CARIBBEAN EXAMINATIONS COUNCIL

CAPE® Geography

SYLLABUS
SPECIMEN PAPER
MARK SCHEME
SUBJECT REPORTS

Macmillan Education
4 Crinan Street, London, N1 9XW
A division of Macmillan Publishers Limited
Companies and representatives throughout the world

www.macmillan-caribbean.com

ISBN 978-0-230-48254-8 AER

www.cxc.org
www.cxc-store.com

First published 2014
This revised version published 2015

Designed by Macmillan Publishers Limited
Cover design by Macmillan Publishers Limited and Red Giraffe

CAPE® Geography Free Resources

LIST OF CONTENTS

CAPE® Geography Syllabus Extract 3

CAPE® Geography Syllabus 4

CAPE® Geography Specimen Papers:
Unit 1 58
Unit 1 Paper 02 67
Unit 1 Paper 03/2 73
Unit 2 81
Unit 2 Paper 02 91
Unit 2 Paper 03/2 97

CAPE® Geography Mark Schemes:
Unit 1 105
Unit 1 Paper 02 106
Unit 1 Paper 3/2 132
Unit 2 136
Unit 2 Paper 02 137
Unit 2 Paper 032 163

CAPE® Geography Subject Reports:
May/June 2004 168
May/June 2005 188
May/June 2006 204
May/June 2007 216
May/June 2008 Trinidad and Tobago 227
May/June 2008 Rest of Caribbean 239
May/June 2009 251
May/June 2010 260
May/June 2011 271
May/June 2012 282
May/June 2014 296
May/June 2015 313

Geography Syllabus Extract

Geography is the study of the physical features of the earth and how it is impacted on by human activity. The development of geographical understanding and the ability to appreciate how physical and human forces interact to give identity to places and to create recognisable spatial patterns is central to the study of this syllabus. It facilitates an understanding of the causal relationships at different geographic scales – local, regional and global.

In addition, it contributes to an understanding of the central issues emerging from human exploitation of natural resources. It seeks to prepare persons for the increasing number of work situations in which integrative and graphical skills are important. Moreover, the syllabus focuses on the development of an awareness of the importance of living in harmony with the environment, respect for cultural heritage and an understanding of the need for the sustainable use of resources and the consequences of their misuse.

This syllabus consists of two Units, comprising three Modules each. Each Module is compulsory. Each Unit comprises a physical, human and integrated component. Each Unit forms a coherent course of study, which should prepare candidates for the world of work, and further studies at the tertiary level.

Unit 1: Population Geography, Geomorphic Processes and Hazards

Module 1 – Population and Settlement
Module 2 – Hydrological, Fluvial, Coastal and Limestone Environments
Module 3 – Natural Events and Hazards

Unit 2: Climate, Economic Activity and Development

Module 1 – Climate, Vegetation and Soils
Module 2 – Economic Activity
Module 3 – Development and Disparities in Development

CARIBBEAN EXAMINATIONS COUNCIL

Caribbean Advanced Proficiency Examination
CAPE®

GEOGRAPHY

Effective for examinations from May/June 2010

Published in Jamaica, 2010

Correspondence related to the syllabus should be addressed to:

The Pro-Registrar
Caribbean Examinations Council
Caenwood Centre
37 Arnold Road, Kingston 5, Jamaica, W.I.

Telephone: (876) 630-5200
Facsimile Number: (876) 967-4972
E-mail address: cxcwzo@cxc.org
Website: www.cxc.org

Contents

RATIONALE 1

AIMS 1

SKILLS AND ABILITIES TO BE ASSESSED 2

PRE-REQUISITES OF THE SYLLABUS 3

STRUCTURE OF THE SYLLABUS 3

UNIT 1: POPULATION GEOGRAPHY, GEOMORPHIC PROCESSES AND HAZARDS

MODULE 1: POPULATION AND SETTLEMENT 4

MODULE 2: HYDROLOGICAL, FLUVIAL, COASTAL AND LIMESTONE ENVIRONMENTS 9

MODULE 3: NATURAL EVENTS AND HAZARDS 14

UNIT 2: CLIMATE, ECONOMIC ACTIVITY AND DEVELOPMENT

MODULE 1: CLIMATE, VEGETATION AND SOILS 19

MODULE 2: ECONOMIC ACTIVITY 23

MODULE 3: DEVELOPMENT AND *DISPARITIES IN DEVELOPMENT* 29

OUTLINE OF ASSESSMENT 33

REGULATIONS FOR PRIVATE CANDIDATES 43

REGULATIONS FOR RESIT CANDIDATES 43

ASSESSMENT GRID 44

GLOSSARY 45

This document CXC A21/U2/09 replaces CXC A21/U2/03 issued in 2003.

Please note that the syllabus has been revised and amendments are indicated by italics.

First issued 2002
Revised 2009

Please check the website, www.cxc.org for updates on CXC's syllabuses.

Introduction

The Caribbean Advanced Proficiency Examination (CAPE) is designed to provide certification of the academic, vocational and technical achievement of students in the Caribbean who, having completed a minimum of five years of secondary education, wish to further their studies. The examinations address the skills and knowledge acquired by students under a flexible and articulated system where subjects are organised in 1-Unit or 2-Unit courses with each Unit containing three Modules. Subjects examined under CAPE may be studied concurrently or singly.

The Caribbean Examinations Council offers three types of certification. The first is the award of a certificate showing each CAPE Unit completed. The second is the CAPE diploma, awarded to candidates who have satisfactorily completed at least six Units, including Caribbean Studies. The third is the CAPE Associate Degree, awarded for the satisfactory completion of a prescribed cluster of seven CAPE Units including Caribbean Studies and Communication Studies. For the CAPE diploma and the CAPE Associate Degree, candidates must complete the cluster of required Units within a maximum period of five years.

Recognized educational institutions presenting candidates for CAPE Associate Degree in one of the nine categories must, on registering these candidates at the start of the qualifying year, have them confirm in the required form, the Associate Degree they wish to be awarded. Candidates will not be awarded any possible alternatives for which they did not apply.

Geography Syllabus

◆ RATIONALE

Geography is a discipline transcending the boundaries of the natural and social sciences. Central to the development of geographical understanding is the ability to appreciate how physical and human forces interact to give identity to places and to create recognisable spatial patterns. The study of Geography allows a clear understanding of causal relationships at different geographic scales - local, regional and global. It facilitates an understanding of many of the central issues emerging from human exploitation of natural resources.

A course in CAPE Geography must cultivate in students an appreciation of the complexity and inter-relatedness of the environment in the Caribbean and the wider world. Specifically, the course in CAPE Geography must respond to the needs of individuals and society. For individuals, it must respond by deepening their interest in geographical knowledge and skills and enabling them to pursue higher education goals. It must also equip individuals for the increasing number of work situations in which integrative and graphical skills are important. For the society, it must respond by creating an awareness of *the importance of living in harmony with the environment. It must foster an informed respect for cultural heritage and an understanding of the need for the sustainable use of resources and the consequences of their misuse.*

◆ AIMS

The syllabus aims to:

1. develop an understanding of the location and distribution of geographic phenomena;

2. develop an understanding of the nature of Physical and Human Geography and their interactions;

3. explain the processes at work in Physical and Human Geography;

4. develop an understanding of the environmental consequences of human action;

5. develop an appreciation of the current social and economic problems in their geographical setting;

6. encourage an appreciation of the dynamic nature of Geography;

7. help in the understanding and application of spatial models and concepts to the study of Geography;

8. develop an understanding of the range of techniques, the acquisition of practical skills, and an appreciation of information technology that enhance geographical knowledge;

9. create awareness of the variety of Caribbean environments through field activities;

10. promote knowledge and understanding of world geography;

11. develop an understanding of the place of the Caribbean in the wider world;

12. encourage a critical and reflective approach to the study of Geography.

◆ SKILLS AND ABILITIES TO BE ASSESSED

The skills and abilities which students are expected to have developed on completion of the syllabus have been grouped under three main headings:

(i) Knowledge and Comprehension;
(ii) Use of Knowledge;
(iii) Practical Skills.

Knowledge and Comprehension (KC)

The ability to:

- *define terms and recall facts on a range of geographic phenomena;*
- *describe geographical processes;*
- *describe factors contributing to the development of natural and human environments;*

Use of Knowledge (UK)

The ability to:

Application	-	use facts, concepts and principles in unfamiliar situations;
Analysis and Interpretation	-	organise information as a basis for classification, apply skills to illustrate geographical phenomena, interpret and make inferences from geographical data, compare and contrast geographical information, and appreciate the limitations of data;
Synthesis	-	combine parts to make a meaningful whole and draw conclusions from geographical information;
Evaluation	-	make judgements based on evidence and make relevant recommendations.

Practical Skills (PS)

The ability to:

- use scales for measurement;
- interpret maps and a variety of stimulus material used in Geography;
- collect and collate data used in geographic analysis;
- select techniques and methodologies appropriate to different contexts;
- draw maps, diagrams, sketches and graphs;
- use quantitative techniques appropriately.

◆ PRE-REQUISITES OF THE SYLLABUS

Any person with a good grasp of the Caribbean Secondary Education Certificate (CSEC) Geography Syllabus, or the equivalent, should be able to pursue the course of study defined by this syllabus. However, success in the course of study will also depend on the possession of good verbal and written skills.

◆ STRUCTURE OF THE SYLLABUS

This syllabus consists of two Units of 150 hours each, comprising three Modules of 50 hours each. Each Module is compulsory. Each Unit comprises a physical, human and integrated component.

Each Unit forms a coherent course of study, which should prepare candidates for the world of work, and further studies at the tertiary level.

Unit 1: Population Geography, Geomorphic Processes and Hazards

Module 1 - Population and Settlement
Module 2 - Hydrological, Fluvial, Coastal and Limestone Environments
Module 3 - Natural Events and Hazards

Unit 2: Climate, Economic Activity and Development

Module 1 - Climate, Vegetation and Soils
Module 2 - Economic Activity
Module 3 - Development and *Disparities in Development*

UNIT 1: POPULATION GEOGRAPHY, GEOMORPHIC PROCESSES AND HAZARDS

MODULE 1: POPULATION AND SETTLEMENT

GENERAL OBJECTIVES

On completion of this Module, students should:

1. understand the factors affecting the growth and distribution of human populations and the forms and functions of their settlements;

2. *develop an understanding of demographic processes;*

3. develop appropriate skills and techniques in Human Geography.

SPECIFIC OBJECTIVES

Students should be able to:

1. *explain the factors that influence population distribution using case studies;*

2. assess the methods that depict population distribution;

3. *analyse components of population change;*

4. *analyse the components of population structure;*

5. explain the causes and consequences of population change;

6. assess the method of depicting population density;

7. explain the factors that influence population density;

8. explain the relationship between population density and resources;

9. analyse the types, patterns and factors affecting the location of rural settlements;

10. analyse changes in rural settlements in *more developed countries* (MDCs);

11. *apply urban models to the growth of the city and the development of functional zones in less developed countries (LDC);*

12. explain the processes and problems of urbanisation in MDCs and LDCs and the solutions to urban growth;

13. use topographical maps to analyse population distribution and settlement patterns;

14. apply appropriate investigative and practical techniques.

UNIT 1
MODULE 1: POPULATION AND SETTLEMENT (cont'd)

CONTENT

1. **Population Distribution**

   (i) Factors influencing population distribution on a global scale.

   (ii) Case studies of factors affecting population distribution at a local and regional scale.

   (iii) Methods of depicting population distribution- dot, *Lorenz curves.*

   (iv) The merits and demerits of the methods of depicting population distribution.

2. **Population Change - Natural**

   (i) Factors influencing birth rate, death rate, natural increase, fertility rate, *life expectancy, doubling time.*

   (ii) The demographic transition model and its applicability to the experiences of developed and developing countries.

   (iii) Population policy - case studies of pro-natalist and anti-natalist policies.

3. **Population Change - Migration**

   (i) Types of migration: *international, internal, permanent, temporary, voluntary, forced.*

   (ii) *Causes and consequences to source (sending) and host (receiving) countries. Case studies.*

   (iii) *Calculation of population growth rates and construction of flow lines.*

4. **Population Structure**

   (i) Population structure in LDCs and MDCs.

   (ii) Construction and interpretation of population pyramids.

   (iii) Interpretation of population structure in LDCs and MDCs.

   (iv) Dependency ratios - calculation and implications.

   (v) Youthful and ageing populations. Case studies.

UNIT 1
MODULE 1: POPULATION AND SETTLEMENT (cont'd)

5. **Population and Resources**

(i) Population density and method of depicting population density - choropleth maps.

(ii) The merits and demerits of choropleth maps.

(iii) Optimum population, underpopulation and overpopulation.

(iv) Carrying capacity and factors influencing changes in carrying capacity.

(v) Models of population growth in relation to resources - Boserup and Malthus.

6. **Settlement Processes**

(i) *Rural settlements - types and patterns.*

(ii) Physical and human factors affecting the location of rural settlements. Case study.

(iii) The effects of changes in rural settlements in MDCs.

(iv) The process and problems of urbanization in MDCs and LDCs *including the rank - size rule and primacy.*

(v) Causes and consequences of sub-urbanization, counter-urbanization, re-urbanization or gentrification in MDCs.

(vi) The models of Burgess, Hoyt, Ullman & Harris *and their applicability to cities in the developing world.*

(vii) Solutions to urban growth in MDCs and LDCs.

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives of this Module, teachers are advised to engage students in the teaching and learning activities listed below.

1. Use transparencies to show world population distribution and discuss patterns.

2. Use overlays with relief and vegetation to show relationship between population distribution, landforms and vegetation.

3. Teach students how to construct and interpret dot maps and choropleth maps using statistics. Care must be taken to distinguish between map representation of distribution and density.

4. Advise students to collect population statistics from the Internet and use these to construct population pyramids for a MDC and a LDC.

5. Have students design and administer questionnaires to conduct a survey on population movement in a neighbourhood.

6. Teach students to construct flowline maps depicting population movement, including migration in and out of the Caribbean.

7. Use topographic maps to identify and analyse settlement patterns.

8. Organise group presentations on urban problems and solutions.

Please note that many of these activities can be used in preparation for the school-based assessment.

RESOURCES

Chrispin, J. and Francis, J. — *Population Resources and Development*, London: Collins, 1996.

Caribbean Examinations Council — *Population Geography, Geomorphic Processes and Hazards, Unit 1, 2009.*

Caribbean Examinations Council — *CAPE Internal Assessment for Geography, 2008.*

Hart, C. (Ed.) — *Geography for AS*, Cambridge: Cambridge University Press, 2000.

Lenon, Barnaby and Cleves, P. — *Fieldwork techniques and projects in Geography* (Landmark Geography), UK: Harper Collins, 1994.

Nagle, G. — *Changing Settlements*, London: Nelson, 1998.

Nagle, G. — *Development and Underdevelopment*, London: Nelson, 1998.

Potter, R. and Barker, D., et.al. — *The Contemporary Caribbean*, Harlow, UK: Pearson/Prentice Hall 2004

Prosser, R. Raw, M., Bishop, V. — *Landmark AS Geography*, London: Collins Educational, 2000.

Richardson, D. and St. John, P. — *Methods of Presenting Fieldwork Data*, UK: The Geographical Association, 1997.

Waugh, D. — *Geography - An Integrated Approach*, London: Nelson, 2000.

http://www.popnet.org/
http://www.library.advanced.org/174571
http://www.members.ad.com/bowenand/101.htm
http://www.askjeeves.com/main/metaAnswer.asp
http://www.geog.ovc.bc.ca/physgeog/contents/table
http://web.unfpa.org/swp.html/
http://www.africa2000.com/swdx/charts.htm http://
www.prb.org

UNIT 1
MODULE 2: HYDROLOGICAL, FLUVIAL, COASTAL AND LIMESTONE ENVIRONMENTS

GENERAL OBJECTIVES

On completion of this Module, students should:

1. develop an understanding of geomorphic processes;

2. develop appropriate skills and techniques in Physical Geography.

SPECIFIC OBJECTIVES

Students should be able to:

1. explain the main concepts, flows and processes associated with the hydrological cycle, fluvial, coastal and limestone environments;

2. explain hydrological, fluvial, coastal and limestone processes which influence the development of related landforms;

3. analyse the factors which affect the processes operating within drainage basins and within coastal and limestone environments;

4. explain the effects of human and physical interactions within drainage basins and within coastal and limestone environments over time;

5. apply concepts and processes related to drainage basins, rivers, coastal and limestone environments at different geographical scales;

6. *analyse the effect of sea level changes on rivers and coastal landforms;*

7. apply map reading skills, appropriate investigative and practical techniques *to the identification of hydrological, fluvial, coastal and limestone environments.*

CONTENT

1. **Hydrology**

   (i) Concepts associated with the hydrological cycle and the river basin.

   (ii) Major flows and factors influencing flows within the hydrological cycle, *including precipitation, stem flow, interception, channel precipitation, pathways of water movement, storage.*

(iii) The storm hydrograph and water budgets (spatial and temporal changes).

(iv) Climatic, physical and biotic (human and vegetation) factors affecting drainage basin characteristics and flows.

(v) Factors influencing drainage patterns, drainage density *and their measurements, including stream ordering.*

2. **Fluvial Processes and Landforms**

(i) Concepts associated with fluvial landforms and processes, (include competence and capacity) erosion, transportation, deposition.

(ii) The major flows and processes operating within the river channel, including types of flow and variations of flow.

(iii) Stream channel morphology, including width, depth and wetted perimeter.

(iv) Stream channel characteristics, including meandering.

(v) The influence of physical, biotic (human and vegetation) and geological factors on the long and cross-profiles of rivers, valleys and changes over time. *Include sea level changes.*

(vi) The measurement and calculation of stream velocity, stream width, and channel geometry.

(vii) Weathering and its influence on river basins: aerial and sub-aerial processes.

3. **Coastal Processes and Landforms**

(i) Wave formation, structure, types.

(ii) Major flows (for example, longshore drift) and processes (for example, marine erosion, deposition and wave refraction) operating in coastal environments.

(iii) The influence of the processes of erosion, transportation and deposition on the development of related landforms, including cliffs, beaches, bars.

(iv) Formation and distribution of coral reefs (including the theories). *Threats to coral reefs.*

(v) The influence *of human* and geological factors (rock type and structure) on the shape and form of coastal landforms.

(vi) The influence of sea level changes on coastal landforms.

4. **Processes and Landforms in Limestone** *Environments*

(i) Characteristics of limestone as a rock.

(ii) Chemical weathering *processes and* limestone. *Include formula.*

(iii) Characteristics and development of limestone landscapes. Cite specific examples.

(iv) *Factors affecting the development of limestone landscapes.*

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives of this Module, teachers are advised to engage students in the teaching and learning activities listed below.

1. Use diagrams in the teaching of concepts and flows, such as the hydrological cycle, the storm hydrograph and water budgets.

2. Illustrate how the shape of the storm hydrograph reflects factors operating within the drainage basin, for example, in rural and urban environments.

3. Integrate the following concepts in the teaching of hydrological cycle – precipitation, evaporation, evapotranspiration, interception, infiltration, percolation, runoff, overland flow, base flow, through flow, field capacity and soil moisture deficit.

4. Promote a holistic understanding of the drainage basin as being influenced by climatic, physical and biotic factors.

5. Use case studies, for example, Caribbean examples of water budgets or hydrographs, in the teaching and assessment of this topic.

