Kingdom of Lesotho
Ministry of Education and Training

LESOTHO GENERAL CERTIFICATE OF SECONDARY EDUCATION

Lesotho General Certificate of Secondary Education

Syllabus

Geography

0183

For examination in November 2020

National Curriculum Development Centre
in collaboration with
Examinations Council of Lesotho

TABLE OF CONTENTS

Introduction 3

1. Aims of Secondary Education in Lesotho 4

2. Rationale 5

3. Scheme of Assessment 6

4. Aims 7

6. Assessment Objectives 8

7. Specification Grid 9

8. Curriculum Content 10

Guide to Enquiry Skills 24

List of Command Words 25

10. Grade Descriptions 28

Glossary of Geographical Terms 30

INTRODUCTION

This Geography syllabus is designed as a two-year course to meet the needs of learners studying Geography for the Lesotho secondary certificate. The syllabus builds upon the foundation laid by the geography in the ten-year Basic Education Programme. The topics in this syllabus are mainly related to Lesotho and Africa south of the Sahara and the SADC region in particular.

The Syllabus is organized into four sections. Each section addresses a specific issue. The scope and content of each topic is presented as general and specific objectives. These objectives also define the skills which learners are expected to have acquired after completing the course. Some objectives also express attitudes and values that are required for moulding the learner as a responsible citizen of Lesotho. To a large extent, the syllabus is linked to national development priorities, especially those relating to sustainable development. Thus the syllabus, through its content, adopts an integrated approach reflecting three pillars of sustainable development (environment, economy and society). It is expected that teachers will stress the link among these pillars at the level of school implementation.

1. Aims of Secondary Education in Lesotho

Secondary education builds upon Basic Education and continues to prepare learners for further education and training and the world of work. It takes two years of schooling after completion of Basic Education.

Secondary education aims at:

I. building on Basic Education in preparing learners for higher learning locally and outside the country;

II. equipping learners with knowledge, attitudes and skills which enable them to respond to socio-economic and technological challenges;

III. providing learners with advanced entrepreneurial, vocational and technological skills for the world of work and further studies;

IV. providing suitable opportunities for environmental exploration to promote socio-economic development;

V. providing learners with moral and religious education for the development of a socially and culturally acceptable character, promoting the spirit of co-operation and service to others;

VI. promoting advanced skills in literacy and numeracy for effective communication in all areas of life;

VII. providing opportunities for learners to participate in activities promoting democratic principles, human rights and emerging issues in a society.

VIII. Promoting scientific and technological skills in responding to socio-economic challenges; and

IX. promoting psycho-social skills to deal with personal and social developmental challenges.

2. Rationale

Geography is an important subject in the Lesotho secondary school curriculum in that it enables learners to study the physical and human environment. It is a multi-disciplinary science that deals with the description and explanation of land, sea, atmospheric processes, and fauna and flora.

Geography is a study of the earth as the home of humans and of their interactions with nature and its effects; it examines humans in their interdependent relationships with the earth. Geography studies ways in which humans have adapted nature to meet their needs and requirements and to what extent they are able to utilize the environment in a sustainable manner. Geography also provides scientific knowledge about physical, environmental and human processes which form the basis for cross-curricular education. Geography gives learners basic geographic skills and techniques that will enable them to solve environmental problems.

It also aims at arousing learners' interest and curiosity to analyse the relationship between the bio-physical processes and human activities.Through the learning of this subject, learners will be able to know their country in relation to other countries.

In studying Geography, learners are exposed to the social and physical realities of the world they live in. They do not only develop environmental ethics, but also understanding of various geographical principles and concepts influencing the spatial distribution of phenomena on the earth's surface.

Geography is a skills based discipline that encourages practical work. Through field work, learners observe, collect, analyse, interpret and present data. In the process they acquire skills such as graphicacy, problem solving, critical thinking and interpersonal skills.These are transferable skills which learners can use in their everyday life and in the field of work. Moreover, learners are exposed to emerging issues such as climate change, population dynamics, gender issues and the effects of pandemics including HIV/AIDS.

3. Scheme of Assessment

All learners should take both Paper 1 and Paper 2.

Paper 1 **1 hour 45 minutes**
Learners should answer all the questions. This paper consists of short answer questions divided in the following manner: **Syllabus Section A** Elements of Physical Geography **Syllabus Section B** Economic Geography **Syllabus Section C** Settlement, Population and Migration **Syllabus Section D** Basic techniques and inquiry skills Questions on syllabus sections A, B, and C will total 25 marks, with a maximum of 10 marks for each section. The mapwork questions will total 15 marks. The inquiry and presentation skills will total 20 marks. **Total: 60 marks** **Weighting: 37.5% of total marks**

Paper 2 **2 hours 15 minutes**
This paper is divided into 3 sections, each consisting of two questions of 25 marks each: Section A Physical Geography Section B Economic Geography Section C Settlement, Population and Migration Candidates will be required to answer four questions, one from each of sections A, B and C and one other question chosen from any section. Each question will include a part involving free response writing. **Total: 100 marks** **Weighting: 62.5 %**

4. Aims

This syllabus provides opportunity for a course of study which allows candidates to:

1. obtain knowledge and understanding of the basic geographical character of the local and national area in which he/she lives;
2. acquire knowledge and understanding of the Geography of Lesotho in relation to that of Africa south of the Sahara and the SADC region in particular;
3. develop an understanding of contemporary social, economic and environmental issues in Lesotho and the world;
4. develop geographical skills that enable them to address socio-economic and environmental challenges threatening sustainable development in Lesotho;
5. acquire relevant background knowledge and skills enabling them to choose appropriate career or employment opportunities;
6. develop positive attitudes and values that will enable them to become responsible citizens.

