ZIMSEC

For Performance Measurement

ZIMBABWE SCHOOL EXAMINATIONS COUNCIL (ZIMSEC)

ZIMBABWE GENERAL CERTIFICATE OF EDUCATION (ZGCE)

For Examinations in June/November 2013 – 2017

O-Level Syllabus

Geography (2248)

Subject 2248. GEOGRAPHY

SUBJECT 2248 GEOGRAPHY

1.0 PREAMBLE

This syllabus is designed to:

1.1 equip pupils with the skills of graphicacy which involves the understanding and communication of spatial information through maps, photographs, graphs and other forms of illustration;

1.2 enable pupils to acquire knowledge, skills and attitudes needed to understand current events and to make informed judgements on a variety of international issues-economic, political, social and environmental;

1.3 foster international understanding (by providing an insight into other people's ways of life and living conditions) and an appreciation of human interdependence;

1.4 promote environmental awareness through studying physical and human geography;

1.5 enable pupils to acquire knowledge, skills and attitudes necessary for an appreciation and critical awareness of local, national, regional and world development.

2.0 AIMS

The aims of the syllabus are to:

2.1 encourage an appreciation and sensitive awareness of the environment on a local, national and world scale;

2.2 foster an understanding of and develop positive attitudes towards different communities and cultures within our own society and elsewhere in the world;

2.3 enable pupils to acquire and apply appropriate levels of knowledge for the benefit of the individual and the community within a socialist society;

2.4 develop in pupils the skills associated with the selection, collection, representation, interpretation and use of geographical data in a variety of forms;

2.5 promote in pupils an awareness of spatial and environmental patterns and relationships in the real world, and the dynamic nature of these patterns and relationships;

2.6 encourage pupils to use spatial concepts and apply principles on a range of scales in a variety of environments;

2.7 enable pupils to acquire an understanding of the various economic, cultural and political forces which influence decision making.

3.0 ASSESSMENT OBJECTIVES

Pupils should be able to demonstrate:

3.1 Knowledge and Understanding

3.1.1. geographical knowledge in the context of scale and areas;

3.1.2. the processes underlying physical and human landscapes and spatial patterns;

3.1.3. how landscapes and patterns change and may be expected to continue to change;

3.1.4. environmental inter-relationships and interactions considered in terms of systems and, hence, of multiple and cumulative causes.

3.2 **Skills (including practical skills) and their Application**

3.2.1. basic skills and techniques of personal observation, recording and interpretation;

3.2.2. use of a variety of secondary source materials;

3.2.3. presentation and interpretation of data in graphical and numerical form;

3.2.4. how to select, use and communicate information and conclusions effectively.

3.3 Judgement and Decision Making

3.3.1. the role of decision making, and of the values and perceptions of decision makers, in the evolution of patterns in human geography;

3.3.2. how to use geographical concepts and apply principles in interpreting geographical situations at a variety of scales;

3.3.3. how to prepare, justify and evaluate solutions to environmental and socio-geographic problems.

4.0 METHODOLOGY

In order to achieve the stated aims and objectives teachers must, wherever possible:

4.1 adopt a systems approach in the teaching/learning of concepts, principles and skills. Focus should be on inputs, processes and outputs in a given system, e.g., a farm. The topics should not be studied along traditional regional lines;

4.2 use a variety of case-studies and examples. The examples suggested in the syllabus can be used to illustrate principles and concepts but they are not exhaustive and exclusive and teachers may use their own examples if they wish. Examination questions which encourage the use of case-studies will be set;

4.3 continue with the concentric approach of ZJC using examples taken from Zimbabwe and Africa before covering other regions of the world;

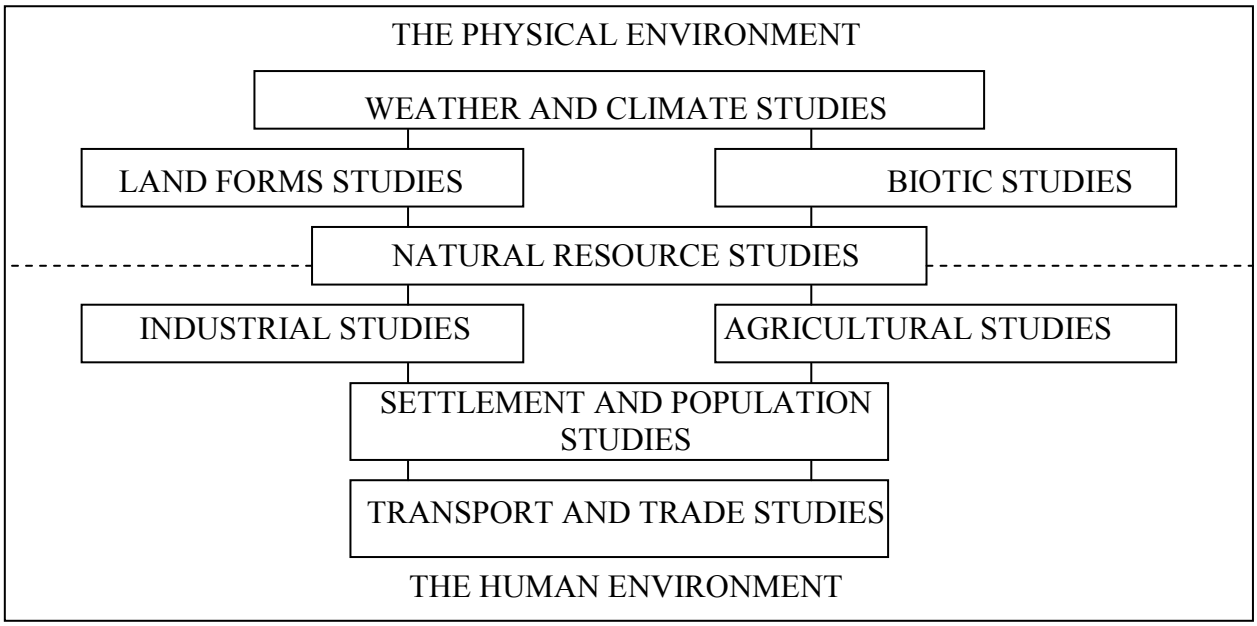
4.4 employ audio-visual aids such as charts, samples and films in order to cement the concepts and skills being learnt;