6. Compile a list of interesting websites on hydrology where students can extend their knowledge and view 3-dimensional simulations of flows and processes.

UNIT 1
MODULE 2: HYDROLOGICAL, FLUVIAL, COASTAL AND LIMESTONE ENVIRONMENTS (cont'd)

7. Organize simple field exercises where students can measure and calculate stream velocity, stream width and channel geometry.

8. Select at least two contrasting rivers to be used as case studies in the study of concepts, processes and landforms. This will help students to apply general and theoretical understandings to examples of concrete phenomena.

9. Use topographic maps to show how geology, vegetation and human factors influence the long and cross-profile of rivers.

10. Discuss with students the variety of coastal environments found in the Caribbean, for example, volcanic, limestone, mangrove, coral reefs, deltas and estuaries. This will provide a framework for the study of coastal flows and processes.

11. Teach students the rudiments of drawing and labelling of field sketches.

12. Discuss with students the range of limestone landscapes. Change in limestone landscapes over time should be highlighted.

13. Use topographic maps to integrate concepts related to rivers, coasts and limestone.

14. Incorporate the formula describing the chemical weathering of limestone into the teaching of this topic.

Please note that many of these activities can be used in preparation for the school-based assessment.

RESOURCES

Bishop, V. and Prosser, R.	*Landform Systems*, London: Collins, 1997.
Bowen, A. and Pallister, J.	*A2 Geography*, Oxford: Heineman, 2001.
Caribbean Examinations Council	Population Geography, Geomorphic Processes and Hazards, *Unit 1, 2009.*
Caribbean Examinations Council	*CAPE Internal Assessment for Geography*, 2008
Guiness, P. and Nagle, G.	*AS Geography, Concepts and Cases*, London: Hodder & Stoughton, 2000.
Lenon, Barnaby and Cleves, P.	*Fieldwork techniques and projects in Geography* (Landmark Geography), UK: Harper Collins, 1994.
Nagle, G.	*Advanced Geography*, New York: Oxford University Press, 2000.
Ross, S., Morgan, J. and Heelas, R.	*Essential AS Geography*, Cheltenham: Nelson Thornes, 2000.
Waugh, D.	*Geography: An Integrated Approach*, London: Nelson, *2000.*
Witherick, M. (ed)	*Environment and People*, Cheltenham: Stanley Thornes Publishers, 1995.
Richardson, D. and St. John, P.	*Methods of Presenting Fieldwork Data*, UK: The Geographical Association, 1997.

http://www.members.ad.com/bowenanb/101.htm
http://www.askjeeves.com/main/metaAnswer.asp
http://www.geog.ouc.bc.ca/physgeog/contents/table
http://www.uwsp.edu/geo/faculty/ritter/geog 101
http://www.geographyalltheway.com

UNIT 1
MODULE 3: NATURAL EVENTS AND HAZARDS

GENERAL OBJECTIVES

On completion of this Module, students should:

1. understand *and appreciate* the differences between natural events and natural hazards;
2. *appreciate the relationship between the natural and human environments;*
3. *develop appropriate skills and techniques in Geography.*

SPECIFIC OBJECTIVES

Students should be able to:

1. distinguish *among* a natural event, a natural hazard and a *disaster*;
2. describe the different types of hazards;
3. explain the causes and consequences of flooding;
4. explain as natural events, the formation of plates and the processes involved in the movement of plates;
5. describe the distribution and characteristics of landforms resulting from plate movement;
6. describe the impact of floods, volcanoes and earthquakes as hazards;
7. assess the responses to hazards;
8. *use topographical maps to analyse vulnerability to hazards*;
9. apply appropriate investigative and practical techniques.

UNIT 1
MODULE 3: NATURAL EVENTS AND HAZARDS (cont'd)

CONTENT

1. *Natural Events, Hazards and Disasters*

   (i) Concept of a natural event, hazard and *disaster.*

   (ii) Types of hazards - technological, tectonic, climatic and geomorphological.

2. **Flooding**

   (i) *Types of floods - riverine, coastal, estuarine.*

   (ii) Causes of floods - types of precipitation events, influence of human activity, sea level changes, drainage basin characteristics.

3. **Plate Tectonics**

   (i) Continental drift and plate tectonics.

   (ii) The formation of plates, global distribution and the direction of movement of plates.

   (iii) Processes operating at different types of plate margins and hot spots.

   (iv) Earthquakes - magnitude, relationship to plate boundaries, seismic waves and faulting.

   (v) Distribution and characteristics of volcanoes in relation to plate boundaries.

   (vi) Formation of island arcs and origin of fold mountains.

   (vii) Positive impact of volcanic and earthquake activity.

   (viii) Value of folded and faulted landscapes.

4. **Volcanoes, Earthquakes and Floods as Hazards**

   (i) Earthquakes - *primary and secondary effects and factors influencing these effects.*

   (ii) Types of volcanic eruptions, characteristics of volcanic material, nature of the hazards.

   (iii) Case studies of the negative impact of floods, earthquakes and volcanic eruptions.

   (iv) Photo interpretation, hazard risk maps.

5. **Response to Hazards**

(i) Current capabilities in predicting earthquake, flooding and volcanic activities.

(ii) Individual and collective responses to earthquake, floods and volcanic hazards before the occurrence and after the occurrence.

(iii) Government responses to hazards - earthquakes, floods and volcanoes.

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives of this Module, teachers are advised to engage students in the teaching and learning activities listed below.

1. Provide students with opportunities for organising and categorising an array of different hazards. In this way students will grasp the variety of types of hazards that occur. This exercise also provides opportunities for teachers and students to choose a hazard for purposes of school-based assessment that is different from those emphasised in the syllabus. Thus, if landslides are more contextually relevant to certain locations than floods, volcanoes or earthquakes, then students and teachers can offer a study of such phenomena for the school-based assessment.

2. Organise discussions with students so that the distinction between natural events and hazards becomes clear. For example, the effect on man is important in defining an extreme event as either a natural event or a hazard. At the same time, the role of man is also important in creating and intensifying the risk of hazards.

3. Vary the kind of studies offered for school-based assessment. For example, if one's context does not offer suitable studies of natural events and hazards, the interpretation of photographs could be used.

4. Explore the use of different resources as an aid in the teaching of this topic. For example, the Internet can provide up-to-date information, such as photographs, statistics and commentaries on news, such as a recent hazard.

5. Advise students to undertake research on natural events and hazards in libraries and on the Internet. Discuss the findings. This would enable students to have a better understanding of the concepts of plate margins, hazards and natural events.

6. Organise a debate between two (2) groups of students on positive and negative effects of volcanic and/or earthquake activity. Positive effects of earthquakes that can be researched by students include value of seismic waves in revealing the interior structure of earth, other scientific value, formation of scenic landscapes, exposure of economic minerals, and formation of waterfalls.

7. Organise visits to areas that have experienced disasters. The visits could assist students to appreciate the causes and consequences of different types of hazards.

8. Advise students to compile records in scrapbooks with photographs and newspaper clippings as sources of current information. This should provide material for students to develop case studies.

9. Utilize documentaries from audio visual and other media to broaden and deepen knowledge of different types of hazards and responses.

Many of these activities can be used in preparation for the school-based assessment.

Note to Teacher:

Transcend the normal disciplinary boundaries of geography. This topic is integrated (physical and human) and interdisciplinary. Thus, there is a general sociological input in this issue that should be teased out in "Response to Hazards". For example, it is evident that how people respond to a disaster is linked to the concept of symbolisation - disasters create an image which is uniform, compelling and shared by those who experience the event. However, victims of earthquakes and other disasters, if not injured, become a significant source of help, if they are trained in first aid.

RESOURCES

Bishop, V.	*Hazards and Response*, London: Collins, 1998.
Bowen, A. and Pallister, J.	*A2 Geography*, Oxford: Heineman, 2001.
Caribbean Examinations Council	*Population Geography, Geomorphic Processes and Hazards, Unit 1, 2009.*
Caribbean Examinations Council	*CAPE Internal Assessment for Geography*, 2008.
Lenon, Barnaby and Cleves, P.	*Fieldwork techniques and projects in Geography* (Landmark Geography), UK: Harper Collins, 1994.
Nagle, G.	*Hazards*, London: Nelson, 1998.
Nagle, G.	*Advanced Geography*, New York: Oxford University Press, 2000.
Potter, R. and Barker, D., et.al.	*The Contemporary Caribbean, Harlow, UK: Pearson/Prentice Hall 2004.*
Richardson, D. and St. John, P.	*Methods of Presenting Fieldwork Data, UK: The Geographical Association, 1997.*
Witherick, M.	*Environment and People*, Cheltenham: Stanley Thornes Publishers, 1995.

http://www.cedera.org
http://www.volcano.und.nodak.edu/vw.html
http://www.vulcan.wr.usgs.gov/servers/wolcservers.html
http://www.geology.usgs.gov/quake.html
http://www.gldss7.cr.usgs.gov/neis/eqlists/eqlists.html
http://www.kto.co.jpliving/diary_of_an_earthquake.html
http://www.city.kobe.jp/
http://www.maff.gov.uk/environ/fed/
http://www.uwiseismic.com
htpp://www.mvo.ms

UNIT 2: CLIMATE, ECONOMIC ACTIVITY AND DEVELOPMENT

MODULE 1: CLIMATE, VEGETATION AND SOILS

GENERAL OBJECTIVES

On completion of this Module, students should:

1. understand the principles governing climate and weather systems, the development of vegetation and soil;
2. develop appropriate skills and techniques in Geography;
3. apply appropriate investigative and practical techniques.

SPECIFIC OBJECTIVES

Students should be able to:

1. explain the factors affecting the receipt of solar radiation;
2. explain the factors influencing atmospheric circulation;
3. explain the conditions influencing and resulting from moisture in the atmosphere;
4. explain weather systems and their associated conditions;
5. *analyse climate change and global warming;*
6. explain microclimates and the formation of local winds and fogs in mountains and valleys;
7. explain the distribution and the characteristics of the major types of vegetation;
8. explain soil formation, soil types, soil erosion and conservation;
9. explain the interrelationships among climate, soil, vegetation and human activities;
10. use topographical maps to analyse the distribution of vegetation;
11. apply appropriate investigative and practical techniques.

UNIT 2
MODULE 1: CLIMATE, VEGETATION AND SOILS (cont'd)

CONTENT

1. **Atmosphere and Weather Systems**

   (i) Global heat budget, *including long and short wave radiation, albedo.*

   (ii) Global surface and upper wind circulation, *including jet streams, Rossby waves.*

   (iii) Global patterns of vertical and horizontal temperature and pressure variations.

   (iv) Atmospheric humidity (absolute and relative humidity).

   (v) Condensation, types of precipitation, *types of rainfall and mechanisms of raindrop formation.*

   (vi) Lapse rates.

   (vii) Weather conditions resulting from atmospheric stability, instability and *conditional instability.*

   (viii) Development of high and low pressure systems: anticyclones, depressions, hurricanes, Inter Tropical Convergence Zone (ITCZ) *and weather conditions associated with weather systems, air masses and fronts.*

   (ix) Interpretation of synoptic charts.

   (x) *Long and short-term climate change, global warming – causes, effects, solutions.*

   (xi) The concept *of microclimates.*

   (xii) Urban, rural and mountain microclimates.

2. **Vegetation Types**

   (i) The distribution and characteristics of tropical rainforest, tropical grasslands, temperate grasslands, northern coniferous forests.

   (ii) The relationships between vegetation types and climate and human factors.

   (iii) The opportunities and problems associated with the development of the tropical rain forests.

(iv) Variations in vegetation in response to differences in rock type, altitude, slope angle and drainage in a local area.

(v) Vegetation studies using quadrats and transects.

3. **Soil Formation and Soil Conservation**

(i) The nature and properties of soil: soil profile, texture, structure, organic matter content, water, air.

(ii) *Processes of soil formation, including weathering, leaching.*

(iii) The interrelationships among parent material, climate, vegetation, topography, human activity and time on soil formation.

(iv) The formation *and characteristics* of the soil types which develop under tropical rainforest and temperate grasslands.

(v) The study of soil horizons in the field.

(vi) *Soil erosion and effectiveness of soil conservation methods, including agroforestry. Cite specific examples.*

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives of this Module, teachers are advised to engage students in the teaching and learning activities listed below.

1. Sketch a profile of the atmosphere to identify zones such as, the troposphere and emphasise that weather changes take place in the troposphere.

2. Provide the data for the construction of temperature/height graphs to teach the concept of lapse rates. Emphasise the different mechanisms influencing the environmental and adiabatic lapse rates.

3. Listen to and look at the weather news on the radio and television to appreciate daily weather phenomena.

4. Practise interpreting synoptic weather charts.

5. Visit a meteorological station to understand the use of instruments in weather forecasting.

6. Use quadrats and transects to study vegetation distribution and density in a local area.

7. Conduct field trips to study soil profiles.

8. Organise discussions to explain the relationships among climate, vegetation, soil and human actions.

9. Organise field visits to local areas to collect soil samples and conduct simple tests for texture and structure.

Please note that many of these activities can be used in preparation for the school-based assessment.

RESOURCES

Caribbean Examinations Council	*Population Geography, Geomorphic Processes and Hazards, Unit 1, 2009.*
Caribbean Examinations Council	*CAPE Internal Assessment for Geography, 2008.*
Guiness, P. and Nagle, G.	*AS Geography, Concepts and Cases*, London: Hodder and Stoughton, 2000.
Lenon, Barnaby and Cleves, P.	*Fieldwork techniques and projects in Geography* (Landmark Geography), UK: Harper Collins, 1994.
O'Hare, G.	*Soils, Vegetation and Ecosystem*, Edingburgh: Oliver and Boyd, 1999.
O'Hare, G. and Sweeney, J.	*The Atmospheric System*, Edingburg: Oliver and Boyd, 1986.
Park, C.	*Tropical Rainforest*, London: Routledge, 1992.
Richardson, D. and St. John, P.	*Methods of Presenting Fieldwork Data*, UK: The Geographical Association, 1997.
Strahler, A. and Strahler, A.	*Introducing Physical Geography*, New York: John Wiley and Sons, 2005.
Warburton, P.	*Atmospheric Processes and Human Influence*, London: Collins, 1995.

http://www.euronet.nl/users/mbleeker/suriname/suri-eng.html
http://www.gaia.nelson.co.uk
http://www.ran.org/ran/

UNIT 2
MODULE 2: ECONOMIC ACTIVITY

GENERAL OBJECTIVES

On completion of this Module, students should:

1. appreciate the pattern of economic activities;
2. develop appropriate skills and techniques used in Geography;
3. apply appropriate investigative and practical techniques.

SPECIFIC OBJECTIVES

Students should be able to:

1. classify economic activities and examine their changing relative importance;
2. explain the factors influencing the types and organization of agriculture;
3. describe the factors affecting the location and development of manufacturing industries;
4. evaluate the effects of agriculture, *industry and tourism on the environment in MDC's and LDC's*;
5. *evaluate the potential impact of climate change on farming systems;*
6. account for economic changes in agriculture and industry;
7. analyse the factors contributing to the development of tourism;
8. apply models of economic activity;
9. use topographical maps to analyse the location of economic activities;
10. apply appropriate investigative and practical techniques.

CONTENT

1. **Economic Structure**

   (i) The characteristics of primary, secondary, tertiary, quaternary and *quinary economic activities.*

   (ii) *The changing relative importance of the types of economic activities, the reasons for the changes and the relationship to economic development.*

UNIT 2
MODULE 2: ECONOMIC ACTIVITY (cont'd)

2. **Agriculture**

(i) *Modern farming in the European Union (arable, livestock).*

(ii) *Traditional (plantation, commercial and non-commercial small farming) and non-traditional agriculture (including aquaculture, hydroponics) in the Caribbean.*

(iii) The environmental, economic, cultural and political factors which influence farming in the Caribbean and the European Union (for example, transnational trading blocs, government policies, changes in trading agreements).

(iv) The environmental impact of and environmental conflicts arising from agriculture in MDCs and LDCs.

(v) *Von Thunen's* model of rural land use and its applicability at both the local and the international scales.

(vi) Graphs to show net profit curves and to calculate locational rents based on *Von Thunen's* model.

(vii) The potential impact of climate change on farming systems in LDCs.

3. **Industry**

(i) The relevance of Weber's model of industrial location.

(ii) The factors responsible for development and change in a major industrial region in an MDC
- raw materials, technology, transport, New Industrial Division of Labour (role of Multi National Corporations (MNC), globalisation, outsourcing, specialization, off-shoring, comparative advantage).

(iii) Case study of industrial change in an LDC.

(iv) Approaches to and problems of industrial development in the Caribbean.

(v) Economic and social characteristics of the informal sector.

(vi) The environmental impact of industrial development in MDCs and LDCs. Case studies.

UNIT 2
MODULE 2: ECONOMIC ACTIVITY (cont'd)

Tourism

(i) *Types of Tourism, Recreation and Leisure.*

(ii) *The social and economic factors accounting for the growth and changing nature of tourism globally.*

(iii) *Island and mainland tourism - location, patterns of arrival, organization. Cite specific examples.*

(iv) *Apply Butler's Tourism Lifecycle Model to a resort in an MDC.*

(v) *Case Study - Tourism in a Caribbean territory - location, resource base, trends in arrivals, marketing, foreign and/or local entrepreneurship, positive and negative impacts and conflicts.*

(vi) *Effect of tourism on the environment in LDCs and MDCs.*

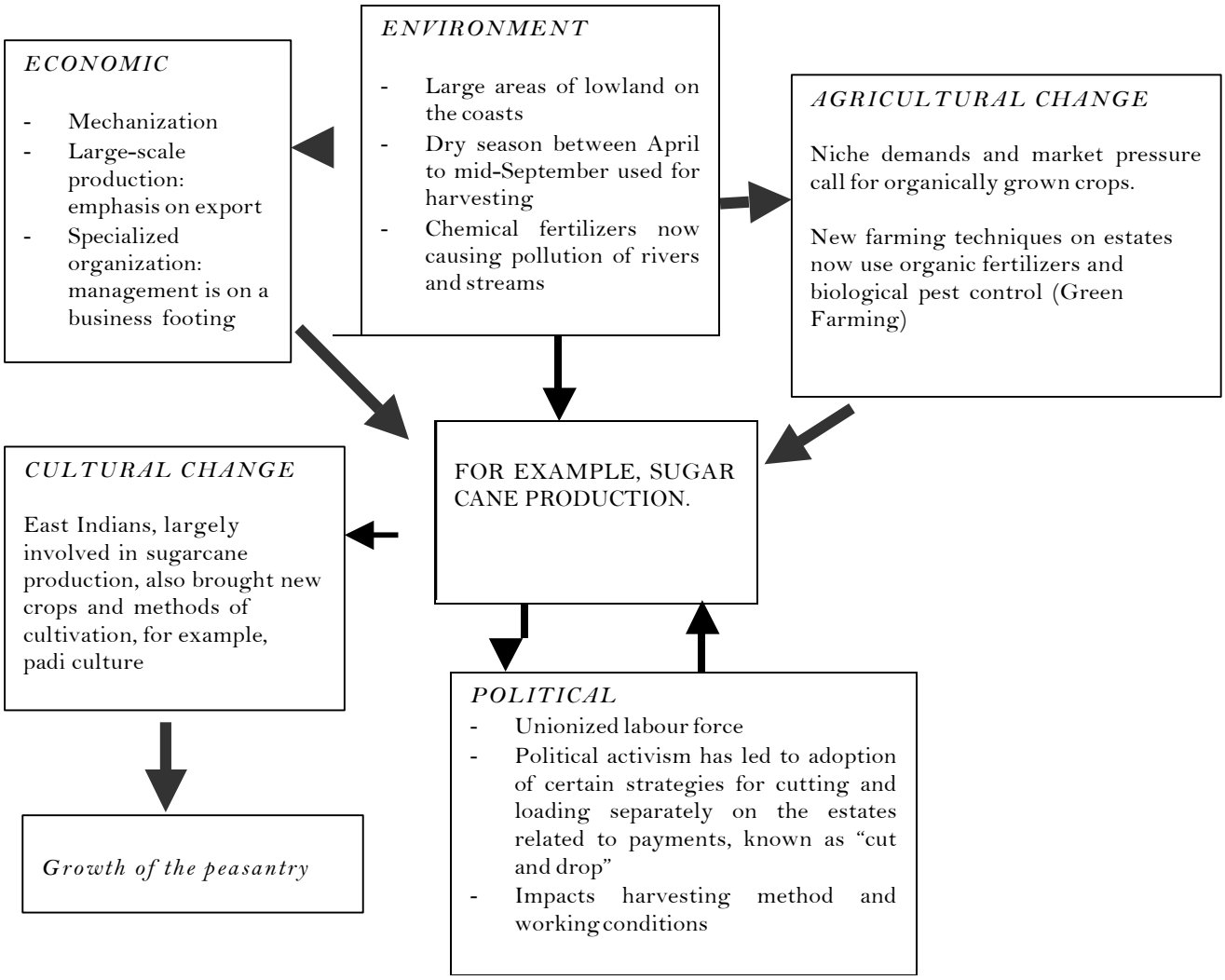
Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives of this Module, teachers are advised to engage students in the teaching and learning activities listed below.

