus

**YEAR 10**

Directorate for Learning and Assessment Programmes

**2022 - 2023**

# GEOGRAPHY OPTIONS SYLLABUS

YEAR 10

## GEOGRAPHY OPTION SYLLABUS – YEAR 10

4.1 Map Reading and Interpretation	4.2 Weather and Climate	4.3 Landforms and Processes	4.4 Socio-Economic Human Systems	4.5 Environmental Concerns	4.6 Location and Places
<p>4.1.1 Basic cartographic skills: map enlargement and reduction.</p> <p>4.1.2 Recognition of landforms resulting from river erosion.</p> <p>4.1.3 Interpretation of settlements, urban/rural land use patterns.</p>	<p><b>Depressions and Anticyclones</b></p> <p>4.2.1 Weather sequence of a typical depression.</p> <p>4.2.2 Winter and summer anticyclones.</p> <p>4.2.3 Tropical storms: formation and effects.</p> <p>4.2.4 Case Study: Katrina 2005.</p> <p><b>Microclimate of an Urban Area</b></p> <p>4.2.5 Temperature (urban heat island), air quality (photochemical smog), precipitation and wind.</p>	<p><b>The Earth as a Planet</b></p> <p>4.3.1 Locating places using latitude and longitude.</p> <p>4.3.2 Longitude and time. Standard time zones and the International Date Line.</p> <p><b>Soil</b></p> <p>4.3.3 Soil profile (Horizons A,B,C).</p> <p>4.3.4 Formation and properties of soil (air, water, organic matter and mineral particles).</p>	<p><b>Population</b></p> <p>4.4.1 The demographic transition model.</p> <p>4.4.2 Population Structure.</p> <p>4.4.3 Case Study: Italy : an ageing population.</p> <p><b>Settlement</b></p> <p>4.4.4 Location, appearance and land use characteristics of the three major urban zones – the CBD, Inner City and Residential suburbs.</p>	<p><b>Soil Erosion and Management</b></p> <p>4.5.1 Natural causes of soil erosion.</p> <p>4.5.2 Common farming practices which lead to soil erosion.</p> <p>4.5.3 Soil conservation.</p> <p><b>Flooding</b></p> <p>4.5.4 Causes of flooding.</p> <p>4.5.5 Flood hydrographs.</p> <p>4.5.6 Flood management.</p>	<p>4.6.1 Awareness of the 24 different Time Zones in the world and calculation of Time (plus or minus from Greenwich Meridian).</p> <p>4.6.2 Major Fold Mountain Systems: the Rockies, Andes, Alps, Atlas, Drakensberg, Himalayas, Australian Alps.</p> <p>4.6.3 Major Volcanoes: Mauna Kea, Mauna Loa, Mt. St Helens, Mt. Pelée, Mt. Cotopaxi, Mt. Chimborazo, Mt. Nevado del Ruiz, Mt. Vesuvius, Mt. Etna, Mt. Kilimanjaro,</p>

	<p>4.2.6 Climate of the Maltese Islands: distribution and reliability of rainfall, mean temperatures and prevailing winds.</p>	<p>4.3.5 Water movement in the soil:leaching and capillary action.</p> <p><b>Plate Tectonics</b></p> <p>4.3.6 Structure of the earth: core, mantle and crust (continental and oceanic crust).</p> <p>4.3.7 Convection currents in the mantle and the idea of continental drift.</p> <p>4.3.8 Major Plates of the Earth's crust.</p> <p>4.3.9 The movement of the Earth's plates – constructive boundaries, destructive boundaries and conservative boundaries.</p>	<p>4.4.5 Arrangements of land use zones in cities, urban land use models – Burgess and Hoyt.</p> <p>4.4.6 Changing cities –changes in the CBD, in the inner city and at the rural-urban fringe.</p> <p>4.4.7 Problems and solutions of urban transport.</p> <p><b>Urbanisation</b></p> <p>4.4.8 Differences in Urbanisation between LEDCs and MEDCs.</p> <p>4.4.9 Urban problems in LEDCs.</p> <p>4.4.10 Patterns of urban land use in LEDCs - features of shanty towns or squatter settlements.</p>	<p>4.5.7 Case study: River flooding in Bangladesh.</p> <p>4.5.8 Case study: Flood control – The Three Gorges Dam.</p> <p><b>Agriculture</b></p> <p>4.5.9 Environmental impact of farming; use of chemicals, loss of wildlife habitat, removal of hedgerows/rubble walls, drainage of wetlands.</p>	<p>Mt.Krakatoa, Mt.Pinatubo, Mt.Fujiyama, Montserrat, Tristan da Cunha, Surtsey.</p> <p>4.6.4 Major tectonic plates: Pacific Plate, Nazca Plate, North American Plate, South American Plate, Antarctic Plate, Juan de Fuca Plate, African Plate, Eurasian Plate, Indo-Australian Plate.</p> <p>4.6.5 Location of Kobe and areas in the Indian Ocean devastated by the tsunami of the 26<sup>th</sup> December 2004.</p> <p>4.6.6 Location of these major rivers: St.Lawrence, McKenzie, Mississippi, Missouri, Colorado, Orinoco, Amazon,</p>
--	--	--	--	--	---