4.5 carry out local field studies with pupils in order to integrate theory with practice.

5.0 CONTENT

The syllabus has two main parts as shown in the diagram below:

(a) the physical environment;
(b) the human environment.



Within each of these parts there are a number of ``studies''. While these may be taught as separate topics, teachers are recommended to show the links between them wherever appropriate.

Teachers are recommended to teach the general principles of each section of the syllabus. They should plan to teach two parts of each section in greater depth, viz

TWO from Weather and Climate, Landforms, Biotic (Section A Topics 5.2 to 5.4);
TWO from Natural Resources, Agriculture, Industry (Section B Topics 5.5 to 5.7);
TWO from Settlement and Population, Transport and Trade (Section C Topics 5.8 to 5.9).

TOPIC	MAIN IDEAS	OPERATIONAL OBJECTIVES
5.1 BASIC TECHNIQUES AND SKILLS		
Basic techniques and skills should be integrated, wherever possible, within the rest of the topics in the syllabus at the appropriate time and place and not taught as separate topics.		All pupils should be able to
5.1.1. 1:50000/1:25000 topocadastral (survey) maps and atlas maps	Using symbols and a key allows a large amount of information to be given accurately in a small space.	identify and understand the range of information shown on a map by recognising symbols and the relevance of a key; identifying items or categories of land use from a key; reproducing symbols on a sketch map to represent features on the ground.
	Reference co-ordinates allow areas or places to be accurately located on a map.	use co-ordinates to locate places on maps by plotting locations from 4 or 6 figure grid references and by latitude and longitude in degrees; stating grid references of the latitude and longitude of given locations or areas; using an index as a guide to locations.

Using a scale permits us to draw what is actually on the ground onto a smaller piece of paper.	understand the meaning of the 3 alternative types of scale by identifying the amount of magnification or reduction of 2 maps with differing scales, e.g., 1:50 000 compared with 1:25 000;
As the scale of a map decreases, so the amount of generalisation increases.	
	measuring straight line or curved distances and gradients with acceptable speed and accuracy;
	calculating area in sq. km. using the grid square method.
Using compass directions or bearings permits us to show the relative positions of points or areas from grid north.	perform different methods of determining direction by plotting 16 points of the compass; plotting and calculating bearing and backbearing; describing a route from a map using directions and distances; following a route on a map (or on the ground using a map) from a statement giving directions and estimated distances.

The pattern of contour lines permits us to identify different landforms.	interpret both general and precise ways of showing height above sea level on maps by isolating highland from lowland shown on a map; generalising about the height of land in a given area; describing the nature of selected slopes in terms of undulating, gentle, steep, even, concave or convex; recognising various landforms such as ridge, plateau, conical hill, waterfall, gorge, depression, valley, meander, flood plain; describing relief and landforms using terms such as narrow river valleys, well drained plateaus, deeply-eroded highland, low-lying undulating plain, isolated kopjes/inselbergs; interpreting and drawing sketch sections/transects from prepared material.
Spatial relationships between physical features and the human use of the environment can be identified on maps.	interpret patterns on a map by inferring human activity from direct map evidence in order to identify and describe types of landuse such as cultivation, grazing, forestry, commercial (business), administrative, mining, transport; generalising about the location, extent and distribution of settlements; recognising settlement types and patterns such as rural/urban, dispersed/nucleated in relation to both physical and economic features; transforming a simple network into a topological diagram in order to compare a network's efficiency and connectivity.

	The relative importance and direction of drainage, together with the general patterns which rivers form, can be recognised using maps.	demonstrate their knowledge of the drainage systems of an area by outlining the main directions of drainage; recognising simple drainage patterns, e.g., Dendritic, rectangular, radial, trellised; recognising watersheds and sub-dividing an area into drainage basins.
5.1.2. Photographs	Geographical phenomena and an understanding of the processes operating can be recognised from photographs.	identify, describe and explain the processes influencing the development of landforms, vegetation and land use shown on oblique and aerial photographs.
5.1.3. Diagrams, sketch maps, data, graphs and models	Information can be transformed into a variety of forms to provide greater relevance to a particular study.	construct diagrams, graphs and models and draw sketch maps used to represent geographical information, including bar charts, and line graphs; interpret topocadastral maps, synoptic charts proportional symbols and flow line diagrams.
5.1.4. Field studies	Field studies translate theory into practice and enable pupils to develop the skills of observation (including field sketching), measurement, data collection and interpretation.	carry out an outdoor/field study where appropriate using local examples.