1. Use pie charts to compare the structure of economic activities (primary, secondary, tertiary, quaternary and quinary) between countries. Students can be guided in the interpretation of these pie charts.

2. Prepare for complex topics, such as "the environmental, economic, cultural and political factors which influence farming" in a particular area by using concept maps as a brainstorming exercise (see next page). The results of such an exercise can provide a useful summary.

SOME FACTORS INFLUENCING FARMING IN GUYANA



UNIT 2
MODULE 2: ECONOMIC ACTIVITY (cont'd)

Suggested Teaching and Learning Activities (cont'd)

3. Compare the effects of agriculture on the physical environment in both the LDC's and the MDC's to explore the differences in primary economic activity between these two groups of countries.

4. Compile a list of interesting websites that students can use to develop up-to-date knowledge on economic activity. There are websites about Dominica that offer commentary on the banana dispute between the World Trade Organization (WTO) and European Union (EU) from a Caribbean perspective.

5. Organize students into small groups to research agricultural change at the local level. For example, interviews held with established residents can yield information about farming in an area over the last 40 years. This information can be used to compare with what obtains today. Land use maps can also be used as a source of information.

6. Choose a major industrial region in a MDC, such as the Ruhr that can easily incorporate many of the content areas listed under 'Industry'. For example, the history of the Ruhr will yield traditional factors affecting the location of industry and this can be supported by Weber's model. A study of the area today will show the impact of change, particularly those brought about by new technologies and globalization.

7. Draw from the students' knowledge of the economic and social characteristics of the informal industrial sector. They may have personal knowledge of community members engaged in services, cottage industries and crafts. Compiling what they know about these people's lives can help to formulate categories, such as "social "and "economic".

8. Illustrate tourist arrivals and the growth of tourism by maps showing flow lines, proportional divided circles and bar graphs.

9. Collect information about island and mainland tourism through brochures from travel agencies, from the local tourist board, from Internet sites, advertisements in newspapers and magazines, and from cable television.

10. Use topographical maps to analyse the location of economic activities. For example, students can be asked to explain the distribution of different crops in an area.

Please note that many of these activities can be used in preparation for the school-based assessment.

RESOURCES

Bale, J.	*The Location of Manufacturing Industry*, Essex: Oliver and Boyd, 1977.
Caribbean Examinations Council	*A Study Guide for Tourism, Unit 2, Module 2*, 2002.
Caribbean Examinations Council	*CAPE Internal Assessment for Geography, 2008.*
Lenon, Barnaby and Cleves, P.	*Fieldwork techniques and projects in Geography* (Landmark Geography), UK: Harper Collins, 1994.
Nagle, G.	*Tourism, Leisure, Recreation*, London: Nelson, 1999.
Potter, R. and Barker, D., et.al.	*The Contemporary Caribbean*, Harlow UK: Pearson/Prentice Hall, 2004.
Raw, M.	*Manufacturing Industry – The Impact of Change*, London: Collins, 2000.
Raw, M. and Atkins, P.	*Agriculture and Food*, London: Collins, 1995.
Richardson, D. and St. John, P.	*Methods of Presenting Fieldwork Data*, UK: The Geographical Association, 1997.
Waugh, D.	*Geography: An Integrated Approach*, London: Nelson, 2000.

http://www.tia.org/research/reslinksasp#airtravel
http//:www.vtourist.com/vt/
http//:www.fao.org
http//:www.sztdb.asiansources.com/FACTS/TOURISM.HTML
http//:www.wfp.org/index.html http//:www.igc.org/wri/wri/wr-98-99/feeding.html
http//:www.geog.umd.edu/webspinner/bkearney/fall2002/economicdevelopment.html

UNIT 2
MODULE 3: DEVELOPMENT AND DISPARITIES IN DEVELOPMENT

GENERAL OBJECTIVES

On completion of this Module, students should:

1. understand the nature of development and disparities in development;
2. develop appropriate skills and techniques in Geography;
3. apply appropriate investigative and practical techniques.

SPECIFIC OBJECTIVES

Students should be able to:

1. explain the concept and nature of development, underdevelopment and *sustainable development;*
2. *measure disparities in development;*
3. *apply models of development;*
4. *analyse global disparities in development;*
5. *analyse regional disparities in development;*
6. *analyse local disparities in development;*
7. *evaluate measures to overcome disparities;*
8. *use topographic maps to analyse spatial disparities;*
9. *apply appropriate investigative and practical techniques.*

CONTENT

1. **Development and Under-development**

   (i) Definition of development, underdevelopment and sustainable development.

   (ii) Economic and non-economic indicators of development.

(iii) Strengths, weaknesses of economic and non-economic indicators of development.

(iv) The representation of the data collected in the form of charts, graphs and maps.

(v) Analysis of disparities from the data collected.

2. **Global Disparities in Development**

(i) Definitions of poverty, life expectancy, gender.

(ii) Global disparities in income, poverty, life expectancy and education, including gender disparities.

(iii) Rostow's model, Colonialism, Dependency model and their utility in explaining disparities in development between Britain and the Caribbean.

(iv) The concept of Small Island Developing States (SIDS) (include, for example, the role of disasters, debt burden, technology and government policy) and its utility in explaining disparities in development between Britain and the Caribbean.

(v) The consequences of global disparities (economic, political, environmental and social consequences).

3. **Regional Disparities in Development**

(i) Myrdal's cumulative causation model.

(ii) The application of Myrdal's cumulative causation model to an understanding of regional disparities in income, poverty or health in a specific country.

(iii) Apply Spearman's rank correlation coefficient to measure disparities.

4. **Local Disparities in Development**

(i) Friedman's core-periphery model.

(ii) The application of Friedman's core-periphery model to an understanding of urban-rural disparities in levels of economic development within a specific country.

(iii) Apply Spearman's rank correlation coefficient to measure disparities.

5. **Measures to overcome Disparities**

   (i) Aid-forms or types, global patterns (donors, recipients), impact, effectiveness, conditionalities.

   (ii) Debt relief.

   (iii) Appropriate technology.

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives of this Module, teachers are advised to engage students in the teaching and learning activities listed below.

1. Provide students with opportunities for classroom discussions so that they are able to clearly understand and differentiate between concepts, for example, students should be able to define the concepts of absolute poverty and relative poverty and explain the difference between them.

2. Students should visit libraries, government statistical offices within their own country and collect data on such aspects as employment levels, mortality rates and make comparisons for different regions within their country. They could also prepare maps to reflect the spatial differences.

3. Students are advised to visit Websites and collect and share information on development theories, for example, Friedman, Myrdal, and also regional statistical information.

4. Students are advised to visit the libraries of various regional institutions, for example, Caribbean Community (CARICOM), Pan American Health Organization, (PAHO), World Health Organization (WHO), Economic Commission for Latin America and the Caribbean (ECLAC) and collect comparative data for Caribbean countries.

5. Teachers are advised to take students on field visits to different regions within their own countries and conduct interviews, take photographs so that comparisons could be made of socio-economic conditions. They could also be encouraged to describe programmes that are undertaken to combat disparities.

6. Students should collect data and compute the Spearman's Rank Correlation Coefficient from the data acquired.

7. Students should utilize the field information they collect for the development of models of regional development.

Please note that many of these activities can be used in preparation for the school-based assessment.

RESOURCES

Allen, T. and Thomas, A. (Eds.)	*Poverty & Development in the 21st Century*, New York: Oxford University Press, 2000.
Caribbean Examinations Council	*CAPE Internal Assessment for Geography, 2008.*
Chrispin, J. and Francis, J.	*Population, Resources and Development*, London: Collins, 2000.
Lenon, Barnaby and Cleves, P.	*Fieldwork techniques and projects in Geography* (Landmark Geography), UK: Harper Collins, 1994.
Morgan, J.	*Development, Globalisation and Sustainability*, London: Nelson Thornes, 2001.
Nagle, G.	*Advanced Geography*, New York: Oxford University Press, 2000.
Nagle, G.	*Development and Underdevelopment*, London: Nelson, 1998.
Potter, R. and Barker, D., et.al.	*The Contemporary Caribbean*, Harlow, UK: Pearson/Prentice Hall 2004.
Richardson, D. and St. John, P.	*Methods of Presenting Fieldwork Data*, UK: The Geographical Association, 1997.
Witherick, M.	*Environment and People*, Cheltenham: Stanley Thornes Publishers, 1995.

http://www.imf.org/external/pubs/ft/fandd/2001/12/wade.html
http://www.worldbank.org/depweb/english/modules/social/life
http://www.findarticles.com
http://www.undp.org
http://www.worldbank.org
http://www.itdg.org.pe/index.html
http://www.ch/

◆ OUTLINE OF ASSESSMENT

Each Unit of the syllabus is assessed separately. The assessment scheme is identical in each Unit; however, grades are awarded independently.

The Assessment will comprise two components, one external and one internal. Candidates must complete the School-based Assessment for the first Unit that they write. Candidates may carry forward the School-based Assessment mark from the first Unit written to the second Unit (irrespective of the mark earned), or may opt to complete the School-Based Assessment for the second Unit as well.

EXTERNAL ASSESSMENT FOR EACH UNIT (80%)

Written Papers – 4 hours 30 minutes

Paper 01 (1 hour 30 minutes)	The paper will consist of forty-five (45) compulsory multiple-choice items. There will be fifteen (15) items based on each Module.	30%
Paper 02 (3 hours)	Section A This section comprises one compulsory question, testing the application of practical skills from the three Modules. Section B This section will consist of six extended-response questions; two questions based on each Module. Candidates will be required to answer one question from each Module; a total of THREE questions.	50%

SCHOOL-BASED ASSESSMENT FOR EACH UNIT (20%)

Paper 03/1

A research paper of approximately 1500 words, based on any topic covered in any of the three (3) Modules of a Unit.

Candidates who, in the same year, register for both Units of CAPE Geography may opt to:

(a) submit a single School-Based Assessment assignment for both Units; or

(b) submit a separate School-Based Assessment assignment for each Unit.

Candidates who are doing two Units of CAPE Geography at the same sitting must indicate from which Unit the School-Based Assessment assignment was selected.

If a candidate is repeating a Unit, the moderated School-Based Assessment score obtained for that Unit may be used for both Units taken at the same time.

Paper 03/2

Private candidates are required to write an Alternative Paper - Paper 03/2. Details are on page 43.

MODERATION OF SCHOOL-BASED ASSESSMENT

All School-based Assessment Record Sheets and sample of projects must be submitted to the Local Registrar who will forward these to CXC by May 31st of the year of the examination. A sample of projects will be requested by CXC for moderation purposes. These samples will be re-assessed by CXC examiners who moderate the School-Based Assessment. Teachers' marks may be adjusted as a result of moderation. The Examiner's comments will be sent to schools.

Copies of the students' projects that are not submitted must be retained by the school until three months after publication by CXC of the examination results.

ASSESSMENT DETAILS

External Assessment by Written Papers (80% of Total Assessment)

Paper 01 (1 hour 30 minutes - 30% of the Total Assessment)

1. Composition of Paper

(i) This paper will consist of forty-five (45) multiple-choice items. There will be fifteen (15) items based on each Module.

(ii) All items are compulsory.

2. Syllabus Coverage

(i) Knowledge of the entire syllabus is required.

(ii) The intention of this paper is to test candidates' knowledge across the breadth of the syllabus.

3. Question Type

Questions may be presented using a combination of words and a variety of stimuli including photographs, maps and diagrams.

4. Mark Allocation

(i) One mark will be assigned for each *item.*

(ii) The *maximum mark* available for this paper is 45 and will be weighted to 81.

(iii) This paper contributes 30% towards the final assessment.

(iv) Marks will be awarded for knowledge, use of knowledge and practical skills.

5. Use of Calculators

Candidates are allowed to use non-programmable calculators in the examinations. Each candidate is responsible for providing his or her own calculator and *for ensuring* that it functions throughout the examination.

6. ***Use of Geometrical Instruments***

Candidates are allowed to use geometrical instruments in the examinations. Each candidate is responsible for providing his or her own instruments.

Paper 02 (3 hours - 50% of Total Assessment)

1. Composition of Paper

(i) Section A consists of one compulsory question, based on the three Modules and examines the application of practical and map-reading skills.

(ii) Section B consists of three pairs of free-response questions with each pair based on a different Module. Candidates are required to select and answer three questions, one question from each pair *(Module).*

2. Syllabus Coverage

(i) Each question may focus *on* or develop a single theme or several unconnected themes.

(ii) Comprehensive knowledge of the syllabus is required.

3. Question Type

(i) The question in Section A is *arranged* into several subtasks which examine the application of practical skills.

(ii) The questions in Section B are *of* a free-response form and will require extended *responses or essays.*

4. Mark Allocation

(i) The paper is worth 135 marks.

(ii) Section A - *The maximum mark available for t*his section is 45 with 15 marks allocated to each Module.

(iii) Section B - The *maximum mark available for* this section is 90. Each Module is allocated 30 marks. *In essays, marks will be awarded for the introduction and conclusion.*

(iv) The marks will be awarded for Knowledge, Use of Knowledge and Practical Skills.

5. Use of Calculators

Candidates are allowed to use non-programmable calculators in the examinations. Each candidate is responsible for providing his or her own calculator and *for ensuring* that it functions throughout the examination.

6. Use of Geometrical Instruments

Candidates are allowed to use geometrical instruments in the examinations. Each candidate is responsible for providing his or her own instruments.

Paper 03/1 – School-Based Assessment (20% of Total Assessment)

School-Based Assessment is an integral part of student assessment in the course covered by this syllabus. It is intended to assist students in acquiring certain knowledge, skills and attitudes that are associated with the subject. The activities for the School-Based Assessment are linked to the syllabus and should form part of the learning activities to enable the student to achieve the objectives of the syllabus.

During the course of study for the subject, students obtain marks for the competence they develop and demonstrate in undertaking their School-Based Assessment assignment. These marks contribute to the final marks and grades that are awarded to students for their performance in the examination.

The guidelines provided in this syllabus for selecting appropriate tasks are intended to assist teachers and students in selecting assignments that are valid for the purpose of School-Based Assessment. The guidelines provided for the assessment of these assignments are intended to assist teachers in awarding marks that are reliable estimates of the achievement of students in the School-Based Assessment component of the course. In order to ensure that the scores awarded by teachers *at a centre* are not out of line with the CXC standards, the Council undertakes the moderation of a sample of the School-Based Assessment assignments marked *from* each *centre*.

School-Based Assessment provides an opportunity to individualise a part of the curriculum to meet the needs of students. It facilitates feedback to the student at various stages of the experience. This helps to build the self-confidence of students as they proceed with their studies. School-Based Assessment also facilitates the development of the critical skills and abilities emphasised by this CAPE subject and it enhances the validity of the examination on which candidate performance is reported. School-Based Assessment, therefore, makes a significant and unique contribution to both the development of relevant skills, and the testing and rewarding of students for the development of those skills.

Skills to be Assessed

The following practical skills will be assessed:

1. The use of scales for measurement;

2. The ability to read maps as well as a variety of stimulus material used in Geography;

3. The collection and collation of data used in geographic analysis;

4. The selection of techniques and methodologies appropriate to different contexts;

5. The drawing of maps, diagrams, sketches and graphs;

6. The appropriate use of quantitative techniques.

Paper 03/1

School-Based Assessment will take the form of a research project. This research project will incorporate the skills outlined above and must emphasize the relevant areas outlined in Table 1 below.

The skills that should be selected for assessment from each Unit are presented in the table below.

Table 1

UNIT 1	UNIT 2
The project must involve the use and interpretation of one or more of the following: • Questionnaire • Dot maps, choropleths • Population pyramids • Proportional circles, flowlines • Maps • Stream velocity • Soil moisture, water budgets • Storm hydrograph • Photographs • Diagrams • Field sketches	The project must involve the use and interpretation of one or more of the following: • Questionnaire • Synoptic chart • Weather instruments • Vegetation sampling • Soil horizons • Graphs, flowlines • Choropleths • Isolines • Sampling techniques • Maps • Charts and statistics • *Spearman's rank correlation coefficient*

The topic selected for the research project can be drawn from the *practical areas of the* content listed in each Module, for example:

1. Analysis of the population structure of two Caribbean islands (Unit 1, Module 1);

2. *Measurement* of stream velocity (Unit 1, Module 2);

3. Community response to hazards (Unit 1, Module 3);

4. Variations in temperature with altitude (Unit 2, Module 1);

5. *An analysis* of informal commercial activity (Unit 2, Module 2);

6. *An analysis of* disparities in development within countries (parishes, *counties*), (Unit 2, Module 3).

The following steps are intended to provide further guidance in completing the research project:

1. Identify the skills that are to be used in the investigation.

2. The area(s) must be chosen from those listed for the relevant Unit as indicated in Table 1, for example, dot maps, choropleth, diagrams or field sketches. Please note that field sketches are done in the field and not sketched from photographs. Photographs should not be used in place of field sketches.

3. The project should focus on a specific geographical problem or an investigation. Examples of suitable topics are:

   (a) For Unit 1, **"The purpose of this investigation is to use dot maps to analyse how the population distribution in Montserrat has changed over the last ten years."**

   (b) For Unit 2, **"The aim of this investigation is to examine the effects of rock types on the development of soil profiles in two (2) areas."**

4. The skill to be used should be made clear in the statement of purpose or in the methodology.

5. If the project is based on a practical exercise in the field, there must be evidence that information was collected in the field and not from a secondary source.

6. For the example given in 3 (a) above, some important steps are:

   (a) Constructing dot maps to show population changes over the ten-year period;
   (b) Describing the changes shown on the maps;
   (c) Referring to the maps in the description and analysis in order to maximise credit for integration;
   (d) Integrating the maps into the body of the report – the maps should be neat, well labelled with title and key;

(e) Focusing on the maps in the investigation and not using them as mere illustrations.