6. Assessment Objectives

The syllabus for geography reflects the following assessment objectives:

A. Knowledge with understanding
B. Skills and analysis
C. Judgment and decision making

The following are descriptions of each assessment objective:

A. Knowledge with understanding

Learners should be able to:

1. show an understanding of geographical concepts, features and processes in different environments;
2. describe and explain the causes and effects of geographical processes;
3. show an awareness of the spatial patterns of physical and human geography;
4. describe and explain the interaction of physical and human geography;
5. describe and explain how physical and human environments change over time and from place to place.

B. Skills and analysis

Learners should be able to:

1. understand, describe and extract information from geographical data in various forms, including maps, diagrams, photographs, graphs and tables;
2. analyse and interpret geographical data;
3. recognize patterns and deduce relationships from geographical data;
4. use a variety of graphical and drawing skills and techniques to present geographical information.
5. Use a variety of techniques for data collection and geographical investigations.

C. Judgment and decision making

Learners should be able to:

1. make reasoned judgments (including conclusions) and decisions;
2. show an awareness of the part played by different attitudes and values of individuals and groups, in the processes of evaluation and decision making;
3. show awareness of how different attitudes and beliefs impact on the environment;
4. propose, justify, and evaluate solutions to environmental, economic and socio-geographic problems;
5. infer future trends and consequences related to environmental, economic and socio-geographical problems.

7. Specification grid

The grid shows the relationship between the assessment objectives and components of the scheme of assessment and indicates how the marks will be allocated

Assessment Objective			
Paper	**Acknowledge with understanding**	**B Skills and analysis**	**C Judgment and decision making**
1	27%	60%	13%
2	40%	36%	24%
Overall	35%	45%	20%

Distribution of Marks for Assessment Objectives

Paper 1			
Section	**Knowledge with understanding**	**Skills and analysis**	**Judgement and decision making**
A, B and C	12	10	3
D	4	26	5
Total	16	36	8

Paper 2			
	Knowledge with understanding	**Skills**	**Judgment and decision making**
Marks for each question	10	9	6
Total for 4 questions	40	36	24

8. Curriculum Content

The curriculum is divided into four sections which have been carefully designed to develop an understanding of both the natural and human environments:

1. Section A: Physical Geography
2. Section B: Economic activities
3. Section C: Settlement, Population and Migration
4. Section D: Basic Techniques and inquiry skills

Resources

The majority of questions in both papers will be resource based. There sources offered may be photographic, map extracts, drawings, diagrams, graphs, text extracts, statistics and tables of data.

Questions based on resources may be set on areas not named in the syllabus but will provide sufficient information to enable learners to answer them without specific regional knowledge. The resources used in the examination will assist learners to analyse and interpret them using general principles they have studied.

Case Studies

The syllabus gives teachers an opportunity to select case studies to illustrate some themes. Specified illustrations of case studies have been included in the syllabus.

Candidates are encouraged to name local examples where appropriate. Direction is drawn to the value of outdoor field studies in providing candidates with memorable examples that can be used in the examination where relevant. Direct questions on the field work will be set.

SECTION A

TOPIC	GENERAL OBJECTIVES	SPECIFIC OBJECTIVES
Elements of Physical Geography	**Learners should be able to:**	**Learners should be able to:**
A.1 Plate tectonics	• Show a basic understanding of Plate tectonics and Resulting landforms.	• Describe the global pattern of Plates, their structure, movement and effects as they occur within the structure of the earth. • Explain the forces of compression and tension in relation to plate movements. • Describe the world distribution of earthquakes, volcanoes. fold mountains and rift valleys in relation to plate margins. • Explain how the following landforms resulted from folding, faulting or volcanic activity. Describe the main characteristics of these landforms: ✓ the East African Rift Valley, ✓ a range of fold mountains, ✓ a basic lava shield, ✓ an acid lava dome, ✓ composite volcano (strato-volcano). • Name and locate the East African Rift Valley, and an example of each of an earthquake, range of fold mountains and volcano. • Describe the impacts of earthquakes, volcanoes, the East African Rift Valley and fold mountains on human activities.
A.2 Weathering	• Show an understanding of weathering processes and resulting landforms.	• Distinguish between weathering and erosion (weathering involves the breakdown of rocks in situ). • Explain processes involved in mechanical (freeze-thaw and exfoliation), chemical (oxidation, hydration, carbonation and solution) and biological weathering (both mechanical and chemical effects). • Explain factors influencing the rate of weathering (nature of the rock, climate, vegetation cover) with particular reference to Lesotho and the Equatorial and Tropical Desert climatic regions. • Describe the results of weathering: scree (debris slop), exfoliation domes and rounded boulders and soil.