SECTION A

5.2 WEATHER AND CLIMATE STUDIES

5.2.1. Air masses	Air masses move in response to pressure systems over the globe and retain the characteristics of their source of origin, e.g., one originating from an equatorial area is usually hot and unstable.	identify and explain the origins and influence of air masses, including Tropical Maritime, Polar, Tropical Continental; factors influencing the development of pressure systems; the sequence of pressure systems and their influence on the weather over Southern Africa.
5.2.2. Rainfall types and patterns	Rainfall is caused by the vertical movement of air by physical obstacles, convection and convergence.	describe the mechanism of rainfall formation with reference to specific examples, e.g., orographic rainfall in the Eastern Highlands of Zimbabwe, convectional rainfall in Equatorial rain-forest areas, convergence rainfall along the Inter-Tropical Convergence Zone (ITCZ) and cyclonic/frontal rainfall in the S.W. Cape; identify the prevailing winds in southern Africa and describe their effect on rainfall; explain the alignment of mountain ranges and its effect on the distribution of rainfall;

5.2.3. Frontal systems		describe the development of anticyclones, fronts and depressions including tropical cyclones and the sequence of weather associated with them.
5.2.4. Simple weather maps	Elements of weather may be recorded and mapped to provide a weather map (synoptic chart) of weather conditions.	interpret simple weather charts to illustrate the pattern of weather over Zimbabwe and Southern Africa in both summer (January) and winter (July)
5.2.5. Climate and climatic types	The regularity of weather characteristics together with seasonal and latitudinal changes allows a classification into climatic types.	understand the concept of climate and climatic classification including characteristics of climatic types, e.g., temperature, precipitation, wind and humidity; the division of the world into climatic regions. identify and interpret climatic graphs of tropical, temperate, and polar regions.
5.2.6. People and the weather	An understanding of weather patterns and sequences enables forecasts to be made. People interact with natural weather conditions creating both good and bad consequences.	describe and explain how weather forecasts are constructed and their usefulness to people. outline and explain how people have influenced the weather, e.g., cloud seeding, dam construction, increased atmospheric carbon dioxide, acid rain tropical rainforest destruction.

5.2.7. Weather hazards	In some areas of the world particular types of weather present severe hazards for life conditions.	describe and explain the causes and effects of weather hazards with reference to African case studies such as drought in Africa, e.g., Sahel, tropical cyclones, e.g., Cyclone Domoina, and floods, e.g., Natal/Transvaal 2000.
5.3 LANDFORM STUDIES		
5.3.1. Landforms resulting from folding, faulting and volcanic activity		
(a) The earth's crust	The earth's crust is made up of mobile plates whose margins are characterised by tectonic, volcanic and seismic activity.	describe and outline the main types of rocks and the causes of instability within the earth's crust; the internal structure of the earth; plate tectonics and the resulting landforms on a world scale; the distribution of major fold mountains, earthquake zones, volcanoes, and rift valleys related to earth movements.
(b) Folding, faulting, vulcanicity and volcanoes	The formation and distribution of continents and major relief features reflects the movement of these plates.	describe and explain the processes of folding and resulting landforms; faulting and resulting landforms; volcanic activity and related landforms.

(c) Earthquakes, volcanoes and their effects on human activity	Earthquakes and volcanoes present economic possibilities and also dangers to people.	describe beneficial effects of earth movements, e.g., geothermal energy, hot springs, minerals, soils; the harmful effects of earth movements, e.g., earthquakes, volcanic eruptions, earth slides/mudslides, atmospheric pollution.
5.3.2. Weathering		
(a) Weathering	Weathering is the breakdown of rocks.	define weathering as opposed to erosion.
(b) Weathering processes and the factors influencing them	Weathering takes place in many different ways. The processes of weathering are influenced by climatic conditions and the resistance of the parent rock.	describe and explain the main types of weathering; the relative importance of weathering processes in tropical and temperate climates;
(c) Landforms developed through weathering	Characteristic landforms develop from weathering (and erosional processes) acting on rock.	the formation of common landforms developed through weathering in tropical, and temperate climates, e.g., dwala, kopjes, karst landscape, mountain peaks, inselbergs.

5.3.3. Rivers

(a) The nature of water flow	The river regime and water flow influence the processes operating in a river.	describe and explain the seasonal pattern of water flow in rivers and its effect on erosion, transportation and deposition;
(b) River processes	Erosion, transportation and deposition operate throughout the course of a river in differing degrees according to identifiable factors.	the processes of erosion, transportation and deposition and the factors influencing their operation;
(c) Landforms resulting from river processes	Water action produces characteristic landforms out of solid rock and loose material.	the formation of common landforms with reference initially to African examples e.g., valleys, meanders, waterfalls, rapids.
(d) The use of rivers	The natural flow of water is changed by people for various reasons and with different consequences.	describe the aims, methods and consequences of river control and land drainage, multipurpose river development and river diversions.