		<p>4.3.10 Plate movements and the formation of fold mountains.</p> <p>4.3.11 The relationship between earthquakes, volcanoes and plate boundaries.</p> <p><b>Earthquakes:</b> 4.3.12 The causes of earthquakes: focus, epicentre and seismic waves.</p> <p>4.3.13 Measurement of earthquakes: the Richter Scale.</p> <p>4.3.14 Effects of an Earthquake; short and long-term impact – social, economic and environmental impact.</p>	<p>4.4.11 Shanty town improvements.</p> <p>4.4.12 Case Study: Urban growth in São Paolo and Rio de Janeiro.</p> <p>4.4.13 Case Study: Cairo – Primate city.</p> <p><b>Agriculture</b> 4.4.14 Farming as a system with inputs, processes and outputs.</p> <p>4.4.15 Types of farming – arable, pastoral and mixed, subsistence and commercial, extensive or intensive, shifting or sedentary.</p>		<p>Parana, Rhône, Rhine,, Danube, Volga, Indus, Ganges, Huang He, Yangtse, Murray-Darling, Nile, Zambezi, Niger and Congo.</p> <p>4.6.7 Location of major HEP stations: Aswan High Dam, Three Gorges Dam, Itaipu.</p>
--	--	--	--	--	---

		<p>4.3.15 Resisting earthquakes.</p> <p>4.3.16 Case study: Kobe earthquake, 1995.</p> <p>4.3.17 Case study: Tsunami of the Indian Ocean, 2004.</p> <p><b>Volcanoes</b> 4.3.18 Formation and features of composite cone, acid and basic lava volcanoes – crater, secondary or parasitic cone, lava tube, magma chamber, side vents.</p> <p>4.3.19 Volcanic activity: active, dormant and extinct volcanoes.</p> <p>4.3.20 Predicting and preparing for volcanic eruptions.</p>	<p>4.4.16 Physical, human and political factors affecting farming.</p> <p>4.4.17 Improved technology.</p> <p>4.4.18 Organic farming.</p> <p>4.4.19 EU Agricultural Policy (CAP).</p> <p>4.4.20 The Green Revolution: high yield varieties, irrigation, appropriate technology and land reform.</p> <p>4.4.21 Case Study: Rice farming in India.</p> <p>4.4.22 Case Study: Dairy farming in Denmark.</p>		
--	--	---	---	--	--

		<p>4.3.21 The hazards and benefits of volcanoes.</p> <p>4.3.22 Case Study Mount St Helens, USA, 1980.</p> <p>4.3.23 Case Study Mount Etna (Sicily).</p> <p><b>The Hydrological Cycle and Rivers</b></p> <p>4.3.24 Processes, flows and stores in the hydrological cycle.</p> <p>4.3.25 Sources of water in the Maltese Islands: Reverse Osmosis Plants and underground water.</p> <p>4.3.26 The drainage basin as a system: inputs, throughputs and outputs.</p>	<p>4.4.23 Farming, food supply and famine.</p> <p>4.4.24 Case Study: Farming reform in the Mezzogiorno (Southern Italy).</p> <p>4.4.25 Case Study: Farming in Brazil – Shifting cultivation and plantations.</p> <p>4.4.26 Case Study: Intensive market gardening in the Netherlands.</p>		
--	--	--	---	--	--

		<p>4.3.27 The drainage basin – source, mouth, tributary, confluence, watershed, main river.</p> <p>4.3.28 Factors affecting the rate of a river’s discharge.</p> <p>4.3.29 Processes of river erosion – abrasion or corrasion, solution or corrosion, hydraulic action and attrition.</p> <p>4.3.30 Processes by which a river transports its load: traction, saltation, suspension and solution.</p> <p>4.3.31 River landforms in the uplands – formation of V-shaped valleys, gorges, interlocking spurs, waterfalls and rapids.</p>			
--	--	--	--	--	--



		<p>4.3.32 The river and its valley in the lowlands: formation of meanders, ox-bow lakes, flood plain, levées, and deltas (arcuate and bird's foot).</p> <p>4.3.33 Human activities in rivers and their valleys.</p>			
--	--	---	--	--	--

**GEOGRAPHY OPTION**

**YEAR 10**

**LEARNING OUTCOMES**

Map Reading and Interpretation	4.1.1	Basic cartographic skills: map enlargement and reduction.	<ul style="list-style-type: none"> <li>• Reduce by half or enlarge by doubling the grid of the original map.</li> <li>• Locate and insert any obvious or more important details such as hilltops, drainage features and important landmarks.</li> <li>• Tick where important line features such as main roads cross grid lines.</li> <li>• Add the correct scale to the map.</li> </ul>
	4.1.2	Recognition of landforms resulting from river erosion.	<ul style="list-style-type: none"> <li>• Recognise the watershed by means of contour lines.</li> <li>• Tell the direction of flow of rivers.</li> <li>• Identify features of upper and lower courses of rivers including: V-shaped valleys, interlocking spurs, waterfalls, meanders and ox-bow lakes, floodplains, estuaries and deltas.</li> </ul>
	4.1.3	Interpretation of settlements, urban/rural land use patterns.	<ul style="list-style-type: none"> <li>• Interpret the site and situation of settlements especially in relation to aspect, drainage, physical features, communications and resources.</li> <li>• Recognise settlement layout including nucleated, linear (ribbon) and dispersed.</li> <li>• List the differences between urban (towns) and rural (villages) recognizable on a topographic map including open spaces/high density, low order/ high order goods and services.</li> <li>• Differentiate between the main urban use including CBD, residential, recreational and industrial.</li> <li>• Describe the relationship between the river valleys and the roads and settlement.</li> </ul>