7. For the example given in 3 (b) above, some important steps are:

(a) Conducting investigations in the field;
(b) Drawing detailed soil profiles for each site;
(c) Describing each soil profile;
(d) Accounting for any differences seen in the two profiles based on information collected in the field;
(e) Integrating the profiles into the body of the report - the profiles should be neat and well labelled;
(f) Focusing on the information shown in the profiles - information from the text may be used to support the analysis.

8. (a) For an investigation involving the use and interpretation of weather instruments, the data must be collected with the instruments and not from a secondary source.
(b) For an investigation involving the use of a quadrat in vegetation sampling, the results must be meaningful, for example, the sampling may be used to show *how* vegetation varies with soil type, altitude or some other variable.

9. Reminders:

(a) The report should not include information that is downloaded directly from the Internet.
(b) It is not expected that all the areas in the Unit will be included in any one investigation.
(c) The topic should be manageable.
(d) The word limit should be observed.

GUIDELINES FOR COMPILING AND ASSESSING THE RESEARCH PROJECT

1. The research project will involve at least one of the practical skills shown in Table 1 on page 37.

2. The maximum mark for the projects would be 54.

3. The project is to be marked by the teacher. CXC will require a sample of the projects.

4. The suggested format for the research project is as follows:

(a)	Cover page - with title, name, date, candidate number	2 marks
(b)	Statement(s) of purpose of investigation - with elaboration of aims	3 marks
(c)	Methodology	6 marks
(d)	Description of data with maps and diagrams, analysis and discussion	29 marks

This may be presented as one chapter, incorporating description of data, analysis of data and discussion of findings.
OR
As two (2) chapters, the first chapter, a description of the data, the second chapter, analysis of data and discussion of the findings.

In either case, maps and diagrams must be fully integrated within the text. Discussions must be related to previous studies and/or textbook information.

(e)	Conclusion - Answers to the purpose; includes a summary of findings	4 marks
(f)	Recommendations, based on methods or on findings	2 marks
(g)	Bibliography	3 marks
(h)	Communication of Information	5 marks
(i)	Exceeding word limit (1500 words) by 200 words	- 5 marks

5. The teacher is required to mark the projects and marks are to be recorded out of 54. No fractional marks *should be awarded.*

6. The school must retain all projects for at least three months after publication of the results since additional projects may be requested by CXC for moderation purposes.

7. The reliability of the marks awarded is a significant factor in the School-Based Assessment and has far reaching implications for the candidate's final grade. Teachers are asked to note the following:

   (a) the relationship between the marks for the project and those submitted to CXC on the school-based assessment form should be clearly shown;

   (b) the teacher is required to allocate one-third of the total score for the School-Based Assessment to each Module. Fractional marks should not be awarded. In cases where the mark is not divisible by three, then:

      (i) when the remainder is 1 mark, the mark should be allocated to Module 3;

      (ii) when the remainder is 2, then a mark should be allocated to Module 3 and the other mark to Module 2.

      for example, 35 marks would be allocated as follows:

      35/3 = 11 remainder 2 so 11 marks to Module 1 and 12 marks to each of Modules 2 and 3.

   (c) the standard of marking should be consistent.

SCHOOL-BASED ASSESSMENT – GENERAL GUIDELINES FOR TEACHERS

1. For each Unit, marks must be submitted to CXC on the School-Based Assessment forms provided. The forms should be despatched through the Local Registrar for submission to CXC by May 31st of the Year of the examination.

2. The project for each Unit should be completed in duplicate. The original should be submitted to CXC and the copy kept by the school.

3. **The research project should focus on at least one specific objective in the Unit**.

4. **Candidates who do not fulfil the requirements for the School-Based Assessment will be reported "Ungraded".**

CRITERIA FOR MARKING THE RESEARCH PROJECT

1. Cover Page - Title page, name, date (2)

- Title clearly understood, concise, relates to project 2
- Title clearly understood and relates to project 1

2. Statements of Purpose of Investigation (3)

- Context and purpose very clearly stated and explained 3
- Context and purpose clearly stated and explained 2
- Context and purpose stated but unclear 1

3. Methodology (6)

- Methods of data collection, procedures very clearly stated and described 6 / 4 - 5
- Methods of data collection, procedures clearly stated and described 2 - 3
- Methods of data collection, procedures not clearly stated or described 1
- Methods of data collection, procedures unclear and description weak

4. (a) **Presentation** (8)

- Extremely neat *with* adequate number of diagrams *that are* relevant, accurate *and* well labelled 7 - 8
- Very neat *with* adequate number of diagrams *that are* relevant *and* labelled satisfactorily 5 - 6 / 3 - 4
- Neat *with* limited number of diagrams *that are* relevant but not well labelled 1 - 2
- Untidy Maps and/or diagrams attempted

(b) **Use of Maps, Diagrams with Text** (3)

- Diagrams well integrated into text, appropriate reference made to each diagram 3
- Diagrams satisfactorily integrated into text, appropriate reference made to some diagrams 2
- Attempt to integrate diagrams into text 1

CRITERIA FOR MARKING THE PROJECT (cont'd)

5. Analysis of Data (23)

(a) Description of Findings (8)

- Very coherent organization of comprehensive and accurate data — 7 - 8
- Fairly coherent organization of adequate and fairly accurate data — 5 - 6
- Satisfactory organization of limited and fairly accurate data — 3 - 4
- Organization of limited and fairly accurate data attempted — 1 - 2

(b) Analysis and Discussion of Findings (10)

- Logical and coherent organization of data, points well developed, supported and valid — 9 - 10
- Data fairly well organised, points fairly well developed and supported — 7 - 8
- Satisfactory arguments including some valid points supported by findings — 5 - 6
- Satisfactory arguments including some points supported by findings — 3 - 4
- Limited arguments with few points supported by findings — 1 - 2

(c) Communication of Information (5)

- Few grammatical errors or flaws and extensive use of appropriate geographical terms — 5
- Few grammatical errors or flaws and good use of appropriate geographical terms — 4
- Some grammatical errors or flaws and limited use of appropriate geographical terms — 3
- Some grammatical errors or flaws and poor use of appropriate geographical terms — 2
- Several grammatical errors or flaws and poor use of appropriate geographical terms — 1

6. Conclusion (4)

- Conclusion clear, based on findings, valid and related to the purposes of the project — 4
- Conclusion clear, based on findings and related to the purpose of the project — 3
- Conclusion relates to the purpose of the project — 2
- Conclusion based on some findings — 1

7. Recommendations (2)

- At least two recommendations fully derived from findings or methodology — 2
- One recommendation based on findings and/or methodology — 1

8. Bibliography (3)

- Alphabetical order by author with title, publisher and date - for several relevant, up-to-date references — 3
- Alphabetical order by author with title, publisher, and date - for a minimal number of relevant, up-to-date references — 2
- References relevant and written in a consistent manner — 1

9. Exceeding the word limit by more than 200 words (-5)

Total **(54)**

◆ REGULATIONS FOR PRIVATE CANDIDATES

Paper 03/2 (1 hour 30 minutes)

1. Composition of Paper

This Paper is based on case studies relating to the content of all three Modules of the Unit assessed. There will be three compulsory questions, one based on each Module. The three questions may be divided into parts. The Paper tests skills similar to those listed in the *section on the* School-Based Assessment (Paper 03/1).

2. Question Type

Each question requires candidates to respond either in the form of an extended essay or a short paragraph.

3. Mark Allocation

The Paper is worth 54 marks (18 marks per question) and contributes 20% toward the final assessment.

4. Award of Marks

Marks are awarded for the cognitive abilities, *Knowledge, Use of Knowledge or Practical Skills that are* exhibited.

5. Use of Calculators

Candidates are allowed to use non-programmable calculators in the examinations. Each candidate is responsible for providing his or her own calculator and for *ensuring* that it functions throughout the examination.

6. Use of Geometrical Instruments

Candidates are allowed to use geometrical instruments in the examinations. Each candidate is responsible for providing his or her own instruments.

◆ REGULATIONS FOR RESIT CANDIDATES

Resit candidates must complete Papers 01 and 02 and Paper 03 of the examination for the year for which they re-register. Resit candidates may elect not to repeat the School-Based Assessment component, provided they re-write the examination no later than two years following their first attempt.

Candidates may opt to complete a School-Based Assessment (SBA) for each Unit written or may opt to re-use another SBA score which satisfies any of the conditions listed at (i) to (ii) below.

(i) *A candidate who re-writes the examination in the same Unit within two years may re-use the moderated SBA score earned in the previous sitting within the preceding two years. Candidates re-using SBA scores in this way must register as "Resit candidates" and provide the previous candidate number.*

(ii) *For CAPE Geography, candidates who enter for Unit 1 or Unit 2, in different sittings, may re-use a moderated SBA score obtained in a previous sitting of either Unit within the preceding two years. The SBA score may be re-used in either Unit, or in both Units, irrespective of the Unit in which it was first obtained. Candidates re-using SBA scores in this way must register as 'Transfer' candidates.*

All resit candidates may enter through schools, recognised educational institutions, or the Local Registrar's Office.

◆ ASSESSMENT GRID

The Assessment Grid for each Unit contains marks assigned to papers and to Modules and the percentage contribution of each paper to the total score.

PAPERS	Module 1	Module 2	Module 3	Total	(%)
External Assessment Paper 01 *1 hour 30 minutes* Multiple-Choice *Items*	15 (raw) 27 (wtd)	15 (raw) 27 (wtd)	15 (raw) 27 (wtd)	45 (raw) 81 (wtd)	(30)
Paper 02 *3 hours* Section A (Practical Skills) Section B (Free Response)	15 30	15 30	15 30	45 135 90	(50)
School-Based Assessment Paper 03/1 Paper 03/2 *1 hour 30 minutes*	18	18	18	54	(20)
Total	**90**	**90**	**90**	**270**	*100*

GLOSSARY

KEY TO ABBREVIATIONS

K - Knowledge; UK - Use of Knowledge; PS Practical Skills

WORD	DEFINITION	COGNITIVE LEVEL
Advise	Write an extended answer identifying the issue; Suggest solution or action to be taken	UK
Analyse	Examine methodically and **in detail** the structure of an object or a process or a situation and then draw (a) conclusion(s).	UK
Annotate	Add a brief note to label	K
Apply	Use knowledge and or principles to solve problems.	UK
Assess	Present reasons for the importance of particular structures, relationships or processes.	UK
Calculate	Arrive at a solution to a numerical problem. Steps should be shown and units included.	PS
Cite	Provide a quotation or a reference to the subject.	K
Classify	Divide into groups according to observable characteristics.	UK
Comment	State opinion or view with supporting reasons.	UK
Compare and contrast	Write an extended answer stating, describing and elaborating on the similarities and differences; and providing specific examples of these similarities and differences.	UK
Construct	Use a specific format to make or draw a graph, histogram, pie chart or other representation using numerical data or material provided or drawn from practical investigations, build (for example, a model), draw scale diagram. Such representations should bear a title, appropriate headings and legend where appropriate.	PS
Deduce	Make a logical connection between two or more pieces of information; use data to arrive at a conclusion.	UK

WORD	DEFINITION	COGNITIVE LEVEL
Define	Provide a precise statement giving the **nature** or the **scope** or the **meaning** of a term; or using the term in one or more sentences so that the meaning is clear and precise.	K
Demonstrate	Show how or direct attention to an area or object of focus.	PS
Derive	Deduce, determine or extract from data by a set of logical steps, some relationship, formula or result.	UK
Describe	Provide statements of the features or characteristics of a situation.	K
Determine	Calculate the value of a physical quantity.	PS
Develop	Elaborate on or expand an idea or argument with supporting reasons.	UK
Differentiate or Distinguish	State or explain briefly those differences between or among items or situations which can be used to define them or place them into separate categories.	K
Discuss	Write an extended answer defining key concepts, stating what is, exploring **related** concepts and principles, present reasoned arguments for and against, using detailed examples but **not** necessarily drawing a conclusion.	UK
Draw	Make a line representation of specimens, objects to show accurate relationship between the parts, to show location.	PS
Estimate	Make an approximate quantitative judgement	UK
Evaluate	Weigh evidence and make judgements based on given criteria. The use of logical supporting reasons for a particular point is more important than the view held; usually both sides of an argument should be considered.	UK
Explain	Provide statements on **what** happened, **how** it happened and **why** it happened.	K
Find	Locate a feature or obtain a solution (for example, from a graph).	PS

WORD	DEFINITION	COGNITIVE LEVEL
Formulate	Devise a hypothesis.	PS, AK
Give	Provide short, concise responses.	K
Identify	Name specific components or features. Point out, indicate without explanation or recognise and select.	K
Illustrate	Show clearly by using appropriate examples, diagrams or sketches	PS
Interpret	Explain the meaning of.	K
Investigate	Use simple systematic procedures to observe, record data and draw logical conclusions.	PS, AK
Justify	Explain the correctness of	UK
Label	Add names to identify structures or parts indicated by pointers	K
List	Use headings only.	K
Measure	Take accurate quantitative readings using appropriate instruments.	PS
Name	Provide actual names (but no other details).	K
Note	Write observations.	PS
Observe	Pay attention to details which characterize a change, specimen, or reaction taking place; to examine and note.	PS
Outline	Give basic steps only. Provide main points, or features only without details	K
Plan	Prepare to conduct an investigation.	UK, PS
Predict	Use information provided to arrive at a likely conclusion or suggest a possible outcome.	UK
Record	Write an accurate description of the full range of observations made during a given procedure. This includes the values for any variables being investigated. Where appropriate, data may be depicted in graphs, histograms or tables.	PS

WORD	DEFINITION	COGNITIVE LEVEL
Relate	Show connection between; explain how one set of facts or data depend on others or are determined by them.	UK
Sketch	Make a simple freehand diagram showing relevant proportions and any important details	PS
State	Provide factual information in concise terms; outlining explanations	UK
Suggest	Offer an explanation deduced from information provided or previous knowledge and consistent with subject knowledge	UK

Western Zone Office
13 May 2009

CARIBBEAN EXAMINATIONS COUNCIL

ADVANCED PROFICIENCY EXAMINATION

SPECIMEN PAPER
MULTIPLE CHOICE QUESTIONS
FOR

GEOGRAPHY

UNIT 1: POPULATION GEOGRAPHY, GEOMORPHIC PROCESSES AND HAZARDS

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

Each item in this test has four suggested answers lettered (A), (B), (C), (D). Read each item you are about to answer and decide which choice is best.

Sample Item

Alluvial fans are

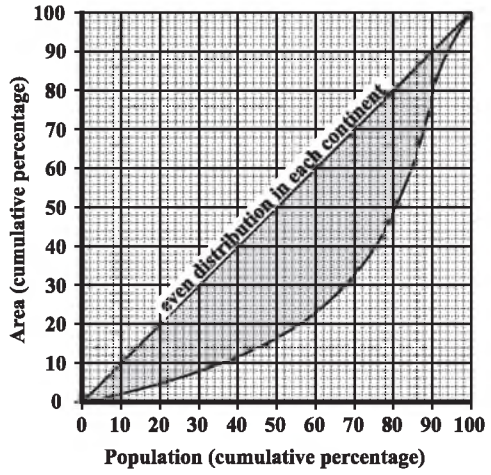
(A) depositional features in a body of standing water
(B) steps cut into thick deposits of alluvium or bedrock
(C) features formed when confined streams flow onto a plain
(D) thick accumulations of alluvium deposited on a flood plain

Sample Answer

The best answer to this item is "features formed when confined streams flow onto a plain", so answer space (C) has been shaded.

Permitted: Calculator
Geometrical instrument

Items 1 - 2 refer to the graph below.



1. The graph shown above illustrates the

(A) inequalities in population distribution
(B) period of time a person is expected to live
(C) sequence of changes over a period of time
(D) trends in population growth

2. The diagram above is

(A) a Venn diagram
(B) a population pyramid
(C) an input-output curve
(D) the Lorenz curve

3. The number of live births per 1000 women aged 15 - 49 years in a given year is termed

(A) annual growth
(B) birth rate
(C) fertility rate
(D) natural increase

4. Burgess' transition zone corresponds to today's

(A) CDB
(B) inner city
(C) suburbs
(D) squatter camps

Item 5 refers to the formula below.

$$\frac{\text{65 and over}}{\text{15 – 64}} \times 100$$

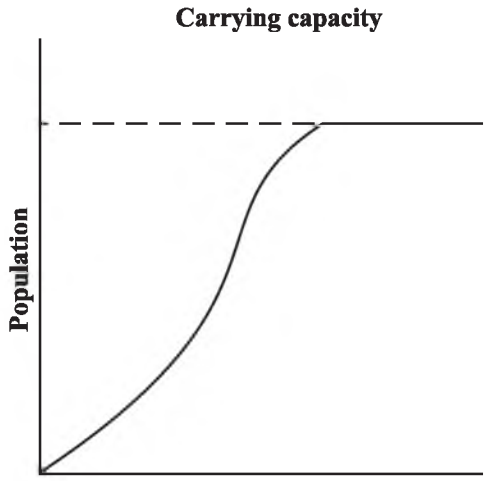
5. The formula above is used for measuring

(A) dependency ratio
(B) male-female ratio
(C) old-age dependency
(D) youth dependency

6. The term 'gentrification' refers to

(A) increasing suburbanization
(B) inner city renewal
(C) urban-rural migration
(D) rural-urban migration

Items **7 - 8** refer to the sketch map below.



7. The model of population growth shown is referred to as

(A) S-shaped
(B) J-shaped
(C) exponential
(D) cumulative

8. The model of population growth shown is likely to be found in populations with

(A) high births, low death rates
(B) high death, low fertility rates
(C) low fertility, high life expectancy
(D) high fertility, low life expectancy

9. Item **9** refers to the data in the table below.

POPULATION OF THE THREE LARGEST TOWNS (thousands)

Town	Population
Lynx	11 420
Mynx	2 520
Pynx	2 420

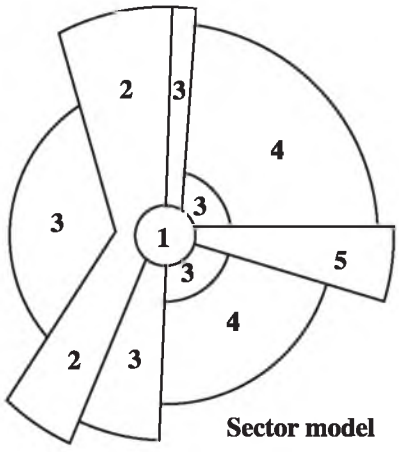
The term used to describe the situation reflected by the data above is

(A) decentralisation
(B) deindustrialisation
(C) urban agglomeration
(D) urban primacy

10. Which of the following is a likely consequence of emigration from a developing country?

(A) Higher dependency ratio
(B) Higher life expectancy
(C) Lower death rate
(D) Lower infant mortality

Items **11 - 12** refer to the model below.