5.3.4. Hot Deserts

(a) Location and characteristics	Similar factors influence the development, location and extent of hot deserts in specific areas.	define a hot desert and describe its main characteristics. describe the factors influencing their location and extent.

(b) The action of wind	Both solid rock and loose materials are subject to erosion, transportation and deposition by water and wind, producing characteristic landforms.	describe and explain the importance of erosion, transportation and deposition by wind. Include storms, deflation, abrasion, saltation and surface creep. describe the formation of deflation hollows, dunes (barchan, seif and transverse), sand ripples, yardang, mesas, zeugen, etc.
(c) The action of water		describe the action of hillslope and channel processes in the desert and explain the formation of wadis, inselbergs, pediments, bahadas and playas
(d) Human activity in the desert	The desert environment presents both limitations and possibilities in its use by people.	outline briefly the influence of desert soils and water on agriculture, settlement, transport and communications in the desert; the exploitation of mineral wealth.
(e) Desertification	Human and natural influences can change fragile environments.	describe and explain desertification, its extent and causes; the processes involved in desertification; conservation measures against desertification.

5.4 BIOTIC STUDIES

5.4.1. Factors influencing vegetation growth	Plants vary in their adaption to climate, soils and other physical factors to form major vegetation zones.	explain the importance of the inter-relationship of climate, soil and vegetation.
5.4.2. Ecosystems	Natural environments are finely balanced and require thorough understanding and careful management if they are not to be destroyed.	demonstrate an understanding of the structure, inputs and outputs of savanna, equatorial and hot desert ecosystems.
5.4.3. People and ecosystems	People can effect change in the plant, animal and soil world both constructively and destructively.	explain the significance of the role of people in changing ecosystems; describe and explain the causes, methods and effects of change by people in one of the following: deforestation in tropical rainforest; soil erosion in tropical savanna; irrigation in hot deserts; wetland development in tropical areas.

SECTION B

5.5 NATURAL RESOURCE STUDIES

5.5.1. Types of natural resources	Resources may be renewable or non-renewable. Some can be recycled.	classify resources into non-renewable and renewable and give examples of each.

5.5.2. The exploitation of resources	Resource value can change through time as a result of new technology and changing cultural values.	describe the factors influencing the methods, importance and effects of the exploitation of
		one renewable resource, e.g., forestry in W. Africa, fishing in Southern Africa.
	The exploitation of resources is linked to technology, demand, distance from market, transport costs, physical conditions and accessibility.	
		one non-renewable resource, e.g., copper in Zambia, oil in Nigeria.
5.5.3. Population and resources	The growth in population and development increase the pressure on resources, particularly those which are most accessible. Intensive use may lead to their depletion and a search for substitutes.	describe and explain the growth of the Zimbabwean population and its effects on soil, forest, water, wildlife and land resources;
5.5.4. The effects of resource development	The exploitation of resources often has unfavourable environmental consequences.	the negative effects of resource development on water, land and air;
5.5.5. The conservation of resources	Effective resource research and management are needed to ensure a balance between supply and growing demand.	integrated resource conservation within a given area, e.g., named river basin._

5.6 AGRICULTURAL STUDIES

5.6.1. Factors influencing farming	The potential output of a farm is strongly affected by the physical conditions of the environment, technological changes, market prices, distance, government policies, land tenure and the aims and capabilities of the farmer.	demonstrate an understanding of the physical, economic, social and political factors which should be illustrated using case studies chosen from the following: cereal production; dairy farming; market gardening.
5.6.2. The farm as a system	A farm is a system with inputs and outputs, elements, characteristics and processes, all of which are inter-related.	identify and describe natural inputs-sunshine, soil, rainfall; human inputs-labour, machinery, seeds, fertilizer, capital; farm elements and characteristics-size, site, ownership, layout, fields and grazing land, farm buildings; processes-ploughing, planting, milking, weeding, harvesting; outputs-crops, animal products, waste materials.
5.6.3. Farming types in Africa	A variety of types of farming exist in Africa.	describe the characteristic features, methods and importance of each of the following types of farming, using case-studies adopting a systems approach: commercial crop farming; commercial ranching;

		dairy farming; subsistence farming; co-operative farming; nomadic herding; plantation agriculture; irrigation farming.

5.7 INDUSTRIAL STUDIES

5.7.1. Processing and Manufacturing Industries

(a) Factors influencing industrial Location	The location of an individual factory or an industrial complex is the result of a set of decisions based on rational assumptions and information.	identify and describe the physical, economic, social and political factors affecting the location of industry with reference to specific examples taken from Africa.
(b) Types of industrial location	The nature of the raw materials (high/low value) and/or the quality and type of product have a strong influence on the location of industries.	identify and explain the significance of the following types of industrial location: a raw material based industry, e.g., sugarcane processing; a market based industry, e.g., bread manufacture; a port break of bulk industry, e.g., oil refining.