A.3 River Processes and landforms	• Show understanding of river processes and resulting features.	• Explain and draw dendritic, trellis and radial drainage patterns. • Identify the bed and banks of a river's channel. • Describe and explain the processes of river erosion (solution (corrosion), abrasion corrosion), hydraulic action and attrition) and the factors affecting them. • Describe the processes of river transport (solution, suspension, saltation, traction) and explain how they are influenced by the type of load and velocity and volume of the river. • Explain the causes of deposition by a river and where it occurs. • Describe and explain landforms that are a result of erosion and deposition, with reference to rivers in Lesotho where appropriate. • Describe the characteristics of the upper, middle and lower causes of river valleys • N.B. A study should be made of the following: forms of river channels and valleys, potholes, rapids, waterfall, gorges, meanders, slip off slopes, river cliffs, oxbow lakes, levees, floodplains, delta, braided river. • Describe and explain the formation of an arcuate delta. • Explain the socio-economic importance of river landforms: waterfalls, flood plains and deltas. • Describe and explain causes and effects of river flooding and possible solutions to river flooding.
A.4 Marine processes and associated coastal landforms	• Demonstrate an understanding of marine processes and resulting coastal features	• Distinguish between constructive and destructive waves. • Describe and explain the formation of the following erosional landforms: cliff, stack, cave, arch, wave-cut platform, bay, headland. • Describe and explain long shore drift. • Describe and explain landforms resulting from wave deposition: spit, bar, tombolo, beach. CASE STUDY: of a coastline or coastlines to illustrate the scale and nature of the coastal features. • Explain conditions that favour coral formation. • Describe feature of fringing, barrier and atoll. • Explain the importance of coral reefs, threats to their existence and how they can be conserved.

A.5 Weather and climate	• Demonstrate understanding of elements of weather and climate.	• Describe and explain the use and siting of the following weather instruments: rain gauge, Six's thermometer, hygrometer, barograph, anemometer and wind vane. • Analyse and interpret weather statistics and simple weather maps showing information in pressure, frontal systems and wind patterns. • Describe and explain the characteristics, siting and use of the Stevenson screen. • Estimate the extent of cloud cover and describe the main types of cloud and their associated weather (cumulus, cirrus, stratus, cumulonimbus). • Describe the factors influencing temperature: (altitude, latitude, cloud cover and pressure systems, ocean currents, distance from the sea). • Describe the distribution and formation of types of rainfall (convectional, frontal (cyclonic), relief (orographic).
A.6 Characteristics of selected climate regions	• Describe the characteristics of climate regions and explain the interrelationships between natural vegetation and climate. • Show an understanding of climate change at global, national and local levels	• Describe the chief characteristics of the following climate regions: equatorial rainforest and tropical desert. • Analyse and interpret climate graphs and explain the interaction between climate and other features of the equatorial rainforest and tropical desert ecosystem. • Describe the modifications caused by human interference of natural vegetation in the climate regions studied – the reduction in the area of equatorial rain forest and the encroaching deserts into tropical grasslands. • Assess strategies for conservation of the equatorial forests. • Describe and explain the human causes and impact of global climate changes on physical environment, society and economy. • Explain the impact of global climate change on the physical environment, society and economy at local and national level. • Suggest ways in which local communities can reduce emissions of greenhouse gases and describe how local communities can adapt to the negative effects of climate change. • Analyse government policies related to climate change. • Explain why international agreements are needed to combat climate change.

SECTION B

TOPIC	GENERAL OBJECTIVES	SPECIFIC OBJECTIVES
Economic activities and the use	**Learners should be able to:**	**Learners should be able to:**
B.1 Agricultural systems in Lesotho	• Show an understanding of different agricultural systems in Lesotho.	• Define the following types and methods of agriculture as practiced in Lesotho: ✓ Subsistence and commercial farming ✓ livestock and arable farming ✓ extensive and intensive farming. • Describe the human (socio-economic, political) and physical factors (relief, climate, soil) that influence farming in Lesotho. • Describe the following types of farming in Lesotho: ✓ Small-scale subsistence crop farming ✓ Intensive cash crop farming ✓ Mixed farming ✓ Commercial sheep and goat rearing under the following headings: ✓ inputs ✓ outputs ✓ Scale of production ✓ activities involved ✓ uses and encountered ✓ solutions to the problems.
	• demonstrate an understanding of the need for irrigation and soil conservation in Lesotho.	• Define irrigation. • Describe different irrigation methods used in Lesotho. • Describe the importance of irrigation in farming. • Evaluate the role of stakeholders (government, NGO's, private sector, local authorities and local communities) in the sustainable use of water. • Define soil erosion. • Explain the agents of soil erosion ✓ Wind ✓ Water. • Describe types of erosion – rill, gully, sheet, splash. • Outline causes of soil erosion in Lesotho. • Describe effects of soil erosion on the environment and economy of Lesotho. • Suggest appropriate methods of reducing soil erosion in Lesotho.

B1.1 Agricultural systems in Africa South of the Sahara	• Show an understanding of the different large scale agricultural systems in Africa, South of the Sahara.	**CASE STUDIES** Compare agricultural systems in Lesotho with large plantation agriculture under the following headings: ✓ inputs ✓ outputs ✓ Scale of production ✓ activities involved (including land clearance and irrigation methods) ✓ uses, market and importance ✓ problems encountered (including environmental, social and economic issues with land clearance) ✓ solutions to the problems. • Describe the human (socio-economic, political) and physical factors (relief, climate, soil) that influence these farming systems in Africa.
B.2 Mining in Lesotho	• Show an understanding mining activities in Lesotho and their contribution to national development	• Locate major diamond mines on a map of Lesotho • Describe the factors that influence the exploitation of diamonds in Lesotho: ✓ geological occurrence ✓ accessibility of deposits ✓ mining cost ✓ transport ✓ market ✓ technology ✓ government policies ✓ labour. • Describe mining operations – extraction and processing methods in Lesotho. • Explain ways in which mining is organized in Lesotho. • Describe the use of diamonds. • Explain the importance of mining diamonds in Lesotho • Describe the importance of sandstone and other rocks quarried in Lesotho. • Assess the impact of mining and quarrying on the environment. • Suggest ways in which the landscape could be restored or used after mining and quarrying.