11. In which of the following zones would a high income family most likely settle?

(A) 2
(B) 3
(C) 4
(D) 5

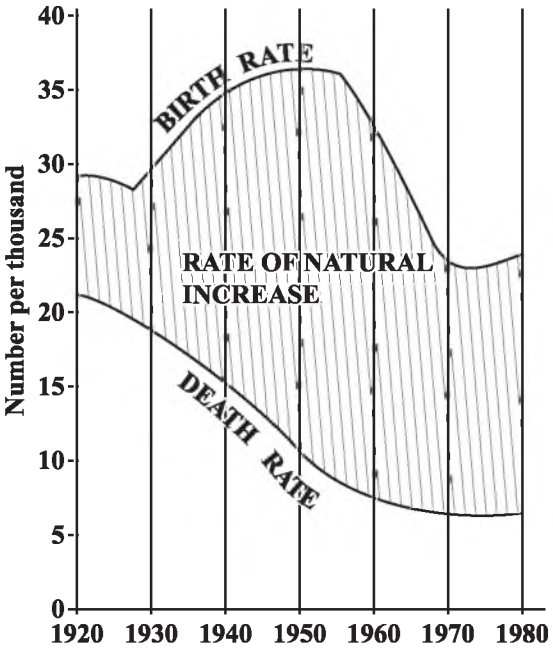
12. The zone where a clothing factory could be located is

(A) 2
(B) 3
(C) 4
(D) 5

GO ON TO THE NEXT PAGE

Item **13** refers to the diagram below.

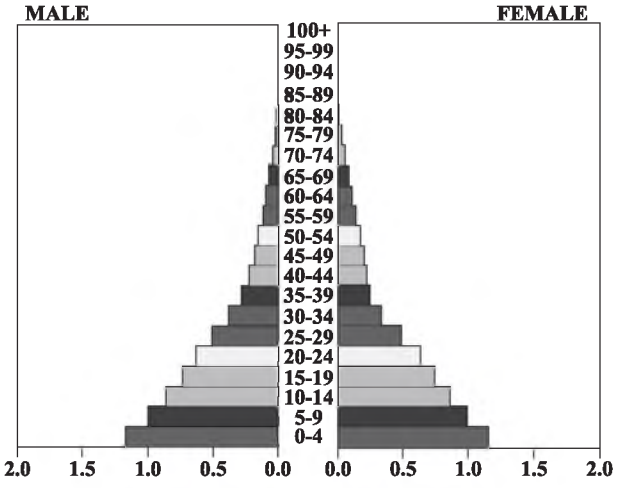
BIRTH RATE, DEATH RATE and RATE OF NATURAL INCREASE - COUNTRY Z



13. What stage of the demographic transition model would Country Z be passing through during the period 1930 to 1950?

(A) I
(B) II
(C) III
(D) IV

Items **14** refers to the population pyramid below.



14. The population pyramid above shows that there is

(A) high death rate among the adult population
(B) low death rate among the infant population
(C) high life expectancy
(D) male-female imbalance

Item **15** refers to the population data presented in the table below.

Age Group	Population
0 - 14	14 345
15 - 64	41 616
65 and over	6 300

15. What PERCENTAGE of the population is considered youthful?

(A) 10
(B) 23
(C) 33
(D) 66

16. The capacity of a river is

(A) its highest discharge
(B) its suspended load
(C) its solution load
(D) the total load carried

17. Which of the following will have the LEAST effect on a river's capacity?

(A) Channel slope
(B) Channel shape
(C) Particle size
(D) River volume

18. Entrenched meanders are formed if

(A) sinuosity is low
(B) there is deposition on convex bends
(C) uplift is slow
(D) valley sides are resistant to erosion

19. River deposition occurs when

(A) it emerges from a lake
(B) load is decreased
(C) velocity is reduced
(D) water becomes deeper

20. Which of the following is formed by the precipitation of calcium carbonate?

(A) Caverns
(B) Poljes
(C) Sink holes
(D) Stalagmites

21. Which of the following processes influences coastal erosion?

(A) Abrasion
(B) Infiltration
(C) Percolation
(D) Saltation

22. The Hjulstrom curve shows the relationship between water velocity and

(A) bed load
(B) capacity
(C) dissolved load
(D) particle size

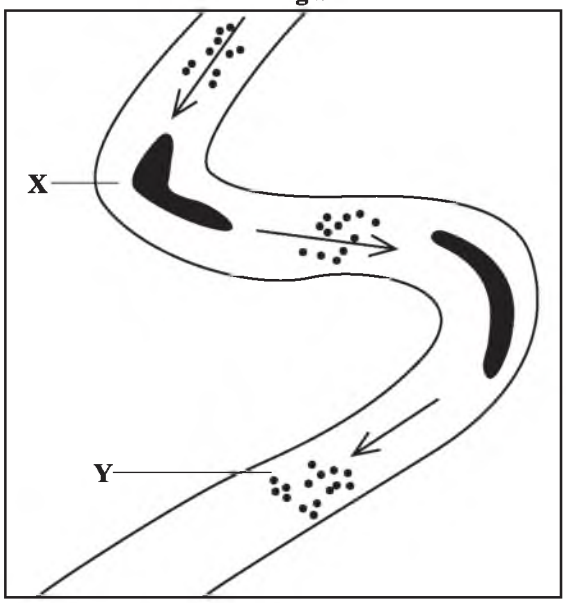
23. Which of the following describes one way in which sediment is transported along a coastal area?

(A) Hydraulic action
(B) Long-shore drift
(C) On-shore winds
(D) Prevailing winds

GO ON TO THE NEXT PAGE

Item 24 refers to the diagram below.

Meandering Stream



24. A characteristic differentiating the feature labelled X from that labelled Y is that X experiences

(A) less deposition
(B) less turbulence
(C) more erosion
(D) more sinuosity

25. The most important effect on the rate of chemical weathering of limestone in the tropical rain forest is high levels of

(A) biological activity
(B) carbon dioxide absorption
(C) carbon dioxide depletion
(D) physical weathering

26. Which of the following characteristics may result in laminar flow?

(A) Boulder strewn channel
(B) Complex channel shape
(C) Irregular sloping channel
(D) Smooth straight channel

27. The rising limb of a storm hydrograph will be steep when

(A) rainfall is unreliable
(B) rocks are impermeable
(C) the drainage basin is elongated
(D) the slope of the land is gentle

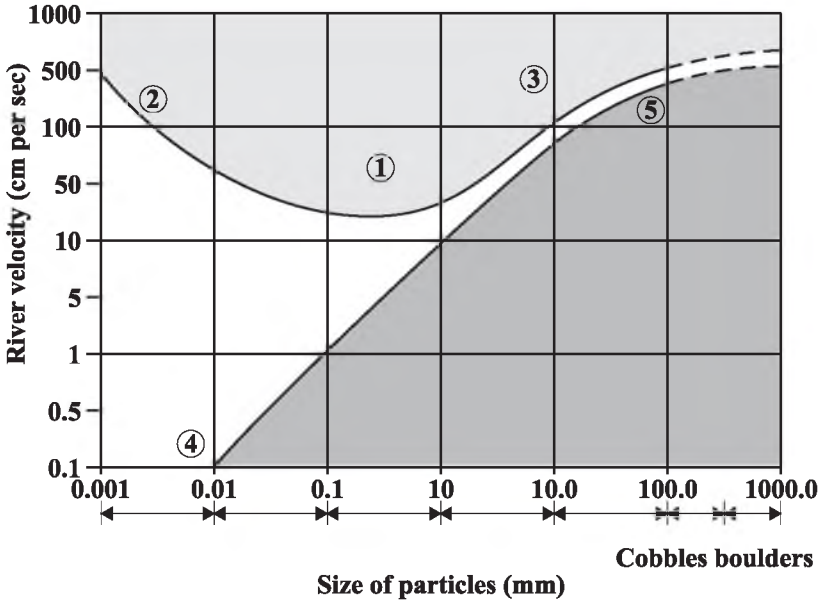
28. A river has a discharge of 0.32 cumecs and a cross-sectional area of 1.6 m^2. What is the velocity of this river?

(A) 0.2 ms^{-1}
(B) 0.5 ms^{-1}
(C) 1.9 ms^{-1}
(D) 5.0 ms^{-1}

29. A particle of size 10 mm would be eroded at a velocity of

(A) 4 cms^{-1}
(B) 10 cms^{-1}
(C) 20 cms^{-1}
(D) 50 cms^{-1}

Item **30** refers to the diagram below.



30. The diagram indicates that, as velocity increases

(A) finer particles are deposited
(B) finer particles become cohesive
(C) larger particles can be moved
(D) larger particles are deposited

---

31. Which of the following is NOT a technological hazard?

(A) Flash floods
(B) Gas explosions
(C) Industrial accidents
(D) Oil spills

32. Which of the following are climatic hazards?

(A) Blizzards, drought, sleet, drizzle
(B) Floods, tornadoes, heat waves, tropical cyclones
(C) Hurricane, hail, drought, tsunamis
(D) Tsunamis, hail, frost, anticyclones

33. Which of the following waves can only travel through the outer part of the crust?

(A) L
(B) P
(C) S
(D) T

34. Which of the following does NOT provide evidence for the Theory of Plate Tectonics?

(A) Mid-Atlantic Ridge
(B) Paleomagnetism
(C) Rocks and fossils
(D) Sea-level changes

35. The Richter scale of earthquake magnitude represents the

(A) energy released at the focus
(B) energy released at the epicentre
(C) shake of secondary waves
(D) strength of primary waves

36. Which of the following is NOT the result of plate movements in the Eastern Caribbean?

(A) Earthquakes
(B) Hot spots
(C) Trenches
(D) Volcanic eruptions

37. In which of the following places does sea-floor spreading occur?

(A) Eurasian Plate
(B) Marianes Trench
(C) Mid-Atlantic Ridge
(D) North American Plate

38. Which of the following is NOT a hazard?

(A) A flooding event in a farming community
(B) A volcanic eruption on an uninhabited island
(C) A tsunami in a tourist resort town
(D) An earthquake in the city of Kingston

39. A storm surge is associated with

(A) a rise in the level of the sea due to a fall in atmospheric pressure
(B) the vertical movement of water along a cliff
(C) a rise in the level of the sea due to a rise in atmospheric pressure
(D) the rapid movement of water along the coast

40. Which of the following does NOT contribute to flash floods?

(A) Forest removal
(B) Intense rainfall
(C) Permeable rock
(D) Steep slopes

41. Earthquakes may result in the formation of

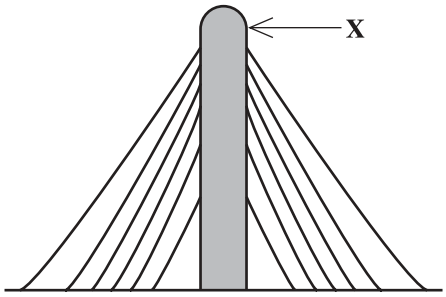
I scarps
II sinkholes
III landslides
IV tsunamis

(A) I and III only
(B) III and IV only
(C) I, II and IV only
(D) I, III and IV only

42. Hot spots are

(A) carried by plates
(B) caused by convection cells
(C) fixed in position
(D) more common in the Atlantic

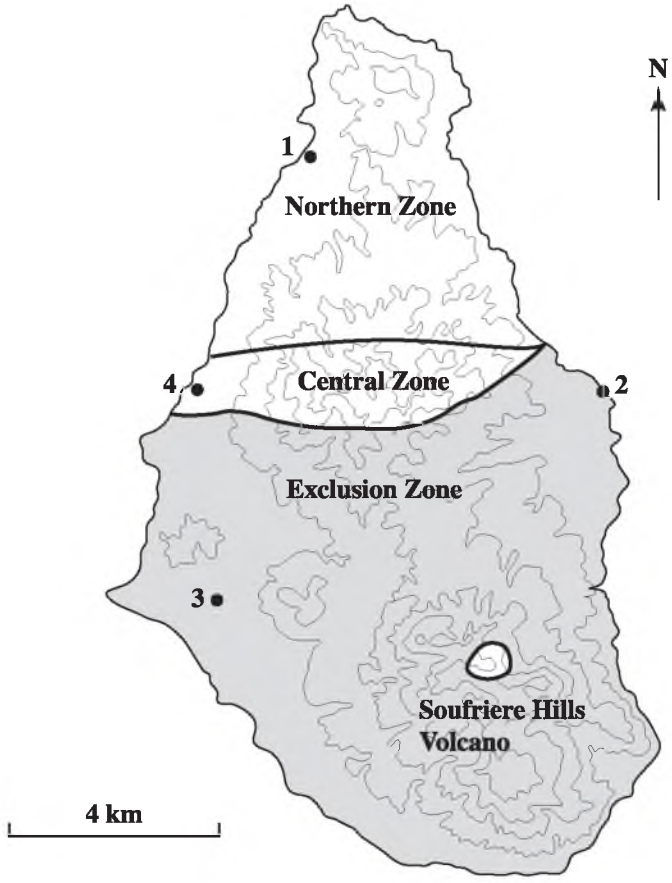
43.



The feature at X represents

(A) a sill
(B) a batholith
(C) a volcanic plug
(D) an explosive vent

Item **44 - 45** refer to the volcanic risk map below.



Exclusion Zone	**No admittance except for scientific monitoring and national security matters**
Central Zone	**Residential area only, all residents on state of alert** **All residents to have rapid means of exit 24 hours per day** **Hard hat area, all residents to have hard hats and dust masks**
Northern Zone	**No admittance except for scientific monitoring and national security matters**

44. Which is the BEST location for the site of a new capital?

(A) 1
(B) 2
(C) 3
(D) 4

45. At which location is there likely to be an increase in the land area of the island?

(A) 1
(B) 2
(C) 3
(D) 4

TEST CODE **02125020**

FORM TP 2009196/SPEC

CARIBBEAN EXAMINATIONS COUNCIL

ADVANCED PROFICIENCY EXAMINATION

GEOGRAPHY

SPECIMEN

UNIT 1: POPULATION GEOGRAPHY, GEOMORPHIC PROCESSES AND HAZARDS

PAPER 02

3 hours

INSTRUCTIONS TO CANDIDATES

1. This paper consists of **SEVEN** questions. Answer **FOUR** questions as indicated below.
2. Section A consists of **ONE** question testing practical skills. This is compulsory.
3. Section B consists of **SIX** questions. Answer **THREE** questions, ONE from EACH Module.
4. Answers must be written in the answer booklet provided.
5. A map extract is provided for Question 1.
6. All diagrams must be well labelled.
7. The use of non-programmable calculators is permitted.

SECTION A

Answer this compulsory question.

1. The map extract provided of Moneague, Jamaica, is on a scale of 1 : 50 000.

Use the information from the map extract to answer the questions below.

(a) (i) Describe THREE types of settlement patterns shown on the map extract. **[9 marks]**

(ii) Explain how THREE factors account for the development of the settlements at Claremont and Golden Grove. **[6 marks]**

(b) Describe THREE pieces of evidence which suggest that limestone is the **major** rock type in the area west of Easting 47. **[10 marks]**

(c) **[A grid is provided for this question as an insert.]**

On the grid provided, draw and label the course of the river Rio Nuevo. Number the grid as follows: Eastings 48 to 53, and Northings 82 to 90. **[5 marks]**

(d) An industrialist has made a proposal to locate a soft drink bottling plant at a site corresponding with the grid reference 362791.

(i) State TWO attractions of this site. **[2 marks]**

(ii) Describe THREE hazards that are likely to be associated with locating the plant at this site. **[9 marks]**

(iii) Using map evidence, explain the nature of TWO environmental threats to the communities at Golden Grove and Claremont. **[4 marks]**

Total 45 marks

SECTION B

Answer ONE question from EACH Module.

MODULE 1

Answer ANY ONE question.

2. Figure 1 below shows age-sex pyramids, A and B, for two contrasting countries.

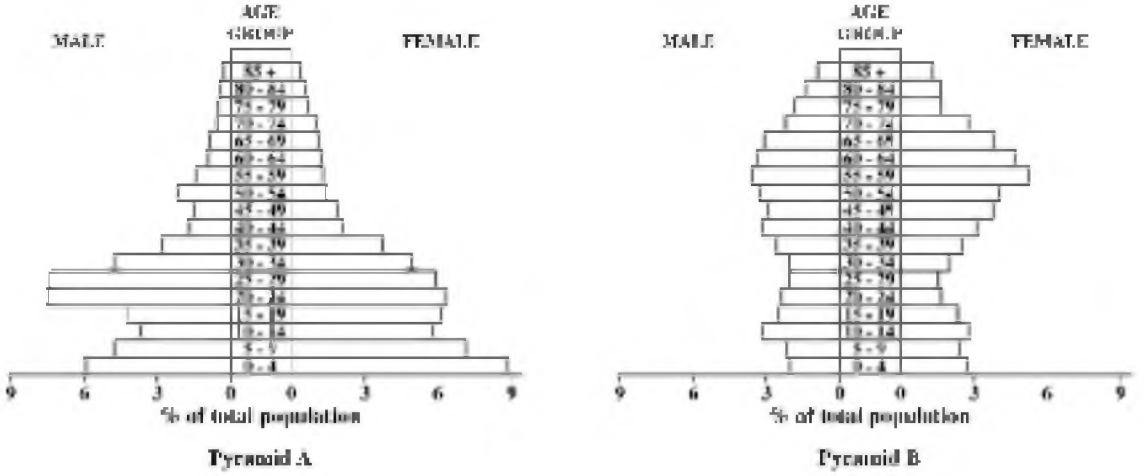


Figure 1. Age-sex pyramids

(a) Identify TWO **main** features of EACH pyramid. **[4 marks]**

(b) Suggest FOUR reasons which may account for the shape of EACH pyramid. **[18 marks]**

(c) Describe TWO social and TWO economic implications for a country similar to the one depicted in Pyramid A? **[8 marks]**

Total 30 marks

3. (a) (i) Draw a well-labelled diagram to show the Burgess' model of urban structure. **[4 marks]**

(ii) Outline FOUR assumptions of this model. **[4 marks]**

(b) (i) Identify TWO housing problems that are common to cities in the developing world and the developed world. **[2 marks]**

(ii) Compare TWO housing problems of a **named** city in the developing world with those of a **named** city in the developed world. **[8 marks]**

(c) With reference to FOUR factors, explain how EACH of these factors contribute to the increasing importance of counter-urbanization in developed countries. **[12 marks]**

Total 30 marks

MODULE 2

Answer ANY ONE question.

4. (a) Discuss FULLY the concept of a '100 year flood'. **[6 marks]**

(b) Explain, with the aid of diagrams, TWO causes of variations in the discharge of rivers

(i) with TIME

(ii) in SPACE. **[18 marks]**

(c) Determine TWO ways in which weathering influences the cross-profile of river valleys. **[6 marks]**

Total 30 marks

5. (a) (i) What is karst? **[2 marks]**

(ii) Explain FOUR reasons why karst features develop on only a small proportion of the limestone that covers the earth. **[20 marks]**

(b) Describe the formation on a coast line of ONE landform that is

(i) depositional

(ii) erosional. **[8 marks]**

Total 30 marks

GO ON TO THE NEXT PAGE

MODULE 3

Answer ANY ONE question.

6. (a) Describe, with suitable examples and well-labelled diagrams, TWO benefits of folded and faulted landscapes to mankind. **[10 marks]**

(b) Governments can respond to the risk of hazards by adopting measures that avoid and reduce risk.

Write an essay outlining THREE measures that avoid and TWO that can reduce the risks posed by hazards. **[20 marks]**

Total 30 marks

7. (a) A global sea-level rise of between 9 cm and 88 cm is predicted over the next hundred years. Write an essay describing THREE possible consequences of this rise. **[15 marks]**

(b) Compare THREE features which develop at divergent plate margins with those which develop at convergent margins. **[15 marks]**

Total 30 marks

END OF TEST

TEST CODE **02125020**

FORM TP 2009196/SPEC

CARIBBEAN EXAMINATIONS COUNCIL

ADVANCED PROFICIENCY EXAMINATION

GEOGRAPHY

SPECIMEN

UNIT 1 – PAPER 02

Question 1 (c)

Centre Number .....