	Changes in the relative significance of locational factors may lead to changes in the pattern of distribution of particular industries.	identify and explain the reasons behind an industry with a changing location, e.g., iron and steel manufacture. A case-study example should be taken from either the United Kingdom or the United States of America for the relocation of industry.
(c) Transnational industries	The location of industry by transnational corporations and the establishment of industries have led to other considerations such as political alignment and stability, strategic factors and international variations in economic circumstances being important.	define the term transnational corporation. Describe the role of transnational corporations in the location of industry; the structure of transnational corporations; the importance and role of transnational corporations in the Zimbabwean economy, e.g., Anglo-American, Lonrho, Bata, etc.;
(d) The character and distribution of industry in Zimbabwe	The variety and location of industry is limited in Zimbabwe due to physical, historical and economic factors.	the character and distribution of Zimbabwean industry; the consequences of industrial development in Zimbabwe.

5.7.2. Service Industries

(a) The development of service Industries	The tertiary sector is increasingly becoming more important in the economy of many countries.	define a service industry. identify and outline the factors influencing the development of services industries. describe the role of the main service industries, e.g., banking, insurance, distribution, tourism, information. compare the importance of service industries in Zimbabwe with those of a developed country.
(b) Tourism-a case study of a service industry	In most countries there are many natural and man-made features which attract tourists from within and outside these countries.	describe tourism with reference to Zimbabwe and one other country in Africa, e.g., Kenya, South Africa, Botswana.

SECTION C

5.8 SETTLEMENT AND POPULATION STUDIES

5.8.1. Settlements

(a) Factors influencing rural settlement patterns	Rural settlements have become established and some have grown for a variety of physical, social, economic and cultural reasons.	identify the factors influencing and describe rural settlement patterns and the development of growth points/service centres in Zimbabwe;

		rural settlement patterns in Africa, e.g., Barotse plain, Gezira, southern Nigeria.
(b) Rural resettlement in Zimbabwe and Africa	The unequal distribution of land between people and the need to improve land management has resulted in governments encouraging large scale planned population movements.	describe the factors influencing resettlement; the aims, methods, problems and achievements of resettlement.
(c) Urbanisation	In the 20th century more and more people are living in towns and cities.	the process of urbanisation; general social, political, economic and physical factors influencing urbanisation throughout the world. problems of urbanisation and their solutions; two case studies of urbanisation: from a developed country, e.g., Moscow, London, New York; from a developing country, e.g., Mexico City, Gaborone, Calcutta.
(c) Town morphology and functional zones	Towns are made up of many differing sections related to their age of development and functions. A generalised pattern of functional zones can be recognized in towns.	identify and describe simple models of urban structure (concentric/sector). evaluate the usefulness of these models with reference to specific examples taken from Africa.

(d) Urban functions and the sphere of influence	Settlements have spheres of influence which vary in size according to population and the nature and range of functions provided.	describe and explain the towns' services with reference to a study of functions and the sphere of influence of settlements in Zimbabwe/Africa.
(e) The quality of rural and urban life	There are differences between a town and rural area in the quality of life and environmental quality.	describe the advantages and disadvantages of rural and urban life with reference to specific case studies from Zimbabwe and Africa. identify and describe how work, health, education, transport, nutrition, water facilities, availability of goods and services and social amenities relate to the quality of life.
5.8.2. Population		
(a) The distribution of population in Africa	The distribution of people varies from one area to another due to the interaction of many factors.	identify and explain the distribution of population in Africa.
(b) The growth and structure of population	Populations can be classified according to various criteria which include their growth rate, population structure, economic composition and social structure.	identify and describe the factors influencing the growth and structure of population in two contrasting countries: a developing African country; a developed country from anywhere else in the world.

(c) Migration	Migrations both within and between countries can vary in causes, organisation, duration and distance.	define migration and explain its causes and consequences. classify different types of migrations using examples with reference to push-pull factors and their consequences.
(d)Population, health and Disease	There is a link between certain diseases, population distribution and development.	identify and describe in general, the causes, distribution, effects, methods of combating and associated problems, for one disease taken from each of the following groups: a nutritional disease, e.g., kwashiorkor or pellagra; a water linked disease, e.g., cholera or diarrhoea; a disease associated with a vector, e.g., bilharzia, malaria, river blindness or sleeping sickness.

5.9 TRANSPORT AND TRADE STUDIES

5.9.1. Transport and Trade

(a) The development of transport routes; in Africa	Transport routes in Africa are influenced by a variety of physical, economic, social and political factors.	describe and explain the influence in general of factors affecting the development of land, water and air routes in Africa.