B.2.1 Mining in Africa South of the Sahara	• Demonstrate an understanding of other mining activities in Africa South of the Sahara and their contribution to national development.	• Study large scale mining industry from: Petroleum and natural gas in Nigeria and Gold mining in South Africa, in terms of: geological occurrence, accessibility of deposits, mining cost and operations, transport, market, labour, extraction and processing methods.
B.3 Processing and Manufacturing Industries in Lesotho	• Develop an understanding of the principles involved in the establishment of processing and manufacturing industries in Lesotho and major industrial estates in Africa South of the Sahara.	• Classify industries into primary, secondary, tertiary and quaternary sectors. • Differentiate between processing and manufacturing industries. • Identify and locate processing and manufacturing industries in Lesotho. • Describe factors that influence the location of milling and textile industries in Lesotho with reference to raw materials, labour, capital, transport, power, (both local and distant), government policy. The uses of the products should also be studied. • Describe the government's role in the establishment of industries. • Discuss the importance of manufacturing and processing industries in Lesotho. • Discuss problems caused by the development of industries. • Describe and explain the development and growth of industrial estates in Lesotho and their characteristics. • Describe and explain the nature and importance of craft industries in Lesotho and the reasons for their development.
B.3.1 Processing and Manufacturing Industries in Africa South of the Sahara	• Develop an understanding of the principles involved in the establishment of processing and manufacturing industries and major industrial estates in Africa South of the Sahara.	• Study motor vehicle assembly in South Africa and petroleum refineries at Port Harcourt, Nigeria in terms of: components, labour, capital, power, transport, markets. • Describe problems caused by large scale industries for society and environment and possible solutions to them.

B.4 Power production	• Show an understanding of power production using renewable and non-renewable resources with reference to Lesotho and South Africa.	• Locate a hydro-electric power station in Lesotho and describe the factors that influence its location. • Describe the processes involved in the production of hydro-electric power. • Describe the benefits and explain the problems of generating hydro-power in Lesotho. • Describe thermal power production in terms of: factors influencing location, production processes, benefits and problems encountered, with reference to thermal power in South Africa. • Describe factors (physical and economic) that influence the location of wind and solar power. • Describe wind and solar power in terms of their benefits and problems.
B.5 Tourism	Develop an understanding of characteristics of tourism and its importance to the economy of Lesotho and SADC region	• Identify and classify tourist attractions in Lesotho in terms of historical, physical and human made features. • Describe the role that stakeholders (government, NGO's Private Sector, local Authorities and local communities) make to develop the tourist sector. • Analyse the problems (e.g. lack of transport, lack of marketing) facing the development of the tourist industry in Lesotho and suggest possible solutions to them. • Locate one example of wildlife park in South Africa and describe its physical characteristics and human facilities. • Explain why Namibia and Mauritius are major tourist destinations. • Compare the scale of tourism in Lesotho and South Africa in terms of numbers of tourists and income and suggest reasons for the differences. • Discuss the advantages and disadvantages of the tourist industry on areas that receive tourists.

SECTION C

TOPIC	GENERAL OBJECTIVES	SPECIFIC OBJECTIVES
Settlement Population and Migration	**Learners should be able to:**	**Learners should be able to:**
C.1 Rural Settlement	• Show an understanding of the dynamic nature of rural settlements. • Show understanding of settlement hierarchy.	• Describe the patterns of rural settlements in Lesotho. • Draw sketch maps demonstrating different settlement patterns in Lesotho. • Identify factors that influence siting, size and growth of rural settlements in Lesotho (physical and socio-economic). • Classify settlements by size and function. • Describe, and explain reasons for a settlement hierarchy.

C.1.1 Urban settlement	• Demonstrate an understanding of the development and dynamic nature of urban settlement	• Give reasons for urbanization: increase in population, population migration, development of trade, industry, routes services. • Describe the functions of towns. • Describe the 'sphere of influences' of a town (relationship of a town to the surrounding area) and define the terms range and threshold of a service. • Describe and explain the distribution of land use zones in cities in LEDCs and MEDCs, namely; the CBD (Central Business District), residential areas, industrial areas and open space. • Describe and explain the influence of transports routes on urban morphology. • Describe the effects of urbanization on the environment; different types of pollution, housing shortages; squatter settlements; traffic congestion; shortage of services such as water supply, power supply, education and health; urban sprawl on surrounding areas. • Describe and evaluate the strategies used to overcome the problems in urban areas. • Suggest and evaluate social problems resulting from poverty in urban areas. • Describe Lesotho's settlement policy. **CASE STUDY:** Maseru City – Describe and explain its historical evolution, ages and types of buildings, morphology and functions. **CASE STUDY:** Describe and explain the morphology and functions of a coastal city in South Africa: Durban, Cape Town, Port Elizabeth.