Candidate's Number .....

TO BE ATTACHED TO YOUR ANSWER BOOKLET

TEST CODE **02125032**

FORM TP 2009197/SPEC

CARIBBEAN EXAMINATIONS COUNCIL

ADVANCED PROFICIENCY EXAMINATION

GEOGRAPHY

SPECIMEN

UNIT 1: POPULATION GEOGRAPHY, GEOMORPHIC PROCESSES AND HAZARDS

PAPER 03/2

1 1/2 hours

INSTRUCTIONS TO CANDIDATES

1. This paper consists of **THREE** compulsory questions, one from **EACH** Module.
2. Answer **ALL** questions.
3. Answers must be written in this booklet.
4. The use of non-programmable calculators is permitted.

MODULE 1

Answer this question.

1. Figure 1 shows the location of various buildings in a small town centre. Different activities take place in these buildings. Refer to Figure 1 and answer the question on page 3.

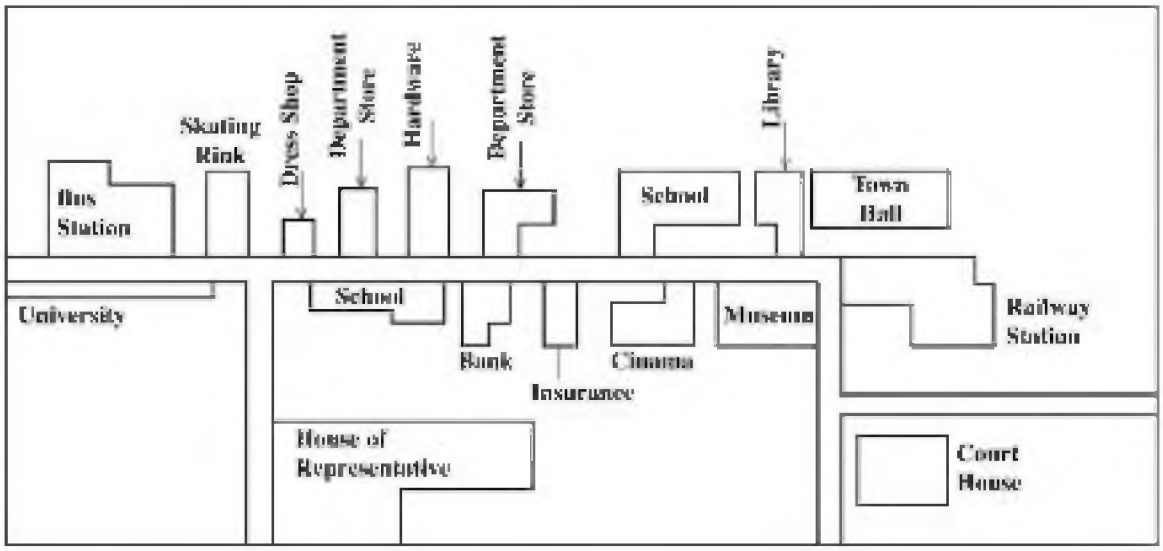


Figure 1. Town Centre

(a) Complete the table below by grouping all the activities shown in Figure 1 on page 2 into six major urban functions.

TABLE 1: URBAN FUNCTIONS

Urban Functions	Activities in Town Centre
1	
2	
3	
4	
5	
6	

[12 marks]

(b) **Table 2** shows a population in millions by age groups.

TABLE 2: POPULATION IN MILLIONS

Age Group	Population (m)
0 – 4	3.9
5 – 9	4.1
10 – 14	3.7
15 – 19	3.35
20 – 24	3.65
25 – 29	3.2
30 – 34	2.9
35 – 39	2.8
40 – 44	2.9
45 – 49	3.1
50 – 54	2.9
55 – 59	2.95
60 – 64	2.85
65 – 69	2.5
70 – 74	1.85
75 – 79	1.25
80+	1.25

Calculate, using the data provided in Table 2,

(i) the youth dependency ratio

[3 marks]

(ii) the dependency ratio.

[3 marks]

Total 18 marks

GO ON TO THE NEXT PAGE

MODULE 2

Answer this question.

2. (a) Study Figure 2 which shows a drainage basin with four of its streams labelled A, B, C and D, and answer the questions below.

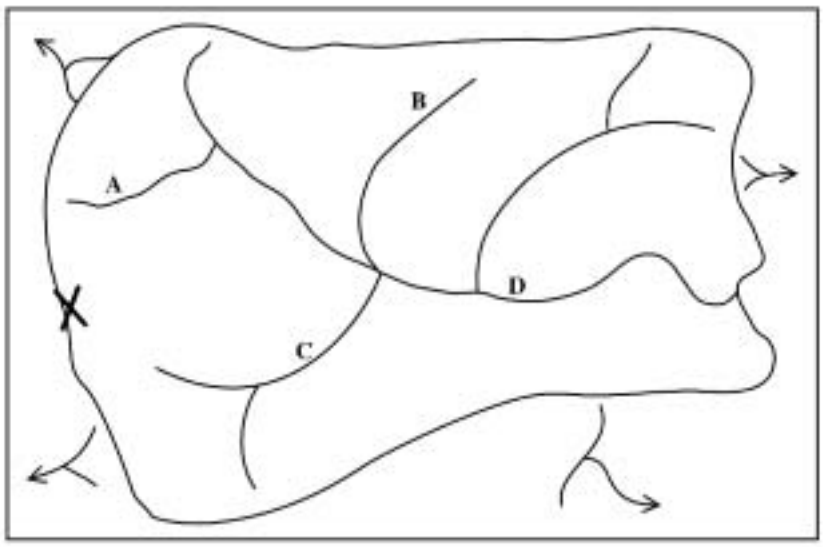


Figure 2. Drainage basin

(i) Name the stream order of A, B, C and D.

_____

_____

_____

_____

[4 marks]

(ii) To what order does the drainage basin belong?

_____

[1 mark]

(b) (i) State the formula for measuring drainage density.

_____

_____

[2 marks]

GO ON TO THE NEXT PAGE

(ii) Calculate the bifurcation ratio of the basin shown in Figure 2.

[4 marks]

(c) Imagine that you are observing the processes at work along an extensive stretch of coastline represented in Figure 3. A pebble is being moved along the coast by longshore drift.

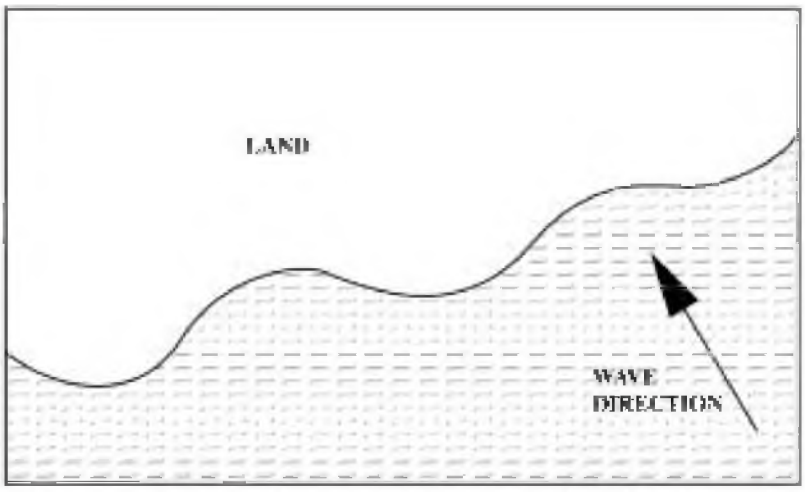


Figure 3. Coastline

(i) Complete Figure 3 by inserting suitable arrows and labels to show

(a) the movement of the pebble **[1 mark]**

(b) the direction of the swash and the backwash **[2 marks]**

(c) the terms 'swash' and 'backwash' in the appropriate places. **[2 marks]**

(ii) What change do you notice in the pebble as it moves along the coast?

_____

_____

_____

[2 marks]

Total 18 marks

MODULE 3

Answer this question.

3. **Figure 4** is a photograph of a squatter settlement.

Figure 4. Squatter settlement

(Source: Digby Bob et al (2001). Global Challenges p. 153, Heinemann Publishers, Oxford, UK)

(a) Identify THREE hazardous conditions faced by the settlement depicted in Figure 4.

_____

_____

_____

[3 marks]

(b) Explain why you consider EACH condition identified in (a) on page 7 a hazard.

[9 marks]

(c) With reference to Figure 4, suggest THREE reasons why this area is attractive to squatters.

[6 marks]

Total 18 marks

END OF TEST

CARIBBEAN EXAMINATIONS COUNCIL

ADVANCED PROFICIENCY EXAMINATION

SPECIMEN PAPER
MULTIPLE CHOICE QUESTIONS
FOR

GEOGRAPHY

UNIT 2: CLIMATE, ECONOMIC ACTIVITY AND CARIBBEAN DEVELOPMENT

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

Each item in this test has four suggested answers lettered (A), (B), (C), (D). Read each item you are about to answer and decide which choice is best.

Sample Item

One measure that could be used to reduce vulnerability to hazards is

(A) cloud seeding
(B) insurance coverage
(C) provision of aid
(D) timely warning

Sample Answer

The best answer to this item is "timely warning", so answer space (D) has been shaded.

Permitted: Calculator
Geometrical instruments

1. The ratio between incoming solar radiation and reflected solar radiation is called

(A) albedo
(B) scattering
(C) diffused radiation
(D) infra-red radiation

2. Jet streams are

(A) air flows which are felt when an aeroplane takes off from the runway
(B) light winds which blow out of North America
(C) meandering rivers of air blowing from land to sea
(D) strong winds which blow in the upper atmosphere

3. Which of the following is NOT a feature of anticyclones?

(A) The circulation is clockwise in the north.
(B) The pressure at the centre is usually below 1000 mb.
(C) The pressure at the centre is usually above 1020 mb.
(D) There is a slow descent of air.

4. Which feature deflects moving air as a result of the earth's rotation?

(A) Coriolis force
(B) Geostrophic force
(C) Jet stream
(D) Pressure gradient

Item **5** refers to the statement below.

'It is formed under clear skies at night when the air in contact with the ground is cooled by conduction'.

5. The type of fog described above is termed

(A) advection
(B) conductive
(C) frontal
(D) radiation

6. Hygroscopic water is soil water that

(A) cannot be seen
(B) cannot be removed by plants
(C) is used in hydroponics
(D) moves by gravity

7. A soil textural triangle can be used to show the proportion of

(A) humus, sand, silt, clay
(B) humus, loam, silt, clay
(C) sand, silt and clay
(D) sand and clay

8. Which of the following statements about atmospheric motion is INCORRECT?

(A) Air moves from high to low pressure.
(B) The deflection of winds increases towards the poles.
(C) Winds are deflected to the right in the Northern Hemisphere.
(D) Wind speed is increased by friction.

9. A temperature inversion in the atmosphere is a good example of

(A) absolute stability
(B) absolute instability
(C) conditional stability
(D) conditional instability

10. Global warming is of great concern as it may

I. cause sea levels to rise
II. raise the earth's temperatures significantly
III. increase storm activity
IV. cause changes in agricultural patterns

(A) I and II only
(B) II and III only
(C) I, II and III only
(D) I, II, III, and IV

11. The effects of replacing vegetation with urban structures are higher

I. ground temperatures
II. transpiration
III. relative humidity
IV. wind speed

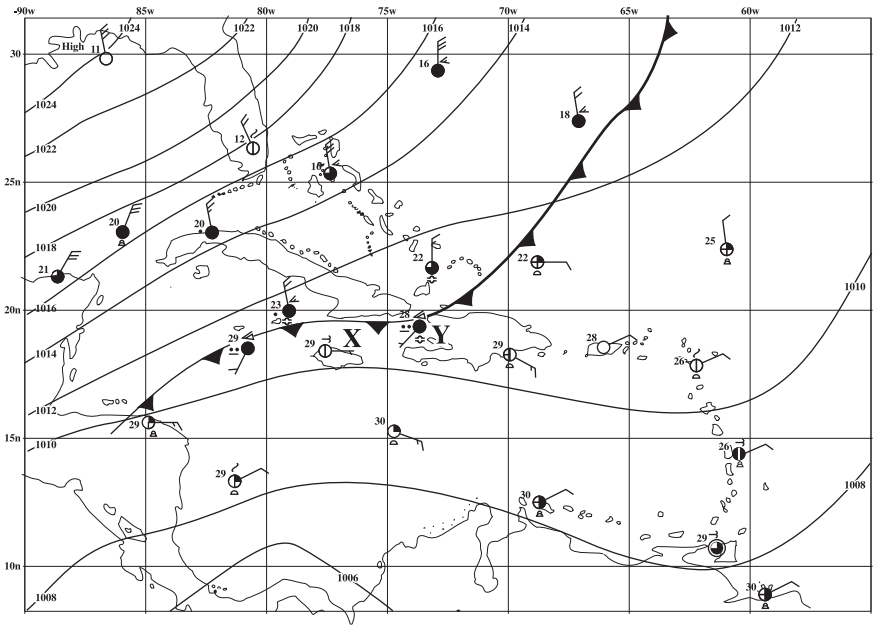
(A) I and II only
(B) I and III only
(C) I and IV only
(D) II and IV only

12. Which of the following are characteristics of soils which develop under the tropical rainforest?

I. They are formed as a result of excessive leaching.
II. Their red colour comes from the presence of iron oxide.
III. They have a thin humus layer.
IV. The development of horizons is very weak.

(A) I, II, III only
(B) I, III, IV only
(C) II, III, IV only
(D) I, II, III, and IV

Items **13 - 14** refer to the diagram below.



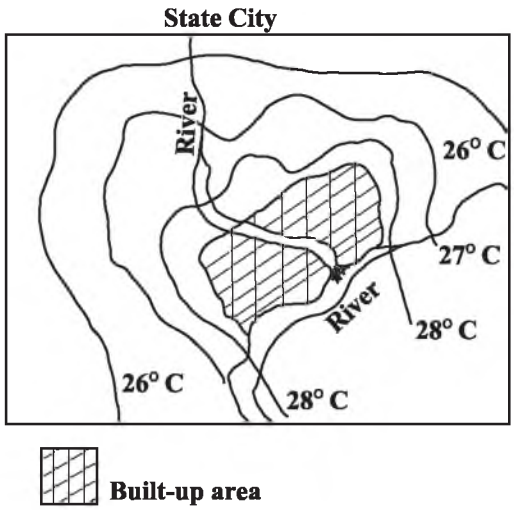
13. The front shown in the diagram above is travelling

(A) South East
(B) South West
(C) North East
(D) North West

14. The rainfall at Station Y can be described as

(A) light and continuous
(B) light and intermittent
(C) heavy and continuous
(D) heavy and intermittent

Item **15** refers to the diagram below.



15. The name given to the urban phenomenon illustrated in the diagram above is

(A) heat budget
(B) heat island
(C) microclimate
(D) radiosonde

16. The term 'footloose industries' refers to

(A) high-tech industries located near a shoe factory
(B) high-tech industries with a lot of constraints on their location
(C) light industries that produce footwear
(D) light industries that have few constraints on their location

17. The location of hi-tech industries are influenced by access to

(A) affluent markets
(B) cheap energy sources
(C) good communication
(D) raw materials

18. ALL of the following are characteristics of ecotourism EXCEPT it is

(A) a type of urban tourism
(B) not harmful to the environment
(C) intended to support conservation
(D) related to ecological capacity

19. ONE of the characteristics of transnational corporations is their ability to

(A) avoid competition in the global market
(B) delegate decision making to LEDC's
(C) reduce operational costs
(D) retain profits in markets in LEDC's

20. Which of the following factors have stimulated the growth of world tourism since 1960?

I. More leisure time
II. More income
III. Cheaper transportation
IV. Longer holidays

(A) I only
(B) I and II only
(C) I, II and IV only
(D) I, II, III, and IV

21. Which of the following is NOT associated with de-industrialization?

(A) Exhaustion of resources
(B) Increase in costs
(C) Overseas competition
(D) Urban congestion

22. Agricultural intensification results in increased

I. agricultural pollution
II. food output
III. size of the average farm
IV. size of the agricultural labour force

(A) I only
(B) II and III only
(C) I, II, and III only
(D) I, III and IV only

23. Which of the following are challenges to industrial development in the Caribbean Region?

I. Small size of the domestic market
II. Shortage of skilled labour
III. Levels of literacy
IV. Shortage of local capital

(A) II and III only
(B) II and IV only
(C) I, II and IV only
(D) I, II, III and IV

24. All of the following are associated with cruise ship tourism EXCEPT an increase in

(A) craft industries
(B) hotel accommodation
(C) local transport
(D) tour guides

25. Which of the following factors have greatly assisted transnational corporations in their global operations?

I. Cheap labour force
II. Government support
III. Large local market
IV. Container ships

(A) I only
(B) I and II only
(C) I, II, and IV only
(D) II, III and IV only

26. Which of the following is NOT associated with the growth of the service sector?

(A) Agglomeration
(B) Globalization
(C) Outsourcing
(D) Rationalization

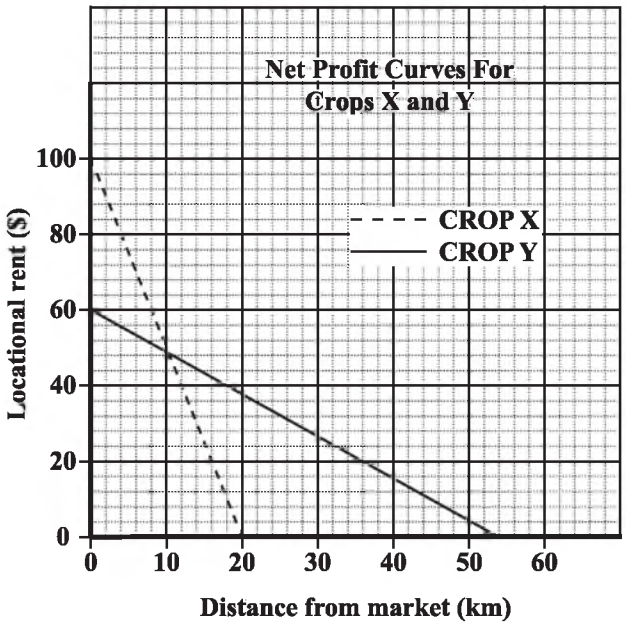
27. Which of the following BEST describes an informal sector activity?

I. Capital intensive
II. Family enterprise
III. Labour intensive
IV. Self-employed

(A) II and III only
(B) I, III and IV only
(C) II, III and IV only
(D) I, II, III and IV

GO ON TO THE NEXT PAGE

Items **28 - 29** refer to the graph below.



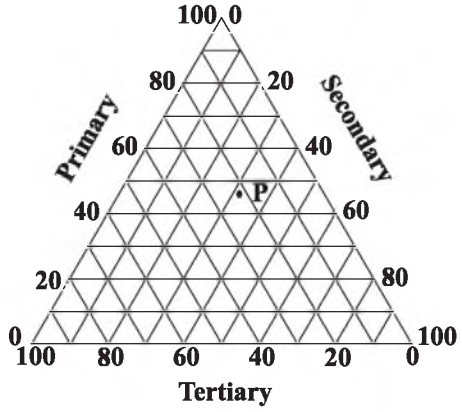
28. Based on the data presented in the graph above, which of the following is true about Crop Y?