Weather and Climate	4.2.1	<p><b>Depressions and Anticyclones</b></p> <p>Weather sequence of a typical depression.</p>	<ul style="list-style-type: none"> <li>• Be aware of the typical sequence of weather during the passage of a mid-latitude depression including air pressure, wind direction, rainfall and temperature.</li> <li>• Understand the meaning and sequence of the warm front, warm sector, cold front and occluded front.</li> <li>• Identify the above fronts and sector on a weather chart.</li> <li>• Interpret the pattern of isobars on a weather chart.</li> <li>• To forecast the weather for a particular locality shown on the weather chart that shows a mid-latitude depression.</li> <li>• Compare satellite images showing a mid-latitude depression to the relative weather chart.</li> </ul>
	4.2.2	<p>Winter and summer anticyclones.</p>	<ul style="list-style-type: none"> <li>• Demonstrate the main features of an anticyclone including pressure, movement and weather conditions.</li> <li>• Describe the weather conditions of a summer anticyclone.</li> <li>• Describe the weather condition of a winter anticyclone.</li> <li>• Comprehend a weather chart showing an anticyclone area.</li> </ul>
	4.2.3	<p>Tropical storms: formation and effects.</p>	<ul style="list-style-type: none"> <li>• List the causes of the origin of a typical tropical storm.</li> <li>• Analyse the main features of a hurricane.</li> <li>• Aware of the destructive effects of a tropical storm including, high winds, storm or tidal surges, flooding and landslides.</li> </ul>

Weather and Climate	4.2.4	Case Study: Katrina 2005.	<ul style="list-style-type: none"> <li>• Locate the origin and course of hurricane Katrina.</li> <li>• Describe the weather conditions over New Orleans during the storm.</li> <li>• List the destructive results of hurricane Katrina as they affected the population, building and property, places and the economy in general.</li> </ul>
	4.2.5	Microclimate of an Urban Area: Temperature (urban heat island), air quality (photochemical smog), precipitation and wind.	<ul style="list-style-type: none"> <li>• Describe the particular climate of a large city including lower wind speeds, more clouds, slightly higher rainfall because of dust, less snowfall, more convection leading to heavy rainfall, more surface run-off, water vapour and smog.</li> <li>• Define and explain the term urban heat island.</li> </ul>
	4.2.6	Climate of the Maltese Islands: distribution and reliability of rainfall, mean temperatures and prevailing winds.	<ul style="list-style-type: none"> <li>• Interpret a simple climate graph of the Maltese Islands showing the average monthly temperature and rainfall.</li> <li>• Interpret the distribution of wind direction on a wind rose.</li> <li>• Recognise the difference between convectional and frontal rainfall as experienced in Malta.</li> </ul>
	4.3.1	<b>The Earth as a Planet</b> Locating places using latitude and longitude.	<ul style="list-style-type: none"> <li>• Consolidate and integrate the knowledge about latitude and longitude in order to locate places on a world map.</li> </ul>

Landforms and Processes	4.3.2	Longitude and time. Standard time zones and the International Date Line.	<ul style="list-style-type: none"> <li>• Understand the concept of different time zones as a result of the earth’s rotation.</li> <li>• Appreciate the importance of longitude in the calculation of time.</li> <li>• Calculate the difference in degrees of longitude for one hour.</li> <li>• Calculate the value in time of one degree of longitude.</li> <li>• Understand the concept of the Prime or Greenwich Meridian as Universal Time (UT).</li> <li>• Calculate time to the nearest hour for any locality given midday in Greenwich and determining the standard time zone.</li> <li>• Understand the concept of the International Date Line by moving 12 hours west or east of Greenwich.</li> </ul>
	4.3.3	<b>Soil</b> Soil profile (Horizons A,B,C).	<ul style="list-style-type: none"> <li>• Identify the three main soil horizons A,B,C.</li> <li>• Label soil profile diagram with the following components: parent rock, decaying leaves and vegetation, organic activity and weathered parent material.</li> </ul>

	4.3.4	Formation and properties of soil (air, water, organic matter and mineral particles).	<ul style="list-style-type: none"> <li>• Realise the dependence of different life forms on soil.</li> <li>• Aware that soil is a renewable resource.</li> <li>• Know the following factors affecting the formation of soil, namely parent material, climate, flora and fauna, and time.</li> <li>• Understand that soil is formed by the weathering of rocks, the addition of water, gases (air), living organisms (biota) as well as decayed organic matter (humus).</li> </ul>
Landforms and Processes	4.3.5	Water movement in the soil: leaching and capillary action.	<ul style="list-style-type: none"> <li>• Understand what happens to the soil when evaporation is greater than rainfall and vice-versa.</li> <li>• Trace the movement of water up (capillary action), or down (leaching) in the soil, in a soil profile diagram.</li> </ul>
	4.3.6	<b>Plate Tectonics</b> Structure of the earth: core, mantle and crust (continental and oceanic crust).	<ul style="list-style-type: none"> <li>• Recognise the core, mantle and crust in a diagram representing a cross- section of the Earth.</li> <li>• Describe the basic characteristics of the core ( i.e. inner - solid, outer - semi-molten, very high temperatures), mantle ( i.e. semi-molten, magma) and crust (outer shell, solid rocks).</li> <li>• Differentiate between the main characteristics of oceanic and continental crust.</li> </ul>

	4.3.7	Convection currents in the mantle and the idea of continental drift.	<ul style="list-style-type: none"> <li>• Able to explain the idea that the world's continents were once joined in a large super-continent.</li> <li>• Understand the reason why plates move, i.e. convectional currents in the mantle.</li> </ul>
	4.3.8	Major Plates of the Earth's crust.	<ul style="list-style-type: none"> <li>• Identify the major plates of the earth's crust, as in 4.6.4.</li> </ul>