C.2 Population dynamics	Describe the growth of population and its social and economic impact.	• Define the following concepts: population density, population distribution, over-population, under-population and optimum population, population growth, population explosion, population pressure. • Explain how population distribution and density is influenced by the interaction of physical, social and economic factors. **CASE STUDY:** study the uneven distribution and density of population in Lesotho and in the Republic of South Africa and explanations for them. • Explain factors influencing population growth – birth rate, fertility rate and death (mortality) rates, migration (push and pull factors). Draw conclusions from such statistics. • Analyse and interpret population maps, graphs, diagrams and statistical data. • Explain the significance of age-sex pyramids of different shapes. • Suggest the impact of different population growth on the economy, environment and society in Lesotho. **CASE STUDY:** Describe and explain the structure of the population pyramids of Lesotho and of one developed country. Account for the differences. • Describe and explain the different stages of the Demographic Transition Model. • Describe and explain Lesotho's position in the Demographic Transition Model.
	show an understanding of the causes and effects of migration at a variety of scales	• Describe the different types of population migration: internal, international, forced, voluntary, rural-urban, and explain their causes (push-pull factors). • Explain the impact of migration on migrants, their place of origin and destination. • Compare the different types of migration in LEDCs and MEDCs • Describe Lesotho's government policies to curb internal migration. **CASE STUDY:** explain the causes and impact of the migrant labour system between Lesotho and South Africa.

C.3 HIV/AIDS in Lesotho	• Show an understanding of the socio-economic impact of HIV and AIDS in Lesotho	• Describe and explain the spread of HIV/AIDS in Lesotho. • Interpret Lesotho's HIV/AIDS statistics and account for its prevalence. • Explain the socio-economic impact of HIV/AIDS in Lesotho and its influence on population structures, at the present day and in the near future. • Describe efforts taken by the Lesotho government and other stakeholders to address the problems caused by HIV/AIDS. • Evaluate efforts taken by government of Lesotho and other stakeholders to address the problems of HIV and AIDS.

SECTION D

TOPIC	GENERAL OBJECTIVES	SPECIFIC OBJECTIVES
Basic Techniques and Skills	**Learners should be able to:**	**Learners should be able to:**
D.1 Mapwork	• Read and interpret topographical maps with full keys from the DADC region on the scales of 1:50 000 and 1:25 000.	• Locate places or geographical features using 4 and 6 figure grid references. • Use the key to identify features. • Use the straight edge of pieces of paper and scale line to measure horizontal distance. • Calculate area and gradient. • State directions using compass points (N, NE, SE, S, SW, W, and NW). • Give bearing from grid north using a mathematical protector. • Locate feature on a drawn cross section by adding labels to the profile. • Identify landforms on a map using contours and conventional signs and symbols. Landforms to be identified: valley, gorge, plateau, ridge, hill, mountain, cliff, lowland, floodplain, Give further description, such as flat, gentle slope, steep slope, wide, narrow, deeply cut. The varied size and scale of topographic features should be noted. • Desribe drainage densities, drainage patterns and features of the streams and rivers. • Describe human activities in relation to the features on the topographic maps. • Analyse and draw inferences about patterns of settlement (linear, dispersed and nucleated). • Give reasons for sites of settlements and for areas of sparse or dense settlement. • Analyse and describe features of urban morphology on maps. • Recognize different land uses in rural and urban areas and on different types of relief. • Describe the type and density and patterns of communications (routes) in urban and rural areas and their relationships to physical and human features.

D.2 Inquiry and presentation skills	• Interpret features of physical and human geography presented in various forms. • Draw, describe and analyse graphs, diagrams and maps.	• Interpret information in photographs, maps diagrams, text and statistical forms. • Describe and explain landforms, natural vegetation, land use and settlement shown on photographs or in sketches. • Draw sketch maps, labelled diagrams and annotated sketches to illustrate the geography of an area. • Analyse and present data in appropriate form using maps, graphs (bar graphs, line graphs, scatter graphs and pie charts) and tables. • Formulate hypothesis and guiding questions. • Collect data using questionnaire, observation, counts, and measurement. • Present, interpret and analyse data in appropriate forms using maps, graphs, photographs and diagrams. • Draw conclusions and evaluate data collection methods.

A Guide to Enquiry Skills for Paper 1

1. Formulating aims and hypotheses

Learners should be familiar with hypotheses and guiding questions as statements that form the basis of Coursework assignments. The hypotheses may investigate a geographical concept e.g. 'A CBD has the highest concentration of comparison shops' how and why wind direction affect the weather at area etc. Collecting relevant data, analysis and drawing conclusions using the data as evidence can test these.

2. Enquiry skills to collect data

Questions on this paper will test knowledge and application of the methodology used in the following range of data collection enquiry:

- **Data presentation techniques**
  Knowledge of the illustrative techniques to present data is required. This should include various types of graphs, maps and diagrams (line graphs, bar graphs, divided bar graphs, flow diagrams (proportional flow), wind rose graphs, isoline maps, scatter graphs, pie graphs).

- **Questionnaires**
  Questionnaires can be oral or written to gain information from an individual or a group of individuals. Suitable themes in the syllabus where questionnaires may be appropriately studied include spheres of influence, use of services, shopping habits, a factory or industrial study, tourism, migration or attitude of the public to developments associated with resource development. Consideration should be given to factors influencing the successful design of questionnaires e.g. layout, format of questions, the appropriate wording of questions and the number of question. The practical considerations of conducting a questionnaire: the sampling methods (random, stratified, snowball), pilot, survey and location of survey should also be discussed.

- **Observation**
  Examples of using observations as an enquiry skill to collect data include the recording of land-use in an urban area, observations of river feature and identifying features on a photograph. Maps, recording sheets, field sketches and annotated photographs may all be used to record learner observation.