(b) Transport networks	Transport networks can be changed into topological diagrams in order to examine their effectiveness.	transform simple route systems into topological networks. describe route density, accessibility of different nodes.
	Areas with a high concentration of population or economic activity tend to have a well-connected route network.	determine the effectiveness of a route system in connecting places. use simple topological networks to explain the location of new hospitals, clinics, schools and settlements.
(c) Longitude, time and the International Date Line	Calculations of time are based on lines of longitude from the Greenwich Meridian.	describe and explain how longitude and rotation influence time;
	The earth rotates from west to east, hence places located to the east are always ahead in time.	time zones and the International Date Line.
(d) Modern developments in Transport	Technological change opens up new routes and networks and may alter the comparative advantage between different modes of transport with respect to the goods or passengers carried and the journeys undertaken.	describe the changing role of air, water, road and rail transport with reference to the movements of goods and people on a national and international level;

		technological innovations and their importance in relation to cost, speed, capacity, safety and comfort; the environmental consequences of recent developments in transport, e.g., noise, air and water pollution, competition for land, congestion.
(e) Trade and trading Patterns	Trade within and between countries is created by a demand in one place being met by the supply from another.	describe the meaning and origins of trade. identify types of trade including national (wholesale/retail) and international.
(f) Regional imbalances	Trading patterns may create imbalances both within and between countries.	identify and explain the causes of imbalances at national and international levels.
(g) Economic groupings	Neighbouring countries often join together in trading blocks to promote regional growth and self-sufficiency. A region can fall within the sphere of influence of one economic or military power. The focus of world trade also reflects political ties	describe the spatial arrangement of trade groupings; the aims, methods and effects of trade groupings with reference to specific examples e.g., Southern Africa Development Community (SADC), Preferential Trade Area (PTA), European Union (EU), Council for Mutual Economic Assistance (COMECON).

6.0 GUIDANCE NOTES

6.1 BASIC TECHNIQUES

Basic techniques and skills will not be examined separately but will be tested within questions in both Paper 1 and 2. They should be studied at the appropriate time and place within the syllabus. Questions set using a topocadastral (survey) map will always form part of Paper 1.

6.1.1. Mapwork

The study of large scale maps of Zimbabwe or other areas to show a variety of landuse patterns is recommended. The maps chosen for examination purposes will be on a scale of either 1:50 000 or 1:25 000 and will always contain a full key. A variety of techniques should be practised for describing and analysing topocadastral maps.

In particular, candidates should note that they are now required to construct a sketch transect in order to describe changes in landuse between two fixed points. These are particularly useful in showing the interaction between people and their environment, e.g.,

through landuse changes between upland or lowland or with increasing distance from a town;
through changes in settlement patterns as a result of the availability of a resource or the effect of a physical feature.

Candidates should also be able to change a simple network into a topological diagram in order to describe and compare networks.

6.1.2. Photographs

Practice in describing landforms, vegetation, landuse or settlement shown on photographs is essential. Pupils should be able to:

draw simple annotated sketches to illustrate the features recognised and described from photographs;
recognise the varied size and scale of the features shown;
explain the processes responsible for the features shown, e.g., meanders, port, Central Business District (CBD), etc. Teachers should make their pupils aware of the importance of time in the operation of these processes.

6.1.3. Diagrams, Maps and Data

It is recommended that teachers refer frequently to an atlas in order to illustrate the different ways of showing data. Diagrams, maps and numerical data should be regarded as important ways of representing information. They may be used to illustrate a basic principle and it is essential that pupils should be directed towards their analysis and interpretation. Pupils should be familiar with various ways of transforming data, e.g., by changing numbers into a graph or map, by writing about a picture, etc. The following techniques should be familiar to pupils:

line, bar and pie graphs;
dot, shading and isoline maps;
the use of repeated or proportional symbols.

Sketch maps or sketch transects should be closely related to the text in order to explain or locate features mentioned in it or add further information to the text or an answer. Sketches, diagrams and maps should wherever possible be related to the syllabus content rather than used in isolation.

6.1.4. Field Studies

Attention is drawn to the value of outdoor field studies and all pupils should have first hand experience of them. Although direct questions will not be set on fieldwork, credit will be given for evidence of field studies in answer to questions. The following are some suitable examples of local field studies which can be carried out:

landforms;
river flow and channels;
landuse and farming types;
village settlement;
urban landuse;
development projects;
urban problems;
traffic flow;
population structure and composition;
industrial studies.

Answers may gain credit for well explained examples based on local field studies. Field studies are therefore not mandatory and pupils who do not undertake them will not be penalised.

6.2 WEATHER AND CLIMATE STUDIES

6.2.1. Pupils are expected to continue recording local weather, including cloud types, through the use of simple weather instruments such as the rain gauge, maximum-minimum thermometer/Six's thermometer, wet and dry bulb thermometer/hygrometer, barometer and wind direction indicator.

6.2.2. Rainfall types as listed should be analysed in relation to the way in which moist air is cooled rising from instability in the atmosphere. Examples from Africa south of the Equator only are required.

6.2.3 Tropical cyclones and the sequence of weather associated with these storms should be outlined.

6.2.4. Pupils should be encouraged to construct, interpret and explain the pattern of weather over southern Africa through the use of simple weather charts. These should be related to the characteristics and movements of air masses, together with the development of both high and low pressure systems, e.g., Botswana upper high.

6.2.5. Any climatic type within the three broad groups of tropical, temperate and polar regions may be chosen for study. Pupils are expected to be able to read and interpret a climatic graph taken from each of the groups given.

6.2.6. Pupils are required only to have an outline knowledge relating to the effects of people on the weather. Examples taken from anywhere in the world may be used to illustrate the main points. The cause and effects of weather hazards such as drought, storms and floods can best be studied through the use of any case studies.