Landforms and Processes	4.3.9	The movement of the Earth's plates – constructive boundaries, destructive boundaries and conservative boundaries.	<ul style="list-style-type: none"> <li>• Differentiate between 3 types of movement of plates i.e. away from, towards and past each other.</li> <li>• Recognise and describe the process and results of these movements at constructive, destructive, collision and conservative margins.</li> </ul>
	4.3.10	Plate movements and the formation of fold mountains.	<ul style="list-style-type: none"> <li>• Describe how fold mountains are formed at destructive and collision margins.</li> <li>• Locate the distribution of major fold mountain ranges as in 4.6.2.</li> </ul>
	4.3.11	The relationship between earthquakes, volcanoes and plate boundaries.	<ul style="list-style-type: none"> <li>• Compare world maps showing the location of plate boundaries, volcanoes and recent major earthquakes.</li> <li>• Recognise earthquakes and volcanoes as a result of plate movements.</li> </ul>



	4.3.12	<p><b>Earthquakes</b></p> <p>The causes of earthquakes: focus, epicentre and seismic waves.</p>	<ul style="list-style-type: none"> <li>• Define the terms, earthquakes, focus, epicentre and seismic waves.</li> <li>• Understand that an earthquake is a sudden movement of the earth's crust as a result of release of tension that is built up at collision, destructive and conservative margins.</li> </ul>
Landforms and Processes	4.3.13	Measurement of earthquakes: the Richter Scale.	<ul style="list-style-type: none"> <li>• Know about the use of the seismograph to measure the strength of an earthquake.</li> <li>• Explain the Richter Scale to calculate the magnitude and relative effects of an earthquake.</li> </ul>
	4.3.14	Effects of an Earthquake; short and long-term impact – social, economic and environmental impact.	<ul style="list-style-type: none"> <li>• Differentiate between primary and secondary effects of an earthquake.</li> <li>• Describe the social, economic and environmental effects of an earthquake.</li> </ul>
	4.3.15	Resisting earthquakes.	<ul style="list-style-type: none"> <li>• List the measures that can be taken in order to reduce the damaging effects of an earthquake.</li> </ul>

	4.3.16	Case study: Kobe earthquake, 1995.	<ul style="list-style-type: none"> <li>Identify the location of Kobe on a map of Japan that includes the position of the plate margins involved.</li> <li>Explain the causes of the earthquake.</li> <li>Describe the course of events as well as the primary and secondary effects of the earthquake.</li> </ul>
	4.3.17	Case study: Tsunami of the Indian Ocean, 2004.	<ul style="list-style-type: none"> <li>Locate on a world map the epicentre and the worst affected places of the tsunami.</li> <li>Explain the causes of the earthquake and tsunami.</li> <li>Describe the course of events and the effects of the tsunami.</li> </ul>
Landforms and Processes	4.3.18	<b>Volcanoes:</b> Formation and features of composite cone, acid and basic lava volcanoes – crater, secondary or parasitic cone, lava tube, magma chamber, side vents.	<ul style="list-style-type: none"> <li>Label the various features of a cross-section diagram of a volcano, including; crater, secondary or parasitic cone, lava tube, magma chamber and side vents.</li> <li>List the main characteristics of composite cone, acid and basic lava volcanoes.</li> </ul>
	4.3.19	Volcanic activity: active, dormant and extinct volcanoes.	<ul style="list-style-type: none"> <li>Classify the three main types of volcano, according to frequency of eruptions.</li> </ul>

	4.3.20	Predicting and preparing for volcanic eruptions.	<ul style="list-style-type: none"> <li>Describe the measures that can be taken to lessen the hazards of a volcano.</li> </ul>
	4.3.21	The hazards and benefits of volcanoes.	<ul style="list-style-type: none"> <li>List and define the hazard effects of a volcano on people and the environment including volcanic gases, ash cloud, lava flow, pyroclastic flow and lahars.</li> <li>Appreciate the advantages of living in volcanic areas, including, fertile soil, geothermal energy, tourism, building materials, and rich mineral deposits.</li> </ul>
	4.3.22	Case Study: Mount St Helens, USA, 1980.	<ul style="list-style-type: none"> <li>Identify the location of Mt St Helens on a world map.</li> <li>Explain the causes of the eruption including plate boundaries.</li> <li>Describe the course of events as well as the effects of the eruption.</li> </ul>
Landforms and Processes	4.3.23	Case Study: Mount Etna (Sicily).	<ul style="list-style-type: none"> <li>On a map of the Central Mediterranean locate the position of Mt. Etna in relation to the African and Eurasian plate boundaries.</li> <li>Describe the eruptions of Mt. Etna as an active volcano.</li> <li>Aware of the damage caused by some eruptions.</li> <li>Identify the advantages of the volcano to the local people.</li> </ul>
	4.3.24	<b>The Hydrological Cycle and Rivers</b> Processes, flows and stores in the hydrological cycle.	<ul style="list-style-type: none"> <li>Understand the terms evaporation, transpiration, condensation and precipitation.</li> <li>Label diagrams or flow charts of the hydrological cycle including the above terms as well as water stored as ice and snow, in lakes and rivers, as ground water. Include also water stored in oceans and seas.</li> </ul>