(A) It has higher transport costs than Crop X.
(B) It has a wider margin of cultivation than Crop X.
(C) It is more bulky than Crop X.
(D) It is more profitable than Crop X at the market.

29. What is the margin of transference for Crop X?

(A) 10 km
(B) 20 km
(C) 32 km
(D) 54 km

Item **30** refers to the diagram below.

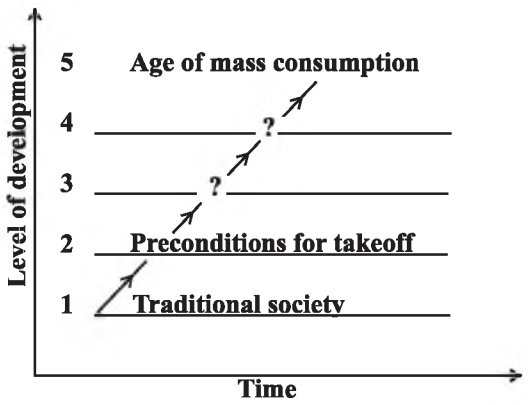


30. Which of the distribution, I, II, III or IV, below represents the structure of the economy of P above?

	I	II	III	IV
Primary	23	52	46	78
Secondary	46	21	31	21
Tertiary	31	27	23	23

(A) I
(B) II
(C) III
(D) IV

Items **31 - 32** refer to the development model below.



31. The name of the model of development shown below is

(A) core-periphery
(B) cumulative-causation
(C) Friedman's
(D) Rostow's

32. The stage indicated by the number 4 is

(A) a drive to maturity
(B) industrial economy
(C) post industrial
(D) take off

33. Which of the following models discusses the concept of trickle down effects?

(A) Butler's
(B) Myrdal's
(C) Rostow's
(D) Von Thunen's

34. Which of the following is based on the cost of a standard food basket?

(A) Absolute poverty
(B) Human Development Index
(C) Poverty line
(D) Purchasing Power Parity

GO ON TO THE NEXT PAGE

35. The measurement of gross national product (GNP) includes

I. Gross domestic product (GDP)
II. Purchasing Power Parity (PPP)
III. Income to residents of a country from abroad
IV. Income of foreign residents investing in a country

(A) I only
(B) I and II only
(C) I and III only
(D) I and IV only

36. Which of the following indices is NOT used in the calculation of the Human Development Index?

(A) Infant Mortality Rate
(B) Life Expectancy
(C) Literacy Rate
(D) Purchasing Power Parity

37. Which of the following is NOT a useful measure of development in a country?

(A) Total value of goods produced
(B) Life expectancy of the population
(C) Crude death rate
(D) Level of literacy in the society

38. Why is the Infant Mortality Rate (IMR) an important measure of development?

I. Infants are the most vulnerable.
II. It is an indicator of health and nutrition status.
III. It is typical of developing countries.
IV. It is indicative of improved living standards.

(A) I and II only
(B) I and IV only
(C) I, II and III only
(D) I, II and IV only

39. Which of the following are constraints on sustainable development in Caribbean small island developing states (SIDS)?

I. Limited land area
II. Limited natural resources
III. Small populations
IV. Vulnerability to natural disasters

(A) I only
(B) I, II and IV only
(C) I, II and III only
(D) I, II, III and IV only

40. Compared to the core, which of the following is NOT always true of the periphery?

(A) Fewer jobs
(B) Smaller cities
(C) Less investment
(D) Fewer services

41. Bilateral aid flows from

(A) one government to another
(B) a non-governmental organization (NGO) to a receiving country
(C) several countries to one country
(D) one country to several countries

42. Multilateral aid is channelled through

I. The World Bank
II. Save the Children
III. Doctors Without Borders
IV. The IMF

(A) II only
(B) I and IV only
(C) II and III only
(D) III and IV only

GO ON TO THE NEXT PAGE

Items **43 - 44** refer to the table below.

% POPULATION WITH ACCESS TO SAFE DRINKING WATER

Country	Type of Household	1970	1980	1990	2000
Columbia	urban rural	88 28	93 73	87 82	98 73
Dominican Republic	urban rural	72 14	85 34	82 45	83 70
El Salvador	urban rural	71 20	67 40	87 15	88 61
Honduras	urban rural	99 10	93 40	85 48	97 82

43. In which year was the disparity between urban and rural households in El Salvador GREATEST?

(A) 1970
(B) 1980
(C) 1990
(D) 2000

44. In which country was the disparity between households in urban and rural areas smallest in the year 1980?

(A) Colombia
(B) Dominican Republic
(C) El Salvador
(D) Honduras

45. Using Spearman's rank correlation coefficient, a perfect positive correlation should have a value of

(A) – 1.0
(B) 0
(C) 1.0
(D) 1.5

TEST CODE **02225020**

FORM TP 2009199/SPEC

CARIBBEAN EXAMINATIONS COUNCIL

ADVANCED PROFICIENCY EXAMINATION

GEOGRAPHY

SPECIMEN

UNIT 2: CLIMATE, ECONOMIC ACTIVITY AND CARIBBEAN DEVELOPMENT

PAPER 02

3 hours

INSTRUCTIONS TO CANDIDATES

1. This paper consists of **SEVEN** questions. Answer **FOUR** questions as indicated below.
2. Section A consists of **ONE** question testing practical skills. This is compulsory.
3. Section B consists of **SIX** questions. Answer **ONE** question from EACH Module.
4. Answers must be written in the answer booklet provided.
5. A map extract is provided for Question 1.
6. All diagrams must be well labelled.
7. The use of non-programmable calculators is allowed.

SECTION A

Answer this compulsory question.

1. The map extract provided is of Spanish Town – May Pen, Jamaica, and is on a scale of 1 : 50 000.

Use the information from the map extract to answer the questions below.

(a) (i) In the area between Eastings 37 and 60, identify THREE different types of vegetation. **[3 marks]**

(ii) Describe the distribution of the THREE types of vegetation between Eastings 37 and 60. **[6 marks]**

(iii) Explain how ONE physical and ONE human factor have influenced the nature of the vegetation in the area between Eastings 37 and 60. **[6 marks]**

(b) Suggest THREE reasons why sugar cane cultivation is the dominant agricultural activity in the area between eastings 20 and 27. **[6 marks]**

(c) (i) Identify THREE types of economic activity in the area west of Easting 41. **[3 marks]**

(ii) Give reasons to explain the location of the types identified. **[6 marks]**

(d) Table 1 shows selected indicators of development for some countries in the Caribbean and Latin America. Study Table 1 and answer the questions that follow on page 3.

TABLE 1: SELECTED INDICES OF DEVELOPMENT

Country	Population Growth (%)	Per capita G.N.P (US $)	Purchasing Power Parity
Costa Rica	1.89	4 300	9 140
Brazil	1.20	2 720	7 510
Dominican Republic	2.10	2 130	6 310
El Salvador	2.00	2 340	4 910
Jamaica	1.50	2 980	3 790
United Kingdom	0.24	28 320	27 690
Trinidad & Tobago	0.70	7 790	10 390
Venezuela	1.71	3 490	4 750
Haiti	1.90	400	1 730
Honduras	2.50	970	2 590

GO ON TO THE NEXT PAGE

You are asked to test whether there is a significant relationship between population growth and per capita GNP as shown in Table 1.

(i) State the null hypothesis. **[1 mark]**

(ii) Using the formula for the Spearman's rank correlation coefficient,

$$r_S = 1 - \frac{6 \acute{Y} d^2}{n^3 - n},$$

calculate the value of r_S. (Show all steps in your calculation.) **[8 marks]**

(iii) State the nature of the relationship between population growth and per capita GNP. **[2 marks]**

(iv) What additional step is needed to confirm whether the relationship is significant? **[2 marks]**

(e) What is meant by 'Purchasing Power Parity (PPP)'? **[2 marks]**

Total 45 marks

SECTION B

Answer THREE questions from this section, ONE question from EACH Module.

MODULE 1

Answer ANY ONE question.

2. (a) With the aid of diagrams, describe THREE features of the world pattern of wind circulation in the upper troposphere. **[15 marks]**

(b) Explain how the formation of tropical grasslands is influenced by

(i) TWO climatic factors

(ii) THREE human factors. **[15 marks]**

Total 30 marks

3 (a) Write an essay describing the challenges and opportunities for the development of the tropical rain forest. Include THREE challenges and THREE opportunities in your response. **[15 marks]**

(b) Figure 1 illustrates FOUR types of soil structure, A, B, C and D.

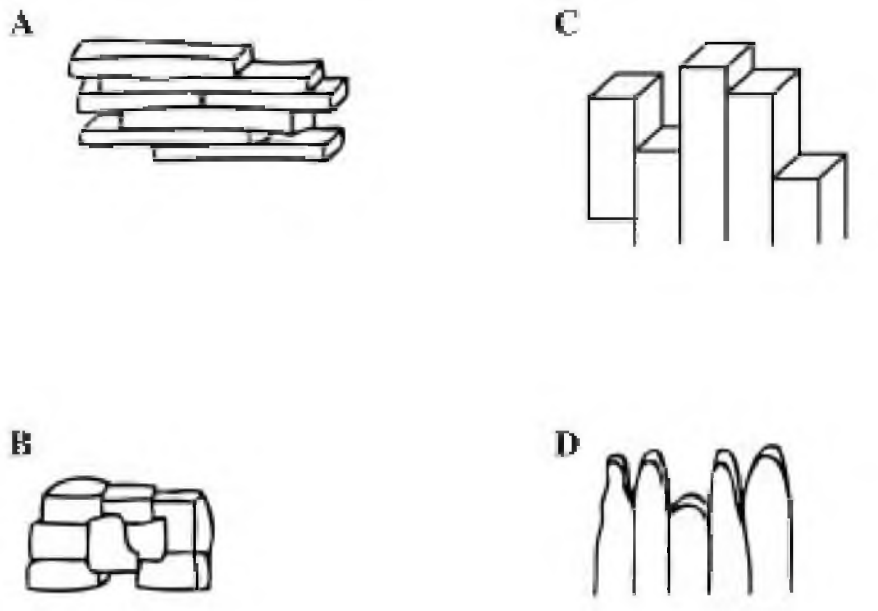


Figure 1. Soil structure

Identify EACH of the soil structures, A, B, C and D, shown in Figure 1. **[3 marks]**

(c) Explain how TWO aspects of climate and TWO aspects of vegetation contribute to the development of the soils in the tropical rain forest. **[12 marks]**

Total 30 marks

MODULE 2

Answer ANY ONE question.

4. (a) Figure 2 illustrates the changing employment patterns in a MDC from 1975 to 1997.

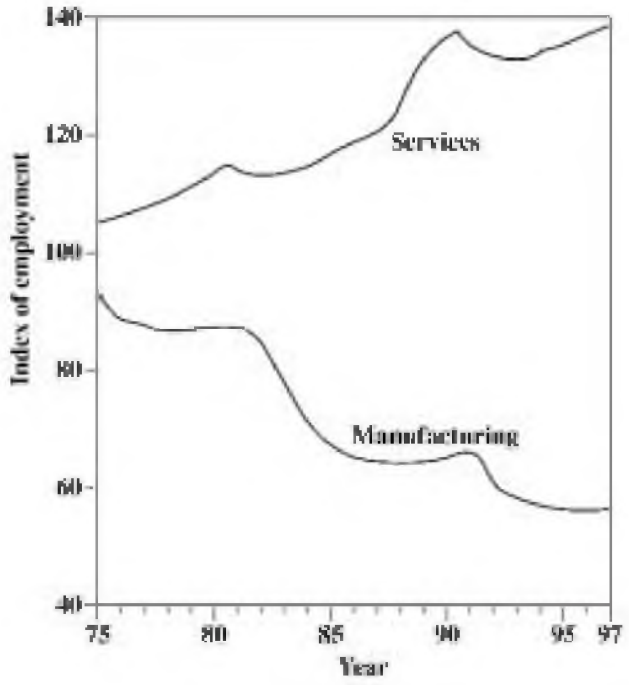


Figure 2. Changing employment patterns in a MDC, 1975 - 1997

Describe how THREE factors account for the patterns indicated in Figure 2.

[16 marks]

(b) "Caribbean agricultural products should be given preferential treatment by importing countries."

Outline TWO reasons why the notion above should be

(i) supported **[7 marks]**

(ii) refuted. **[7 marks]**

Total 30 marks

5. (a) With reference to ONE **major** industrial region that you have studied in more economically developing countries (MEDC), discuss FOUR processes which have stimulated diversification of its industrial base. **[10 marks]**

(b) Assess TWO advantages and TWO disadvantages of the development of all-inclusive resorts in the tourism industry in the Caribbean, to the local economy. **[20 marks]**

Total 30 marks

MODULE 3

Answer ANY ONE question.

6. (a) With reference to a specific country, explain THREE results of inadequate access to water in rural areas. **[10 marks]**

(b) "... colonialism inspired cores ... and peripheries ... within Third World Countries ..." (Burke and O'Hare, 1984).

Discuss the statement above with reference to THREE colonial development strategies in the Caribbean. **[20 marks]**

Total 30 marks

7. (a) **Trends in Human Development in Selected Countries**

Countries	**1960**	**1980**	**1994**
Barbados	0.678	0.856	0.907
Jamaica	0529	0.654	0.736
Dominican Republic	0.385	0.541	0.718
Haiti	0.174	0.295	0.338

What was the greatest percentage change experience by any country during the period 1980 to 1994 and name the country.

[4 marks]

(b) Describe TWO forms of aid. **[6 marks]**

(c) Write an essay discussing the effectiveness of aid to developing countries.

[20 marks]

Total 30 marks

END OF TEST

TEST CODE **02225032**

FORM TP 2009200/SPEC

CARIBBEAN EXAMINATIONS COUNCIL

ADVANCED PROFICIENCY EXAMINATION

GEOGRAPHY

SPECIMEN

UNIT 2: CLIMATE, ECONOMIC ACTIVITY AND CARIBBEAN DEVELOPMENT

PAPER 03/2

1 1/2 hours

INSTRUCTIONS TO CANDIDATES

1. This paper consists of **THREE** compulsory questions, one from **EACH** Module.
2. Answer **ALL** questions.
3. Answers must be written in this booklet.
4. The use of non-programmable calculators is permitted.

MODULE 1

Answer this question.

1. (a) You have collected a sample of soil in the field. Describe how you would carry out a test to measure soil texture

(i) in the field

_____

_____

_____

_____

_____

_____

_____

_____

[4 marks]

(ii) in the school laboratory.

_____

_____

_____

_____

_____

_____

_____

_____

[4 marks]

(b) You have been asked to investigate and record changes in vegetation and soil along a slope. Explain how you would carry out the investigation.

[10 marks]

Total 18 marks

MODULE 2

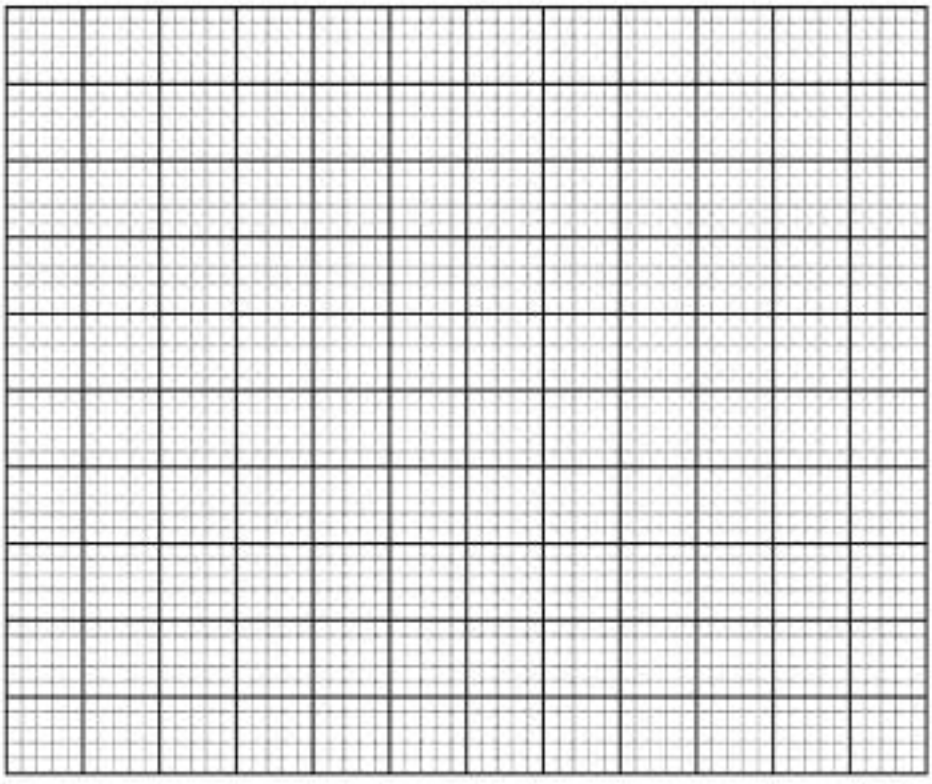
Answer this question.

2. (a) Table 1 presents data on employment in industry from 1840 to 2000.

TABLE 1: EMPLOYMENT IN INDUSTRY (% Employed)

Year	Primary	Secondary	Quaternary
1840	48	29	–
1860	50	36	–
1880	52	38	–
1900	47	37	–
1920	42	46	–
1940	48	45	–
1960	45	55	–
1980	33	62	5
2000	25	66	9

Use the data presented in Table 1 to draw line graphs on the grid provided below to represent employment in industry from 1840 to 2000.



[12 marks]

(b) Table 2 shows tourist arrivals in several Caribbean countries in 2004.

TABLE 2: TOURIST ARRIVALS 2004

Country	Tourist Arrivals
The Bahamas	1 405 043
Jamaica	1 414 786
Puerto Rico	1 288 502
St Maarten	475 031

Draw a pie chart in the frame below to represent the data given in Table 2. Show all relevant calculations.

[6 marks]

Total 18 marks

MODULE 3

Answer this question.

3. Table 3 presents data for the per capita Gross National Product (GNP) and energy consumption for selected countries.

TABLE 3: GNP AND ENERGY CONSUMPTION

Countries	GNP per capita (US $)	Energy Consumption per capita (kg oil)
Norway	40 080	3 622
Switzerland	34 380	5 284
Japan	32 380	4 058
USA	29 340	8 051
Germany	21 400	4 267
U.K.	8 970	3 992
Argentina	4 570	1 653
Brazil	3 600	1 012
Malaysia	2 600	1 950
Egypt	1 290	638

(a) Identify an appropriate statistical technique which can be used to show the relationship between GNP and energy consumption referred to in Table 3.

_____

_____

[2 marks]

(b) Organise the data presented in Table 3 in an appropriate format to carry out the statistical technique identified in (a) on page 6.

[12 marks]

(c) (i) By performing an appropriate calculation, determine the relationship between the GNP per capita and energy consumption per capita indicated in Table 3.

$$\left[\text{Note: } r_S = 1 - \frac{6\sum d^2}{n^3 - n} \right]$$

[2 marks]

GO ON TO THE NEXT PAGE

(ii) State the null hypothesis.