- **Counts**
  Pedestrian and traffic counts are two significant examples of this enquiry skill. Appropriate methods for recording the counts should be discussed including the layout of recording sheets, instructions and the necessary information required to identify the sheet following the count (i.e. time, date, location and name of recorder)

- **Measurement**
  When recording measurements, due consideration should be given to planning the layout of the recording sheet, the location of instruments and the sampling methods adopted to provide reliable data. Knowledge of the equipment used in measurement required, such as the clinometer, ruler, tape measure, stop watch. Learners should be familiar with river measurements of channel width, depth, speed of flow and the size and shape of bed load, the size and shape of pebbles and learners should also be aware of weather instruments, as stated in Section A5.

4. Analysis

Learners should be able to describe the patterns in data presented in graphs and tables of results. Reference to relevant geographical knowledge and understanding is often required in the interpretation of the data.

5. Formation of conclusions

Using the evidence from the data, learners should be able to make judgments on the validity of the original hypothesis or guiding questions. Reference is also required to the reliability of collected data and a critical evaluation of the chosen data collection methods.

LIST OF COMMAND WORDS

The list of command words in this Syllabus are explained below. The list is to be used as a guide and is not meant to be comprehensive. The meaning of a word will depend in part on its context.

Command Word	Explanation
Annotate	• Add notes of explanation • Label with short comments a diagram, map or photograph to describe or explain • If asked 'Using only an annotated diagram…' only the diagram and attached notes will be marked
Calculate	• Provide a numerical answer • Show the working especially if two or more steps are involved
Compare	• Provide a point by point account of the similarities and differences between two sets of information or two areas • Use comparative adjectives (e.g. larger than, smaller than, more steep than, less gentle than – or statements such as 'X is wide whereas 'Y' is narrow' or • 'both X and Y are …') • Question may also be written as 'List/State/Describe etc. the similarities and differences between…' • Two separate descriptions do not make a comparison
Complete	• To add the remaining detail or details required
Contrast	• Identify clearly the point(s) of difference • Use comparative adjectives (e.g. larger than, smaller than, more steep than, less gentle than or statements such as 'X is long whereas 'Y' is short') • Question may also be written as 'How are … different?'
Define	• Give a relatively short answer, usually two or three sentences, with a precise definition/meaning of a term • Question may also be written as 'State/Explain the meaning of' or 'What is meant by'
Describe	• Give a written factual account of the distinctive features of an item • Do not attempt to explain

Command Word	Explanation
Describe the characteristics of	• Describe what the feature looks like (e.g. for a landform – its shape, dimensions, composition, location)
Describe/Identify dates/time elements	• In relation to a graph or a series of graphs • Give an overall picture • Do not focus on individual changes • Include individual changes only if they are major exceptions to an overall trend • Quote relevant figures to support your description
Describe the differences between	• Give only the differences between two sets of data (see 'Contrast')
Describe the location of/Where are	• In conjunction with a map or a set of maps • Describe the locations of high concentrations of a variable together with a description of those areas with a lower concentration • Identify anomalous areas, or areas which go against an overall trend in the distribution
Describe and comment on	• Give a description and make a judgment on the description, possibly to offer some explanation or to infer something which could be responsible for, or develop from, the description referred to
Draw	• Make a sketch of a geographical form • Include labels to the diagram • Question may be written as 'Using a diagram' or 'Illustrate with a sketch'
Explain	• Give a statement as to why something occurs • Show an ability to know or understand why or how something happens • Question may be written as 'Account for', 'Give reasons for', 'Suggest reasons for' or 'How might'
Give an explanatory account/Give a reasoned account	• Provide a description of a feature together with an explanation for it • Make linked statements to show this • A long piece of prose is expected • Give a logical account that is both relevant and well organised
How	• Prove/demonstrate/show (depending on question) in what way/to what extent/for what reason/by what means or method
Identify/Name/ State/Give	• Give a short sentence or a single word answer
Illustrating your answers with	• Account for by writing specific examples or diagrams • Include relevant words or terms to identify particular features
Label	• Place specific names or details to an illustrative technique
List	• Identify or name a number of specific features to meet a particular purpose
Locate	• Find the place

Command Word	Explanation
Match	• Identify two or more statements or illustrative techniques in which there is an element of similarity or inter-relationship
Name	• State/specify/identify using a word or words by which a specific feature is known • Give examples which illustrate a particular feature
Outline	• Provide a brief description or explanation
Predict	• Use your own knowledge and understanding along with information provided to state what might happen next
Refer to/With reference to	• Write an answer which uses some of the ideas provided in an illustrative technique or other additional material such as a case study • Reference to stated materials is needed
State	• Write in brief detail by a short statement or a single word
Study	• Examine closely, pay special attention to, look carefully at and interpret
Suggest	• Write down ideas on, or knowledge of a particular feature • Propose or put forward ideas for consideration • Give an explanatory statement referring to particular feature or features if question is 'Suggest why' or 'Suggest reasons for'
Use/Using the information provided	• Base answer on information provided • Refer to the stated materials
Why	• Provide the cause or reason
With the help of	• Use some of the information provided as well as additional material • Refer to stated materials

10. Grade descriptions

The scheme of assessment is intended to encourage positive achievement by all candidates. Mastery of the curriculum is required for further academic study.

A **Grade A** candidate must show mastery of the curriculum and an outstanding performance on the more academic problems.

A **Grade C** candidate must show mastery of the curriculum plus ability in answering questions which are pitched at a more academic level.

A **Grade F** candidate must show success in a majority of tasks set on the curriculum.
The grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades.

The grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades.