	4.3.25	Sources of water in the Maltese Islands: Reverse Osmosis Plants and underground water.	<ul style="list-style-type: none"> <li>• Illustrate and describe the two aquifers in the layers of the Maltese rocks namely the sea level aquifer and the perched aquifer.</li> <li>• Differentiate between water obtained from the aquifers and water obtained from the sea by means of the Reverse Osmosis Plants.</li> <li>• Explain briefly how salty water is changed into pure drinking water.</li> </ul>
	4.3.26	The drainage basin as a system: inputs, throughputs and outputs.	<ul style="list-style-type: none"> <li>• Understand the terms inputs, storage, flows or transfers and outputs in a drainage basin or a river basin system.</li> <li>• Apply the above terms to a flow chart.</li> <li>• Show how the whole system can be easily disturbed.</li> </ul>
	4.3.27	The drainage basin – source, mouth, tributary, confluence, watershed, main river.	<ul style="list-style-type: none"> <li>• Recognise the main features of a drainage basin mainly source, tributary, watershed, confluence, mouth and main river.</li> </ul>
	4.3.28	Factors affecting the rate of a river's discharge	<ul style="list-style-type: none"> <li>• Identify the factors that affect the water level in the main river namely precipitation, relief, rock type, soil, natural vegetation, land use, use of river, and drainage density.</li> </ul>
	4.3.29	Processes of river erosion – abrasion or corrasion, solution or corrosion, hydraulic action and attrition.	<ul style="list-style-type: none"> <li>• Describe the four processes by which a river can erode its banks and bed namely by abrasion or corrasion, solution or corrosion, hydraulic action and attrition.</li> </ul>
	4.3.30	Processes by which a river transports its load: traction, saltation, suspension and solution.	<ul style="list-style-type: none"> <li>• Understand how a river can transport its load through traction, and saltation along its bed, and suspension and solution within the river itself.</li> </ul>

	4.3.31	River landforms in the uplands – formation of V-shaped valleys, gorges, interlocking spurs, waterfalls and rapids.	<ul style="list-style-type: none"> <li>• Explain why the upper reaches of a river form a V shaped valley through vertical erosion.</li> <li>• Describe and interpret the distinct features caused namely interlocking spurs and rapids.</li> <li>• Demonstrate how waterfalls and gorges form.</li> <li>• Label the profile of a waterfall including the following terms : layer of soft rock, layer of resistant rock, plunge pool, undercutting, overhang, waterfall retreats upstream, steep sided gorge.</li> </ul>
Landforms and Processes	4.3.32	The river and its valley in the lowlands: formation of meanders, ox-bow lakes, flood plain, levées, and deltas (arcuate and bird’s foot).	<ul style="list-style-type: none"> <li>• Explain the processes by which the river forms meanders and ox-bow lakes.</li> <li>• Illustrate and interpret a cross-section of a meander including slip-off slope, small river cliff, position of slow and fast currents.</li> <li>• Label and explain the cross-section of river landforms and channel in the lowland area, which is more liable to flooding, including the terms flood plain and levees.</li> <li>• Aware of the conditions that result in the build up of a delta.</li> <li>• Distinguish between arcuate and bird’s foot delta.</li> </ul>
	4.3.33	Human activities in rivers and their valleys.	<ul style="list-style-type: none"> <li>• Demonstrate the use of a river for human activities including irrigation and farming, fishing, harnessing the waters of a river by means of dams to produce HEP, leisure and tourism, transport, domestic and industrial use.</li> </ul>

	4.4.1	<b>Population</b> The demographic transition model.	<ul style="list-style-type: none"> <li>• Interpret a demographic transition model showing the four (and possibly the fifth) stages of population development.</li> <li>• Analyse the reasons in the fluctuations of the birth and death rates in the different stages of the demographic transition model.</li> <li>• Apply the different stages to particular countries.</li> </ul>
Socio-Economic Human Systems	4.4.2	Population Structure.	<ul style="list-style-type: none"> <li>• Interpret a population pyramid (age – sex structure graph) including gender, five year age groups as percentage of total population, and subdivision into the following broad age groups: young dependants (0 to 14); economically active (15 to 64); elderly dependants (65+).</li> <li>• Compare the different shapes of population pyramids according to the stages of the demographic transition model.</li> <li>• Apply the different types of pyramids to LEDCs and MEDCs.</li> </ul>
	4.4.3	Case Study: Italy: an ageing population.	<ul style="list-style-type: none"> <li>• Summarise the problems created by the ageing population of Italy.</li> </ul>
	4.4.4	<b>Settlement</b> Location, appearance and land use characteristics of the three major urban zones – the CBD, Inner City and Residential suburbs.	<ul style="list-style-type: none"> <li>• Define the main characteristics of the CBD namely its centrality, accessibility, high density of services and traffic, and high land value.</li> <li>• Define the main characteristics of the Inner City including its location next to the CBD, crowded high density terraced housing, narrow unplanned streets, large old abandoned factories, railway stations, and polluted canals.</li> <li>• Define the main characteristics of the Residential Suburbs namely its location at the edge of the built up area, smarter appearance, more open space, more recent and larger houses, and small shopping centers.</li> </ul>