6.3 LANDFORM STUDIES

6.3.1. Landforms resulting from folding, faulting and volcanic activity

(a) Pupils should have a simple knowledge of plate tectonics, with an outline knowledge of the causes of instability in the earth's crust which give rise to folding, faulting and volcanic

(b) activity. The use of simplified diagrams showing the types of earth movement and the use of maps detailing the broad distributions of fold mountains, rift valleys and volcanoes to give students an idea of scale is recommended. Common landforms resulting from the processes of folding, faulting and volcanic activity should be studied initially with reference to Africa, but examples from the rest of the world may be used wherever appropriate.

(c) The effects of seismic and volcanic activity on the lives of people may be studied with reference to case studies or general examples taken from anywhere in the world.

6.3.2. Weathering

(a) The distinction between weathering (the breakdown of rock in situ) and erosion must be clearly explained.

(b) A knowledge of the factors influencing weathering together with a simple knowledge of the processes involved in mechanical and chemical weathering will be required.

(c) A comparison to bring out the relative importance of the processes operating in tropical and temperate regions should be made.

6.3.3. Rivers

(a) It is recommended that teachers compare the seasonal flow of water through the use of hydrographs for different rivers. The link between flood water or peak flow in a river and erosion should be noted.

(b) The work of a river in eroding, transporting and depositing its load should be considered with reference to variations in the amount of energy available to the river. The work-rate of the river will vary according to the volume and velocity of the running water and the nature of the load. These may vary according to season and in relation to the nature of the load (boulders, pebbles, sand, silt) which in turn will be affected by the bedrock along the course of the river. It is strongly recommended that teachers examine realistic river profiles, e.g., the Zambezi and avoid using the Davisian or stage approach.

(c) Landforms which arise from the work of the river in developing its channel and valley should be studied from two points of view:

a description of the shape and an appreciation of the landform;
an understanding of how the processes have led to its formation.

The use of map and photographic evidence, e.g., of valleys, gorges, braiding, slip-off slopes, flood plains, terraces and deltas, is recommended.

(d) The various ways in which people have used rivers and modified drainage networks for their own use can be considered with reference to world examples.

6.3.4. Hot Deserts

(a) See note 5.3.4.

(b) Pupils should be able to demonstrate an understanding of the relative importance of
+ weathering, wind and water processes in the formation of desert landforms. Erosion,

(c) transportation and deposition by wind together with the resulting landforms should be studied with reference to world examples. Water processes should be considered together with the landforms they produce again with reference to world examples.

(d) See note 5.3.4.

(d) When investigating the causes, processes and proposed solutions to desertification, teachers are recommended to use a case study taken from the Sahel, Ethiopia, Tanzania or any other appropriate area.

6.4 **BIOTIC STUDIES**

6.4.1. Vegetation should be studied with reference to the influence of climate and soils in forming distinct ecosystems. The inputs and outputs of an ecosystem together with the idea of balance should be studied.

6.4.3. The role of people in changing this balance should be studied with reference to one of the case studies listed.

6.5 NATURAL RESOURCE STUDIES

6.5.1 The way in which resources may be classified into renewable and non-renewable should be outlined.

6.5.2. The factors influencing the exploitation of one renewable and one non-renewable resource together with the methods of and benefits deriving from this should be studied with reference to specific case studies within Africa.

The location, distribution and importance of each of the natural resources should be outlined with reference to the country from which the case study is taken.

6.5.3. The relationship between population growth and the use of soil, forest, water, land and wildlife resources within Zimbabwe should be studied.

6.5.4.
+
6.5.5.see notes 5.5.4. and 5.5.5.

6.6 AGRICULTURAL STUDIES

6.6.1. Pupils should have a general outline knowledge of how physical, economic and political factors influence farming patterns including agro-ecological zones. These should be related to the given examples.

6.6.2. The elements of a farm as a system, i.e. inputs, processes, outputs, should be studied using one or more examples.

6.6.3. Teachers are reminded that it may be possible to study two or more of these systems using one example, e.g., commercial irrigated crop farming in the lowveld. Examples of farming types may be taken from anywhere in Africa.

6.7 INDUSTRIAL STUDIES

6.7.1. Processing and Manufacturing Industries

(a) The factors involved in siting a factory or a major industrial complex should be outlined with reference to examples taken from Africa.

(b)
+
(c) see note 5.7.1.

An outline knowledge only is expected from pupils relating to the factors influencing industrial development in Zimbabwe and the consequences of this development.

6.7.2. Services Industries

(a) The factors influencing the development of service industries Together with their role and importance should be noted. The role of service industries in Zimbabwe should be compared in their importance with those of a developed country, e.g., Japan, United Kingdom, United States of America.

(b) See note 5.7.2.

6.8 SETTLEMENT AND POPULATION STUDIES

6.8.1. Settlements

(a) Studies should be made to show how rural settlement patterns are related to physical conditions, historical, social, economic and political factors and the landuse in the surrounding area. Examples of rural settlement patterns within Zimbabwe should be contrasted with those from elsewhere in Africa, e.g., S. Nigeria, the Gezira, the Barotse plain. The use of maps and photographs showing rural settlement patterns is essential.

(b) The need for resettlement, the aims, methods and problems of resettlement programmes and their results should be considered with reference to examples from Zimbabwe and any other African countries, e.g., Tanzania, Kenya, Ethiopia and South Africa.