	Grade F	**Grade C**	**Grade A**
Ability:	*For Grade F, the candidate is likely to have shown the ability:*	*For Grade C, the candidate is likely to have shown the ability:*	*For Grade A, the candidate is likely to have shown the ability:*
in relation to geographical knowledge with understanding	to demonstrate an elementary level of knowledge of physical and human geography and demonstrate a comprehension of simple geographical ideas and simple geographical relationships	to demonstrate a knowledge of physical and human geographical phenomena and demonstrate a comprehension of important geographical ideas, concepts, generalisations and processes	to demonstrate a wide knowledge and comprehension of physical and human geography, and a clear understanding of their inter-relationships
in relation to geographical analysis	to describe inter-relationships between people and their environment and analyse them in simple terms	to analyse inter-relationships between people and their environment and to recognise the dynamic nature of changes in these relationships	to analyse inter-relationships between people and their environment, to recognise the dynamic nature of these relationships and how and why they may change through time and space

	Grade F	Grade C	Grade A
Ability:	*For Grade F, the candidate is likely to have shown the ability:*	*For Grade C, the candidate is likely to have shown the ability:*	*For Grade A, the candidate is likely to have shown the ability:*
in relation to judgement and decision making within a geographical context	to recognise at an elementary level the existence of differing systems of values which influence economic, environmental, political and social issues which have a geographical dimension	to make balanced judgements on economic, political, environmental and social issues which have a geographical dimension through a recognition of conflicting viewpoints and solutions	to make balanced judgements and to show an awareness of the different attitudes and priorities of individuals and groups, and hence the problematical nature of the interaction of people with the environment
in relation to geographical investigation	(given specific guidance at all stages) to observe, record and attempt to classify geographical data, to use a range of source materials, including maps; to draw simple sketch maps and construct diagrams such as a bar graph, to communicate information by brief statements	(given general guidance) to plan and carry out effectively a geographical enquiry using relevant data from a variety of primary and/or secondary sources; to apply geographical techniques, use map interpretation at different scales, and a range of graphical, numerical and pictorial information such as flowline diagrams, simple census extracts and photographs	(given a minimum amount of guidance) to carry out independently geographical enquiry in which appropriate methodology is applied; to communicate effectively the gathering processing and analysis of the information, to recognise that solutions or conclusions may not readily be drawn from the enquiry

GLOSSARY OF GEOGRAPHICAL TERMS

Acid lava	dome a steep sided volcano composed of acidic lava
Acid rain	rain water containing chemicals which come from burning fossil fuels
Alternative energy	can be used instead of fossil fuels and are renewable (will never run out), e.g. wind power, solar power
Arch	a rocky opening through a headland
Attrition	process of erosion when rocks and boulders, carried by rivers and waves, bump into each other and break up into smaller pieces
Bar	a ridge of sand or shingle deposited across the mouth of a bay attached to land at both ends
Bay	a wide curved coastal inlet
Beach	an area of sand or pebbles along a coast
Birth rate	the number of people born each year per 1000 of the population
Biological weathering	The breakdown of rock by both mechanical wedging action of roots and animal burrowing) and chemical processes resulting from the release of organic acids
Braided river	a river channel broken into sections by deposits
Brownfield site	land which has been built upon before which could be cleared and used again, often for a different purpose
Carbonation	a chemical weathering process whereby calcium carbonate is converted to a soluble form by carbonic acid in rainwater
Carbon footprint	a measure of the impact human activities have on the environment in terms of units of carbon dioxide production
Central Business District (CBD)	the middle of a town or city, with high land values, used mostly for shops and offices
Climate	the average weather conditions of a place over many years
Commercial farming	when crops and animals are sold to make a profit
Composite volcano	a volcano with alternate layers of lava and ash
Conservation	protection of the environment
Convergent plate boundary	(destructive boundary or margin) where two plates are moving together
Corrasion	process of erosion where the material carried by rivers or waves, for example, rubs against river beds and banks or the coast, wearing them away. Sometimes referred to as ‘abrasion’
Corrosion	process of erosion where water reacts with soluble minerals in rocks and dissolves them
Death rate	the number of people dying each year per 1000 of the population

Deforestation	large-scale clearance of trees
Delta	a flat area of land, made up of layers of sediment deposited at the mouth of a river over time
Deposition	the laying down of material carried by rivers, waves or wind
Distributary	a river channel which flows away from the main river in a delta
Divergent plate boundary	(constructive boundary or margin) where two plates are moving apart
Earthquake	a sudden movement within the Earth's crust, usually close to a plate boundary
Ecosystem	a community of plants and animals together with the environment in which they live
Employment structure	the proportion of people working in different types of jobs e.g. primary, secondary, tertiary, quaternary
Energy consumption	the amount of energy used
Environment	the surroundings in which people, plants and animals live
Erosion	the wearing-away of the land by rivers, waves or wind
Exfoliation	the peeling of rock parallel to the rock surface as a result of diurnal temperature change (when water is present)
Exfoliation dome	a hill with a rounded outline as a result of exfoliation
Fold mountain	highland resulting from tensional forces causing rock strata to be curved
Flood	water covering land which is normally dry
Floodplain	the flat area either side of a river that is regularly flooded
Fossil fuels	fuels from the remains of plants or animals, e.g. coal, oil, gas
Freeze-thaw	frost shattering of rocks caused by the freezing and thawing of water in cracks. A form of mechanical weathering
Geothermal energy	energy from heated rock within the Earth's crust
Global warming	increase in world average temperatures
Gorge	a deep, narrow, steep-sided valley
Greenfield site	land which could be built upon but which has never been built upon before
Headland	part of the coastline that juts out into the sea
Hydration	chemical weathering by the addition of water to a mineral causing it to swell
Hydraulic action	process of river and wave erosion caused by the force of water
Hydro-Electric Power (HEP)	electricity produced from the flow of water
Infrastructure	the basic network of transport links, and services such as electricity, water and gas