	4.4.5	Arrangements of land use zones in cities, urban land use models – Burgess and Hoyt.	<ul style="list-style-type: none"> <li>• Illustrate and interpret the two most important urban land use models by Burgess and Hoyt to include the CBD, Transitional, Twilight Zone and Modern Suburbia.</li> </ul>
Socio-Economic Human Systems	4.4.6	Changing cities –changes in the CBD, in the inner city and at the rural-urban fringe.	<ul style="list-style-type: none"> <li>• List and explain the changes occurring in the CBD such as improvements in public transport and creation of pedestrian areas.</li> <li>• List and explain the changes occurring in the Inner City such as redevelopment of abandoned and derelict buildings or slum areas.</li> <li>• List and explain the developments that are taking place at the Rural- Urban Fringe such as out of town shopping centers and science and business parks.</li> <li>• Explain the term urban sprawl and the measures taken to contain it by the use of green belts and green wedges.</li> </ul>
	4.4.7	Problems and solutions of urban transport.	<ul style="list-style-type: none"> <li>• Explain the reasons for the increase in urban transport.</li> <li>• Demonstrate the damaging effects of increased traffic in urban areas.</li> <li>• Suggest ways to reduce the damaging effects of increased traffic.</li> </ul>
	4.4.8	<b>Urbanisation</b> Differences in Urbanisation between LEDCs and MEDCs.	<ul style="list-style-type: none"> <li>• Consolidate the differences in urban growth between developed and developing cities.</li> </ul>
	4.4.9	Urban problems in LEDCs.	<ul style="list-style-type: none"> <li>• List the problems of a developing city including housing, crime, traffic, unemployment, lack of services and pollution.</li> </ul>

	4.4.10	Patterns of urban land use in LEDCs - features of shanty towns or squatter settlements.	<ul style="list-style-type: none"> <li>• Label and explain a model of land use patterns in a developing city.</li> <li>• Understand the terms shanty towns or squatter settlements.</li> <li>• Describe the main characteristics of a shanty town in a LEDC.</li> </ul>
Socio-Economic Human Systems	4.4.11	Shanty town improvements.	<ul style="list-style-type: none"> <li>• Appreciate the attempts at improving the quality of life in shanty town areas such as self-help schemes, and community housing projects.</li> </ul>
	4.4.12	Case Study: Urban growth in São Paulo and Rio de Janeiro.	<ul style="list-style-type: none"> <li>• Account for the rapid urban growth of São Paulo and Rio de Janeiro.</li> <li>• Outline the main problems attached to the rapid growth of these two cities.</li> <li>• Appreciate the attempts to solve these problems.</li> </ul>
	4.4.13	Case Study: Cairo – Primate city.	<ul style="list-style-type: none"> <li>• Account for the rapid urban growth of Cairo.</li> <li>• Understand the term Primate City.</li> <li>• Outline the main problems attached to the rapid growth of this city.</li> <li>• Appreciate the attempts to solve these problems.</li> </ul>
	4.4.14	<b>Agriculture</b> Farming as a system with inputs, processes and outputs.	<ul style="list-style-type: none"> <li>• Apply the meaning of inputs, processes and outputs for an arable and pastoral farm.</li> </ul>



	4.4.15	Types of farming – arable, pastoral and mixed, subsistence and commercial, extensive or intensive, shifting or sedentary.	<ul style="list-style-type: none"> <li>• Aware of different classifications of types of farming.</li> <li>• Differentiate between pastoral, arable and mixed farming.</li> <li>• Know the meaning of subsistence and intensive farming.</li> <li>• Define extensive and intensive farming.</li> <li>• Describe shifting and sedentary farming.</li> </ul>
Socio-Economic Human Systems	4.4.16	Physical, human and political factors affecting farming.	<ul style="list-style-type: none"> <li>• Comprehend how relief, soils, temperature, and rainfall affect farming.</li> <li>• Understand the way by means human (social) and economic inputs affect farming namely size of farms, transport and market, capital and mechanization.</li> <li>• Outline the influence of governments through political decisions in providing subsidies and grants.</li> </ul>
	4.4.17	Improved technology.	<ul style="list-style-type: none"> <li>• Aware of the greater use of machinery, greenhouses, tools, fertilizers, pesticides, computerized systems and modern irrigation methods.</li> </ul>
	4.4.18	Organic farming.	<ul style="list-style-type: none"> <li>• Understand the meaning of Organic Farming.</li> <li>• Aware of the positive and negative aspects of Organic Farming.</li> </ul>
	4.4.19	EU Agricultural Policy (CAP).	<ul style="list-style-type: none"> <li>• Know the main aims behind the setup of the CAP by the EU.</li> <li>• Aware of the agricultural reforms of 1992.</li> <li>• Describe the successes and problems of the CAP.</li> <li>• Understand the terms: set aside land, subsidy, quota, and diversification.</li> </ul>

	4.4.20	The Green Revolution: high yield varieties, irrigation, appropriate technology and land reform.	<ul style="list-style-type: none"> <li>Identify the four main parts to the Green Revolution namely the use of high yielding varieties of plants (HYVs); the introduction of irrigation schemes; the greater use of chemical fertilizers and the use of pesticides.</li> </ul>
Socio-Economic Human Systems	4.4.21	Case Study: Rice farming in India.	<ul style="list-style-type: none"> <li>Locate on the map of Asia the Ganges Valley and its delta.</li> <li>Consolidate knowledge about: the terms subsistence and intensive farming; the physical and human inputs, to rice cultivation in India.</li> <li>Interpret a climatic graph in relation to the process of rice cultivation.</li> <li>Consolidate Green Revolution applications and recent changes in rice farming in India including land reform to increase farm size, grant ownership to farm labourers, limit the land that a wealthy family can own and the use of HYVs.</li> </ul>
	4.4.22	Case Study: Dairy farming in Denmark.	<ul style="list-style-type: none"> <li>Locate Denmark on a map of Europe.</li> <li>Account for the rise of cooperatives to assist small farmers.</li> <li>Describe a typical Danish farm.</li> </ul>
	4.4.23	Farming, food supply and famine.	<ul style="list-style-type: none"> <li>List the causes of famine in LEDCs namely drought, desertification, political instability, poverty, trade and international debt.</li> <li>Understand the meaning of malnutrition.</li> <li>Comprehend the circle of hunger in LEDCs.</li> </ul>
	4.4.24	Case Study: Farming reform in the Mezzogiorno (Southern Italy).	<ul style="list-style-type: none"> <li>Locate the Mezzogiorno on a map of Italy.</li> <li>Appreciate the schemes to improve farming in the Mezzogiorno and so reduce the gap in wealth between the north and south.</li> </ul>