(c) Pupils should have a broad knowledge of the general principles involved in urbanisation together with a detailed knowledge taken from two contrasting case studies in the developed and developing world.

(d) Pupils should be familiar with simple models of town structure (concentric/sector) and should be able to compare those models with the actual landuse in towns. Pupils should be able to recognise the various zones into which a town may be divided using maps and photographs, e.g., Central Business District (CBD), industrial area, residential area, etc. A detailed background knowledge of theoretical models is not required.

(e) A knowledge of the differing functions provided by towns, giving examples, is expected. Pupils should also be familiar with the concept of the sphere of influence of an urban area and the ways in which this may be determined. Exposure to fieldwork methodology and/or a practical survey is appropriate. This is best done through using local examples such as a school, clinic, grinding mill or shopping centre.

(f) The quality of urban and rural life may be illustrated using examples taken from Zimbabwe and any other country in Africa.

6.8.2. Population

(a) An outline knowledge of factors influencing the distribution of population in Africa is required. Pupils should also have a more detailed knowledge of the distribution of population in Zimbabwe and one other African country. While presenting this topic teachers should explain the different methods of showing population distribution.

(b) Pupils should be familiar with the demographic transition model, birth rates, death rates, dependency ratio, natural increase, growth rates etc., and be familiar with age-sex pyramids as a technique for showing and interpreting the structure of population.

(c) Pupils should have an outline knowledge of the causes and consequences of population migrations using examples taken from anywhere in the world. They should have a more detailed knowledge involving two case studies taken from anywhere in the world. These should be

a study of migration within a country;
a study of migration between countries.

(d) Diseases linked to the distribution and overall health of the population together with their effect on development should be studied with reference to African examples. An outline knowledge only of the distribution, causes, effects and methods of combating each disease is required.

6.9 TRANSPORT AND TRADE STUDIES

6.9.1.(a) An outline knowledge only is required of the physical, social, economic, historical and political factors influencing the development of transport routes in Africa. Reference should be made to specific examples of route systems.

(b) Route systems should be studied as topological networks. Case studies of contrasting networks at the local, national and international levels are recommended, e.g., a tarred road network, a national railway network, an international air network. The relevance of a study of transport networks in the location of hospitals, schools, and the growth of settlements should be pointed out.

(c) The significance of time zones and the International Date Line on global travel should be noted.

(d) An outline knowledge only of modern developments in transport using world-wide examples is required.

(e)
+
(f) The factors influencing the development of a trade pattern should be considered with reference to the character and pattern of Zimbabwean trade. This should be compared with the trading pattern of a developed country. An outline knowledge of the trading patterns between northern hemisphere countries together with the effects of this on the Third World is required.

(g) An outline knowledge only of the present day economic groupings and the reasons for their growth is required.

Pupils should have more detailed knowledge of the Southern Africa Development Community (SADC) and the Preferential Trade Area (PTA), their origins, aims, methods, problems and achievements.

7.0 SCHEME OF ASSESSMENT

The examination will be in the form of two papers.

Paper 1 will consist of forty multiple-choice questions, all of which must be answered by candidates.

Paper 2 will consist of nine structured, free-response and data-response questions, three in Section A, three in Section B and three in Section C. Candidates are required to answer four questions, one from Section A, one from Section B, one from Section C and one other question chosen from any section.

Further details are given in the following tables.

7.1 Paper Weighting

Paper and Description	Mark Weighting	Time Weighting
Paper 1 (Multiple-choice)	40% of total marks	1¼ hours
Paper 2 (Structured, free-response and data-response)	60% of total marks	2½

7.2 The relationship between assessment objectives and components of the scheme of assessment.

Components Assessment Objectives	Paper 1	Paper 2	Weighting of Objectives
Knowledge with Understanding	40%	30%	35%
Skills (including practical skills) and their Application	40%	40%	40%
Judgement and Decision Making	20%	30%	25%
TOTAL	100%	100%	100%

The assessment objectives are weighted to give an indication of their relative importance. They are not intended to provide a precise statement of the number of questions or marks allocated to particular objectives.

7.3 Structure of Examination Papers

	Paper 1 Questions	Paper 2 Questions
Topographic Mapwork	12	-
Physical Environment (Section A)	13	3
Economic Geography (Section B)	8	3
Population, Settlement, Transport and Trade (Section C)	7	3
TOTAL	40	9
	Candidates must answer all the questions	Candidates must answer 4 questions, one from each section and one other.
Marks	40 = 40 = 40%	4 x 25 = 100 = 60%

7.4 The specification for constructing the multiple-choice test which shows the relationship between content and assessment objectives is given below.

Content Assessment	Topographical Mapwork	Physical Environment	Economic Geography	Population Settlement Transport an Trade	Total Items	%Skill Weighting
Objectives						
SKILL 1 Knowledge with Understanding	-	9 items	4 items	3 items	16	40%
SKILL 2 Skills (including practical skills) and their Application	10 items	2 items	2 items	2 items	16	40%
SKILL 3 Judgement and Decision Making	2 items	2 items	2 items	2 items	8	20%
TOTAL	12 items	8 items	8 items	7 items	40	100%