Intensive farming	farming with high inputs and outputs per land area, usually small areas which use either many people or a lot of capital
Internal migration	the movement of people within a country
International migration	the movement of people from one country to another
LEDC	less economically developed country, which tends to have a low income
Levee	a natural or artificial bank along a river
Longshore drift	zigzag movement of sand and pebbles along a coast
Malnutrition	poor diet, often lacking protein and vitamins, leading to poor health
Meander	large bend in a river
MEDC	more economically developed country, which tends to have a high income
NICs	newly industrialised countries where manufacturing has grown very rapidly, leading to economic development
Nuclear power	energy released from uranium and plutonium
Optimum population	where there is a balance between the number of people and resources in an area to enable everyone to have a good standard of living
Overpopulation NNO	not having enough resources to support the population living in an area
Oxbow lake	semi-circular lake formed when a meander is cut off from the main river
Oxidation	chemical weathering by the addition of oxygen to a mineral
Plantation farming	large farms often growing a single crop which is sold for cash
Plateau	an area of highland which is flat or very gently sloping
Plate boundary (margin)	where two plates meet
Plate tectonics	the theory that the Earth's crust is made up of a series of huge plates which move slowly
Population pyramid (age-sex pyramid)	a horizontal bar graph that shows the age and sex structure of a population
Population structure	the division of the population into selected age groups (usually young dependents, elderly dependents and economically active) and the proportion of males and females within them
Pothole	a circular depression in a rocky river bed resulting from abrasion as a pebble is swirled round in it.
Primary industry	takes natural resources from the land or sea, e.g. farming, fishing, forestry and mining
Quality of life	how content people are with their lives and their environment
Quaternary industry	provides information and expertise, e.g. research and development
Range of a service/ good	how far people will travel to obtain the service or good

Rapids	a turbulent, fast flowing part of a river over an uneven bed where the rocks are of different resistances to erosion
Relative humidity	refers to the amount of water vapour in the air in relation to how much water vapour that the air is able to hold. Relative humidity varies with temperature and is expressed as a percentage
Residential area	an area where people live, land mainly used for housing
Rift valley	a steep sided valley with faulted sides
River channel	the depression in which the river flows consisting of a bed and banks at either side of the bed
River cliff	the steep, eroded outer bank of a meander
Saltation	a process of river transportation in which small particles jump or bounce along the river bed
Scree	a heap of angular rocks at the foot of a slope resulting from rockfall after weathering
Secondary industry (manufacturing)	making goods, usually in a factory, e.g. steelmaking
Service centre	a settlement that provides goods and services for people living in that place and nearby
Settlement function	the main activity of a place
Shield volcano	wide-based volcano with gently sloping sides, composed of basic lava
Site	the land on which a settlement, farm or factory is located
Situation	the location of a settlement in relation to its surrounding area
Slip off slope	the gently sloping bank where deposition takes place on the inside of a meander
Soil erosion	the removal of soil by wind and water
Solar energy	energy from the sun
Solution	process of chemical weathering whereby minerals are dissolved and of river transport where dissolved materials are carried in the water
Sphere of influence	the area served by a settlement, service or shop
Spit	a long narrow ridge of sand or shingle that extends from the mainland into the sea
shanty town	area where poor people live in poor-quality housing on land they do not officially own
Stack	pillar of rock surrounded by sea
Suspension	process of river transport in which small particles are carried along without touching the river bed
Sustainable	using resources no faster than natural processes can replenish them

Sustainable farming	farming systems that allow farm production to continue indefinitely, e.g. soil erosion
Sustainable management of forests	the forest is not destroyed, so forest resources and products can continue to be used by people in the future
Sustainable tourism	tourism that has a good future because neither the environment nor the way of life of local people upon which it depends is being destroyed
Synoptic chart	a map on which isobars and weather at weather stations is shown by symbols for a particular time
TNC	trans-national corporation (multinational) a company with branches in more than one country
Tertiary industry	provides services (not goods), e.g. banking, teaching
Threshold of a service	the minimum number of people needed to use a service for it to be set up
Tombolo	a ridge of deposited sand or shingle which joins the mainland to an island
Traction	process of river transport in which boulders roll along the river bed
Transform plate boundary	(conservative boundary or margin) where two plates are sliding past each other
Transportation	the movement of material by rivers, waves or wind
Tsunami	a huge ocean wave triggered by a submarine earthquake, volcanic eruption or landslide
Thermal power station	produces electricity by burning fossil fuels
Tributary	a stream or river that flows into a larger stream or river
Typhoon (or hurricane or tropical cyclone)	a violent tropical storm characterised by low pressure, heavy rainfall and extremely strong winds
Under population	when there are too few people in an area to use the resources available efficiently
Urban growth	the increase in size and population of towns and cities
Urbanisation	the growing proportion of people living in towns and cities
Volcano	a mountain formed from volcanic material ejected from a vent in a central crater
Waterfall	a point on a river where waterfalls vertically
Wave-cut platform	an area of gently sloping or flat rocks at the foot of a cliff exposed at low tide
Weather	the day-to-day conditions of temperature, precipitation, cloud, sunshine and wind
Weathering	the breakdown of rocks in situ

BLANK PAGE