Socio-Economic Human Systems	4.4.25	Case Study: Farming in Brazil – Shifting cultivation and plantations.	<ul style="list-style-type: none"> <li>• Locate Brazil on a map of South America.</li> <li>• Consolidate the meaning of the term shifting cultivation in relation to Brazil.</li> <li>• Understand the meaning of plantations in relation to Brazil.</li> <li>• Describe the main features of plantation agriculture in Brazil.</li> </ul>
	4.4.26	Case Study: Intensive market gardening in the Netherlands.	<ul style="list-style-type: none"> <li>• Locate the Netherlands on a map of Europe.</li> <li>• Consolidate the meaning of intensive agriculture in relation to the Netherlands.</li> <li>• Understand the meaning of the term market gardening and horticulture.</li> <li>• Know the reasons for the development of such farms in the Netherlands.</li> </ul>
	4.5.1	<b>Soil Erosion and Management</b> Natural causes of soil erosion.	<ul style="list-style-type: none"> <li>• Understand the meaning of soil erosion and how this vital resource can be removed by heavy rainfall and wind.</li> </ul>
	4.5.2	Common farming practices which lead to soil erosion.	<ul style="list-style-type: none"> <li>• Aware of the human impact leading to soil erosion namely overcultivation, overgrazing, deforestation and up and down ploughing.</li> </ul>
	4.5.3	Soil conservation.	<ul style="list-style-type: none"> <li>• Explain how terracing, replanting of trees, grass and hedges, contour ploughing, controlled grazing, crop rotation and replacing organic matter can reduce soil erosion.</li> </ul>

Environmental Concerns	4.5.4	<b>Flooding</b> Causes of flooding.	<ul style="list-style-type: none"> <li>List the main physical and human causes of flooding namely steep gradients, low lying areas, impermeable type of rock, heavy rains, thawing of snow, silting of river beds, deforestation, increase in population, rapid surface runoff due to urbanisation, and bridges trapping debris.</li> </ul>
	4.5.5	Flood hydrographs.	<ul style="list-style-type: none"> <li>Interpret simple hydrographs (excluding base flow).</li> <li>Understand the terms peak discharge, velocity, lag time and volume.</li> </ul>
	4.5.6	Flood management.	<ul style="list-style-type: none"> <li>Appreciate the means by which flooding can be reduced namely by afforestation projects, raising the embankments, damming the river to control it, dredging the silt and proper landscaping of river banks.</li> </ul>
	4.5.7	Case study: River flooding in Bangladesh.	<ul style="list-style-type: none"> <li>Locate the position of Bangladesh in the Indian sub-continent in relation to the Himalayas and the rivers Brahmaputra and Ganges.</li> <li>Consolidate the physical and human causes of flooding with reference to Bangladesh.</li> <li>Describe the effects of a particular flood in Bangladesh.</li> </ul>
	4.5.8	Case study: Flood control – The Three Gorges Dam.	<ul style="list-style-type: none"> <li>Locate the Yangtse River on a map of China and the position of the Three Gorges Dam.</li> <li>Aware of the scale, advantages and disadvantages of this scheme.</li> </ul>

Location and Places	4.5.9	<p><b>Agriculture</b> Environmental impact of farming; use of chemicals, loss of wildlife habitat, removal of hedgerows/rubble walls, drainage of wetlands.</p>	<ul style="list-style-type: none"> <li>• Aware of the disadvantages of the use of chemicals by farmers on the environment.</li> <li>• Aware of the loss of wildlife habitats due to the intensification of farmland.</li> <li>• List the advantages and disadvantages of hedgerows and rubble walls and identify reasons for their removal.</li> <li>• Understand the meaning of wetlands and the problems created when these are drained for farming.</li> </ul>
	4.6.1	<p>Awareness of the 24 different Time Zones in the world and calculation of Time (plus or minus from Greenwich Meridian).</p>	<ul style="list-style-type: none"> <li>• Consolidate and identify on a world map the Greenwich Meridian and the International Date Line.</li> </ul>
	4.6.2	<p>Major Fold Mountain Systems: the Rockies, Andes, Alps, Atlas, Drakensberg, Himalayas, Australian Alps.</p>	<ul style="list-style-type: none"> <li>• Know the position of and locate on a world map the following major mountain chains namely the Rockies, Andes, Alps, Atlas, Drakensberg, Himalayas, Australian Alps.</li> </ul>
	4.6.3	<p>Major Volcanoes: Mauna Kea, Mauna Loa, Mt. St Helens, Mt. Pelée, Mt. Cotopaxi, Mt. Chimborazo, Mt. Nevado del Ruiz, Mt. Vesuvius, Mt. Etna, Mt. Kilimanjaro, Mt. Krakatoa, Mt. Pinatubo, Mt. Fujiyama, Montserrat, Tristan da Cunha, Surtsey.</p>	<ul style="list-style-type: none"> <li>• Know the position of and locate on a world map the following important volcanoes namely Mauna Kea, Mauna Loa, Mt. St Helens, Mt. Pelée, Mt. Cotopaxi, Mt. Chimborazo, Mt. Nevado del Ruiz, Mt. Vesuvius, Mt. Etna, Mt. Kilimanjaro, Mt. Krakatoa, Mt. Pinatubo, Mt. Fujiyama, Montserrat, Tristan da Cunha, Surtsey.</li> </ul>

Location and Places	4.6.4	Major tectonic plates: Pacific Plate, Nazca Plate, North American Plate, South American Plate, Antarctic Plate, Juan de Fuca Plate, African Plate, Eurasian Plate, Indo-Australian Plate.	<ul style="list-style-type: none"> <li>Identify the following major tectonic plates on a world map namely Pacific Plate, Nazca Plate, North American Plate, South American Plate, Antarctic Plate, Juan de Fuca Plate, African Plate, Eurasian Plate, Indo- Australian Plate.</li> </ul>
	4.6.5	Location of Kobe and areas in the Indian Ocean devastated by the tsunami of the 26 <sup>th</sup> December 2004.	<ul style="list-style-type: none"> <li>Consolidate 4.3.16 &amp; 4.3.17</li> </ul>
	4.6.6	Location of these major rivers: St.Lawrence, McKenzie, Mississippi, Missouri, Colorado, Orinoco, Amazon, Rhône, Rhine, Danube, Volga, Indus, Ganges, Huang He, Yangtse, Murray-Darling, Nile, Zambezi, Niger and Congo.	<ul style="list-style-type: none"> <li>Know the position of and locate on a world map the following rivers namely St.Lawrence, McKenzie, Mississippi, Missouri, Colorado, Orinoco, Amazon, Rhône, Rhine, Danube, Volga, Indus, Ganges, Huang He, Yangtse, Murray-Darling, Nile, Zambezi, Niger and Congo.</li> </ul>
	4.6.7	Location of major HEP stations: Aswan High Dam, Three Gorges Dam, Itaipù.	<ul style="list-style-type: none"> <li>Know the position of and locate on a world map the following places Aswan High Dam, Three Gorges Dam, Itaipù and their respective rivers, Nile, Yangtse and Paraná.</li> </ul>

## Scheme of Assessment

Assessment consists of:

**Summative assessment** in geography (option) at year 10 consists of 1hr 30 mins exam. It consists of a one and a half hour written exam set at the end of the scholastic year. The examination paper carries 90 marks + 10 marks fieldwork for a total of 100 marks. It makes up 60% of the global mark.

**Continuous assessment** consists of a number of tasks (classwork and homework) completed by students during the year. Assessment mark is to be given out of 100 not necessarily in multiples of 5. It makes up 40% of the global mark.

### Summative assessment: (60% of the global mark)

#### The Annual Examination Paper (90 marks; 1 ½ hours) plus the fieldwork (10 marks)

The Year 10 annual examination paper for Geography (Option classes) will consist of one common graded paper of 1 hour 30 minutes duration carrying 60% of the global mark and set by the Directorate for Learning and Assessment Programmes. The paper will be set in English. Candidates will be required to answer all questions. The use of non-programmable calculators, geometrical instruments and pencil colours are permitted during the examination. When questions on topographical maps are set, conventional map symbols will be provided.

The examination paper will carry a total of 90 marks. Questions will be set on all the six strands and the outcomes of learning as indicated in the syllabus. The table below shows the mark allocation for each strand.

Strand of Learning	No. of questions	Marks
Map Reading and Interpretation	1	12
Location and Places	1	8
Weather and Climate	1	12
Landforms and Processes	2	20
Socio-Economic Human Systems	2	20
Environmental Concerns	2	18
		<b>90</b>
Fieldwork		<b>10</b>
	<b>Total</b>	<b>100</b>

Examination questions will be structured with degrees of difficulty, including objective questions (e.g. completion, true/false, multiple choice questions, cloze questions), labelling of maps and diagrams, resource based questions involving data response and problem solving as well as free response writing. The questions set will assess the students' understanding and application of the main geographical concepts and knowledge, the acquisition of basic geographic skills and the development of attitudes and values in all the strands of learning. Candidates will be required to answer all questions.

### Fieldwork Report:

A field trip with a follow up individual report should be organised during the scholastic year with special reference to topics covered in this syllabus. The report should be between 800 and 1000 words long and should include evidence of geographical skills such as collection of data, well-annotated illustrations, graphs and maps. The aims, methods and conclusions of the report should be stated and developed in the text.

The report will carry 10 marks in the Annual Examination.

Criteria for assessment are as follows:

Clear definition of aims and objectives	2 marks
Observation and data collection	2 marks
Development and analysis	2 marks
Conclusions	2 marks
Data refining and presentation including cartographic, graphic and diagrammatic	2 marks

### Continuous Assessment (40% of the global mark)

Teachers are encouraged to assess learners through different modes of assessment, including map reading exercises, presentations, quizzes, oral and written questions, games, discussions, research work from Internet and books, labelling and sketching of diagrams, experiments, commenting on videos, analysis of newspaper articles, reporting on site visits, active participation in a co-curricular project, data-response tasks, tests, resource-based questions, paragraph writing and essays, etc. Written tests should not be the only or main format of school-based assessment and should not be used more frequently than any other assessment tool. Using various modes of assessment is a fair way to demonstrate the achievement of outcomes by the different learners with different skills and competencies.

Teachers know their class best and can therefore take the final decision on the number and type of tasks to be conducted within the context of their class, while ensuring that the mark is given in a professional manner, according to good assessment practice. Continuous assessment tasks should be a natural part of the lesson and integrated into the teaching and learning activities carried out both in class and at home.