_____

_____

_____

_____

_____

[2 marks]

Total 18 marks

END OF TEST

Caribbean Examinations Council
Master Data Sheet

Subject: CAPE Geography Unit: 1 Year: 2009 Specimen

Question	Module/Syllabus Reference	Profile	Key	Question	Module/Syllabus Reference	Profile	Key
1	1.2	KC	A	**31**	3.2	KC	A
2	1.2	KC	D	**32**	3.2	KC	B
3	1.3	KC	C	**33**	3.4	KC	A
4	1.10	KC	B	**34**	3.4	KC	D
5	1.3	KC	C	**35**	3.4	KC	A
6	1.11	KC	B	**36**	3.5	KC	B
7	1.7	KC	A	**37**	3.5	KC	C
8	1.7	UK	C	**38**	3.1	UK	B
9	1.3	UK	D	**39**	3.3	UK	A
10	1.5	UK	A	**40**	3.3	UK	C
11	1.10	UK	D	**41**	3.5	UK	D
12	1.10	UK	A	**42**	3.5	UK	C
13	1.3	PS	B	**43**	3.8	PS	C
14	1.4	PS	A	**44**	3.6	PS	A
15	1.4	PS	B	**45**	3.6	PS	B
16	2.1	KC	D				
17	2.1	KC	B				
18	2.2	KC	D				
19	2.3	KC	C				
20	2.3	KC	D				
21	2.3	KC	A				
22	2.5	KC	D				
23	2.2	UK	B				
24	2.2	UK	C				
25	2.2	UK	A				
26	2.3	UK	D				
27	2.5	UK	B				
28	2.7	PS	A				
29	2.5	PS	D				
30	2.5	PS	C				

C A R I B B E A N E X A M I N A T I O N S C O U N C I L

ADVANCED PROFICIENCY EXAMINATIONS

GEOGRAPHY

UNIT 1 - PAPER 02

MARK SCHEME

SPECIMEN

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

SECTION A

Question 1

Specific Objective(s): Mod 1 – 8, 9; Mod 2 – 2,5,7; Mod 3 – 2,8

Content: Mod 1-1; Mod 2-4; Mod 3-1

(a) (i) Settlement patterns

Three types of settlement patterns:

- **(1)** Linear settlements primarily along all classes of roads. **(1)**
- **(1)** Most extensive east of eastings 47 and along the roads **(1)** and tracks to Guy's Hill, south from Woodside, south- **(1)** east from Union Hill. More sparse in the west but better settled areas in the uplands also tend to be **(1)** linear in form following other roads and tracks. The **(1)** pattern to the west is more nucleated. The largest are **(1)** at Claremont and Golden Grove but there are smaller **(1)** centres at Walker's Wood and Moneague in pockets of **(1)** lowlands between the rugged uplands.
- Rugged upland areas are sparsely settled. There are **(1)** dispersed settlements **(1)** west of Edinburgh Castle, in the far north-west to the south around Charlton.

Minimum of 9 points - 9 x 1 marks [9 marks]

(ii) Development of settlements:-

- Relief **(1)**- Occupying land generally below 400 m between rugged uplands **(1)**
- Low relief**(1)** facilitated the development of a road network and both settlements at junction of Class A and Other roads(1).
- Numerous springs and wells **(1)** at the base of slopes in limestone providing water in areas that are devoid of surface streams **(1).**
- Economic activity **(1)** in the form of bauxite mining and refining **(1).**

At least three reasons - 3 x 2 marks [6 marks]

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 1 cont'd

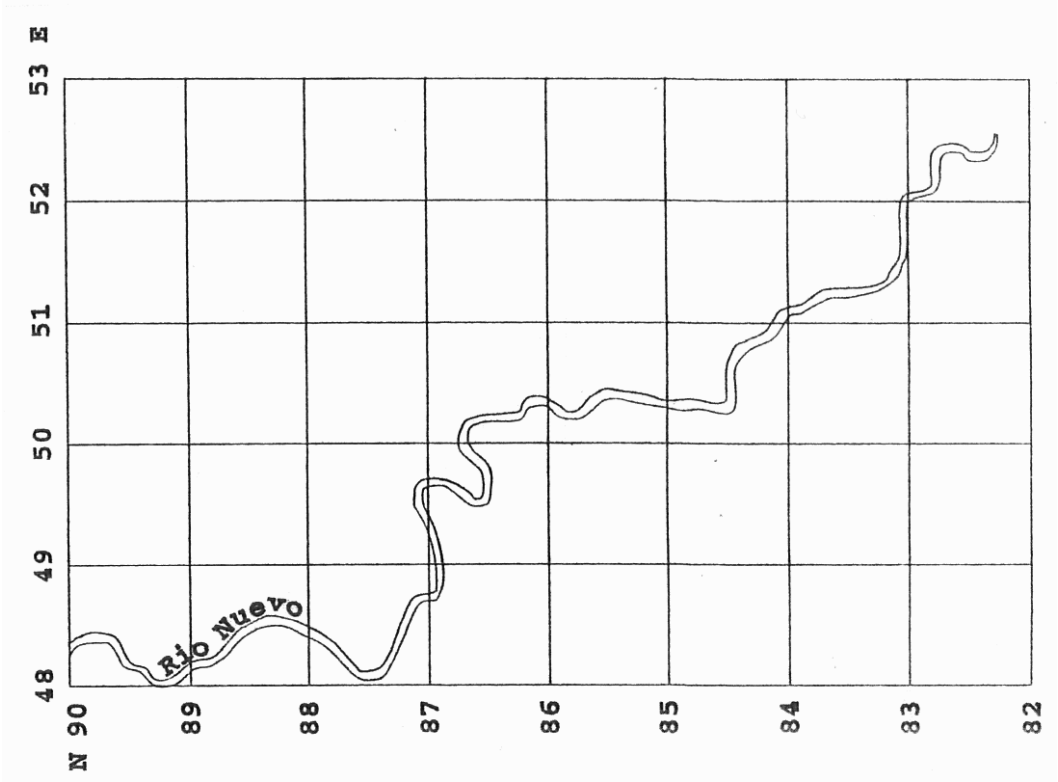
(b) Evidence of rock type:

- Limestone areas generally devoid of surface drainage **(1)**. No extensive networks are in the area**(1)**. Hydrology of this area is in stark contrast **(1)**to area to the east**(1)**.
- Underground drainage as evidenced by the springs which most likely mark a junction between the limestone and impermeable rocks; the wells which tap underground supplies **(1)-** York Castle, Christopher, Mc Dowell, Albion.
- Depressions **(1)**possibly formed by collapse of surface rocks**(1)**, for example, - west and north-west of Claremont, at 325790, 445750.
- Form of the uplands**(1)-** rugged but rounded with no sharp peaks**(1)**. Tend to be clustered in groups of rounded hills **(1)**resulting from solution**(1)**. Term 'hummocky' has been applied – hills and hollows.

At least 3 pieces of evidence
4 + 3 + 3 (4 marks for the best developed)

[10 marks]

(c)



(3 marks for course
2 marks for GR)
[5 marks]

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 1 cont'd

(d) (i)

- Labour supply in nearby settlements
- Read network
- Market
- Availability of water supply nearby

Any two – 2 marks **[2 marks]**

(ii) Hazards

- The nature of the development involves the use of large amounts of water**(1).** This is likely to pose a problem since waste could get into underground supplies**(1)** and cause pollution**(1).**
- Possibility of flooding **(1)**with high run-off from rocks of low porosity**(1),** nearby road could be affected and this is a major thoroughfare**(1).**
- Nearby wetlands**(1)** could be affected by waste products**(1)-** cleaning substances and this could affect biomass**(1)**
- There is a nearby point of interest**(1)** possible feature with tourist potential**(1)** or historical importance which could be affected.

Any 3 hazards – 3 x 3 marks **[9 marks]**

(iii) Bauxite is mined nearby. Mining produces dust which is a health hazard. It also corrodes roofs of buildings **(1)** and reduces the rate of photosynthesis when deposited on vegetation**(1).**

Any 2 points - 1 x 2 marks

Bauxite is processed nearby. Chemicals are used in processing**(1)** and this can get into underground supplies of water and pollute these sources**(1).**

Any 2 points - 1 x 2 marks

[4 marks]

Total 45 marks

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 2

Specific Objective(s): 2, 3, 4, 5; Content: 4(i), 4(ii), 4(iii)

(a) Pyramid A

- Wide base and/or more than 25% under 15 years **(1)**
- High % in 20-29 age group **(1)**
- Small % in 65 and over age group **(1)**
- Excess males in the 20-29 age group

Pyramid B

- Large older population with approximately 25% over 65 **(1)**
- Small % less than 15 years **(1)**
- Relatively even distribution through youth and old age **(1)**

Any four features – 4 x 1 mark [4 marks]

(b) **(1)**

- Pyramid A suggests a LEDC with a high birth rate and high but **(1)** declining death rate. **(1)** **(1)**
- Accounts for the wide base and tapering apex.
- The high birth rate is typical of LEDC's with limited access to **(1)** use of birth control.
- The relatively high death rate is a result of low standards of living and medical facilities. **(1)**
- The narrowing apex suggests lower life expectancy. The higher numbers in the 20-34 age group for males may be due to high **(1)** immigration rates.

- Pyramid B suggests a MEDC. **(1)** **(1)**
- The narrow base suggests a low birth rate, typical of MEDC's. **(1)**
- Better access to and use of birth control **(1)** **(1)** Decisions by women not to have large families or any children. **(1)** **(1)**
- More women are career oriented and defer child bearing thus **(1)** limiting their reproductive years.

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 2 cont'd

(b) cont'd

- The pyramid bulges at the top suggesting a high life expectancy and an ageing population. More women are surviving to be 80+ years with social consequences **(1)**.
- The widening at the top is the result of access to better health **(1)** care and higher standard of living, and / or greater awareness **(1)** of health issues.

Each reason – 2 x 1 mark
Four reasons – 4 x 2 marks **[8 marks]**

[16 marks]

(c) Economic

- This country will have a high youthful dependency ratio**(1).**
- This will place a strain on the economically active population**(1).**
- The tax base will be small**(1).**
- There is a high rate of unemployment among the young in a youthful population **(1)**in developing countries.

Social

- High levels of crime as a consequence.
- The government may not have enough funds**(1)** to provide schools, social services for example the youthful population**(1).**
- This may lead to deficiencies in basic services including medical facilities**(1),** thus Contributing to the high death rate, particularly high infant mortality rate, and continual high birth rate**(1).**

[8 marks]

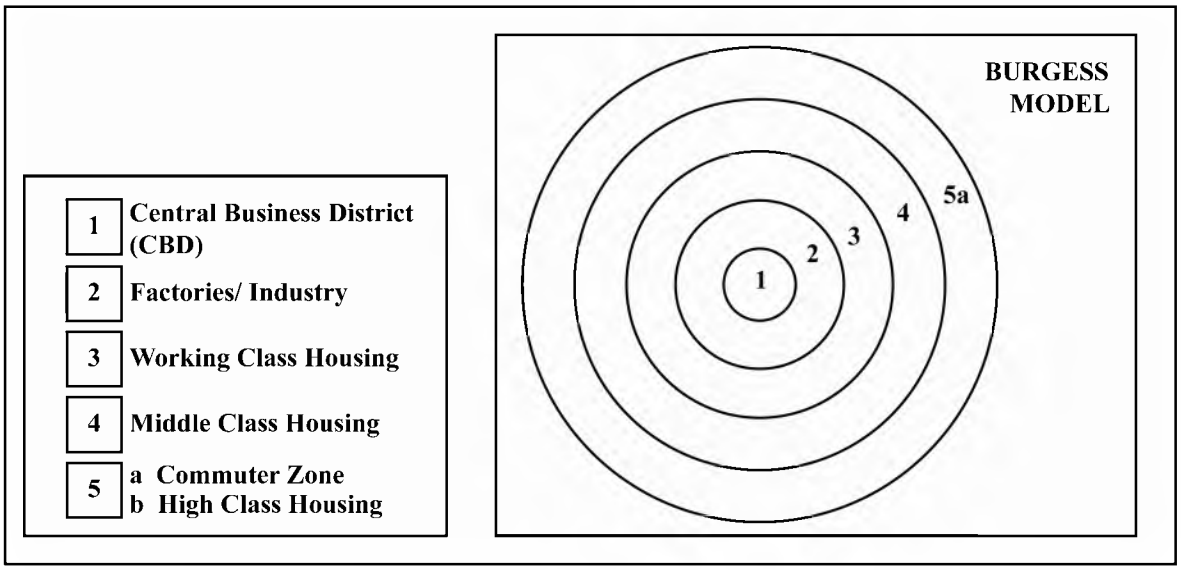
Total 30 marks

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 3

Specific Objective(s): 6, 11, 12; Content: 6(iv), 6(v), 6(vi)

(a) (i)



Label of 1, 2, 3, 4, 5
Geography, An Integrated Approach, 2000

1 mark for concentric circle
1 mark for label of 1 - 5 from centre outward
2 marks for correct key

[4 mark]

(ii) Assumptions for the model:

- land was flat and therefore transport was equally cheap in all directions
- all transport were as efficient as each other
- Land near the center was of higher value than land at the outskirts
- Oldest building close to the center.
- well-defined separations either ethnically or economically.
- those who could afford transport lived further out.
- no concentration of heavy industry

Any 4 assumptions for 1 mark each

[4 marks]

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

(b) (i)

Developed	Developing
• Location - Inner city slums (1) - Single residence converted to multiple use (1)	- Inner city slums (1) - But also squatter settlements on the outskirts of city or an unused/uninhabited land or gully banks, unstable slopes (1) - Often these locations are hazardous. (1)

Developed	Developing
• Quality - Buildings several stories high, 'walk-ups' posing problems for the elderly. (1) - Do not meet health / building standards. (1) - Many are damp, rat-infested. (1)	- Poor found in similar conditions in inner city tenements. (1) - In KMA, they are also found in urban yards. (1) - Large numbers of households share rudimentary toilet/ sanitary facilities. (1) They lack access to running water. (1) - Waste disposal poses a problem.
• Building materials - Usually solidly built but in poor repair. (1) - Faulty electrical connections cause fires. (1)	- Do not meet existing building codes. (1) - Built of whatever material is at hand. (1) - Often a fire hazard and fire is a constant threat. (1)

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Any two problems identified and well-developed
+ active comparison
(1 + 3 + 1) marks
2 x 5 marks

[10 marks]

Question 3 cont'd

(b) (ii)

Developed	Developing
• Home Ownership **(1)** Britain sold council houses **(1)** many in poor condition, to those occupying them and **(1)** they were encouraged to upgrade.	**(1)** - Squatter upgrading programmes **(1)** in which services provided. **(1)** - Homeowners encouraged to upgrade homes. **(1)** - Provision of sites and services **(1)** and own building encouraged.
(1) • Urban renewal - Was put in place in several cities such as London. - However many renewal schemes were not geared to **(1)** the needs of the poor. - They were taken over by **(1)** the young upwardly mobile and this resulted in conflicts as in East London.	**(1)** - Urban renewal in Kingston was attempted but with limited **(1)** success. - It was restricted to very small **(1)** areas surrounded by slums. **(1)** - High levels of crime prevailed.

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 3 cont'd

Developed	Developing
(1) • Large scale redevelopment - Occurred in places such as Harlem and Brooklyn using **(1)** a low rise model. - High rise 'projects' **(1)** believed to cause crime and many demolished as in **(1)** Chicago.	**(1)** - Apartment blocks in inner city in Bridgetown, Barbados, and in Trench Town, Kingston. - Unlike developed countries, low **(1)** cost single family houses constructed. - These are no longer popular as **(1)** cost is usually beyond the means of the poor.

Any two solutions – identified + well developed + active comparison (1 + 2 + 1) marks

2 x 4 marks **[8 marks]**

Total 30 marks

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 3 cont'd

(c) Counter-urbanisation is becoming increasingly important in developed countries for a number of reasons:

- Technology
  - Improvements in technology such as computer technology which means that people can work from home (not restricted to the city) by using computer technology
  - Improved communication network

- Transportation
  - Improvements in public transportation – cars and trains, people can live in other areas and can still quickly and easily maintain contact with place of work in the city
  - Greater personal means of transportation

- Push factors operating in the city- overcrowding, traffic problems, pollution, urban blight, high crime rates, restricted land area for expansion, housing available, high cost of housing and commercial space

- Shift from manufacturing to services and better wages in services Services not tied to original location factors but are more foot-loose.

- Pull factors operating in the smaller settlements-less crowded conditions, more pleasant/greener surroundings, larger land area for expansion, lower cost of housing and commercial space Less traffic congestion.

- Government policies such as those relating to the construction of new towns and new cities in Britain.

(1) (2)
Any 4 points: statement + elaboration
4 x 3 marks

[12 marks]

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

MODULE 2

Question 4

Specific Objectives: 3; Content: 2(ii), (v), (vi)

(a) 100 year flood **(1)**

- This is a term used to determine the need for flood insurance.
- It is a flood evaluation. **(1)**
- It has a 1 percent chance of being equaled or exceeded each year. **(1)**
- It is based on the recurrence intervals of floods and **(1)**
- Is an average. **(1)**
- The longer the record, the more accurate is the average.
- Changes in the river system caused by human interference or climate change can change the definition. **(1)**

Any 6 points – 6 x 1 mark **[6 marks]**

(b) (i) Time **(1)**

- Short-term variations occur after torrential rain/ storms, **(1)**
- Rainwater falls in channels. **(1)**
- With torrential downpours, there is rapid run off and an **(1)**
- Increase in the volume of water reaching the channel. **(1)**
- In tundra regions, discharge is low at nights but increases as sun melts the ice. **(1)**

Any 3 points – 3 marks

- Seasonal variations **(1)**.
- In deciduous forest areas, rainfall is intercepted by the forest cover. **(1)**
- Some is lost through evapotranspiration. **(1)**
- This reduces the amount of water reaching channels. **(1)**
- Interception is less in autumn when trees are bare. **(1)**
- So there is an increase in runoff and discharge. **(1)**

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 4 cont'd

- There is seasonal variation also in areas of seasonal **(1)** rainfall such as the Mediterranean where discharge is **(1)** greater in winter than summer and in semi-arid areas.
- In high latitudes during winter, ice, glaciers store water during winter when discharge is low. **(1)**
- Water is released in summer melt and discharge increases. **(1)**

Any 3 points – 3 x 1 mark

(1)

- Long term changes are caused by climate change. **(1)**
- Global warming is increasing snow melt and
- An increase in discharge is being experienced by Arctic **(1)** rivers.
- Long term changes are also associated with changes in **(1)** land use.
- Increasing urbanization is associated with increased run off as surfaces are being waterproofed. **(1)**
- Discharge is decreasing as greater demands placed on water for irrigation or changes caused by the building of dams e.g. the Aswan. **(1)**

2 causes Any 3 points - 3 x 1 mark
x 2 marks - 6 marks

(ii) Space

- Discharge varies from one climatic zone to another
- Hot,wet tropics, there is rain throughout the year or a short dry season. **(1)**
- Some precipitation is lost through evaporation and evapotranspiration under high temperatures and infiltration. **(1)**
- However, discharge is high and **(1)**
- There is almost even flow throughout the year. **(1)**
- In subtropical and arid areas, precipitation is less.
- There is high evapotranspiration, so discharge is smaller. **(1)**
- Cold deserts have a regime that is similar to arid areas.
- Water is locked up as ice in winter.**(1)**
- In early summer when the temperature is higher and there is little vegetation cover, discharge increases. **(1)**

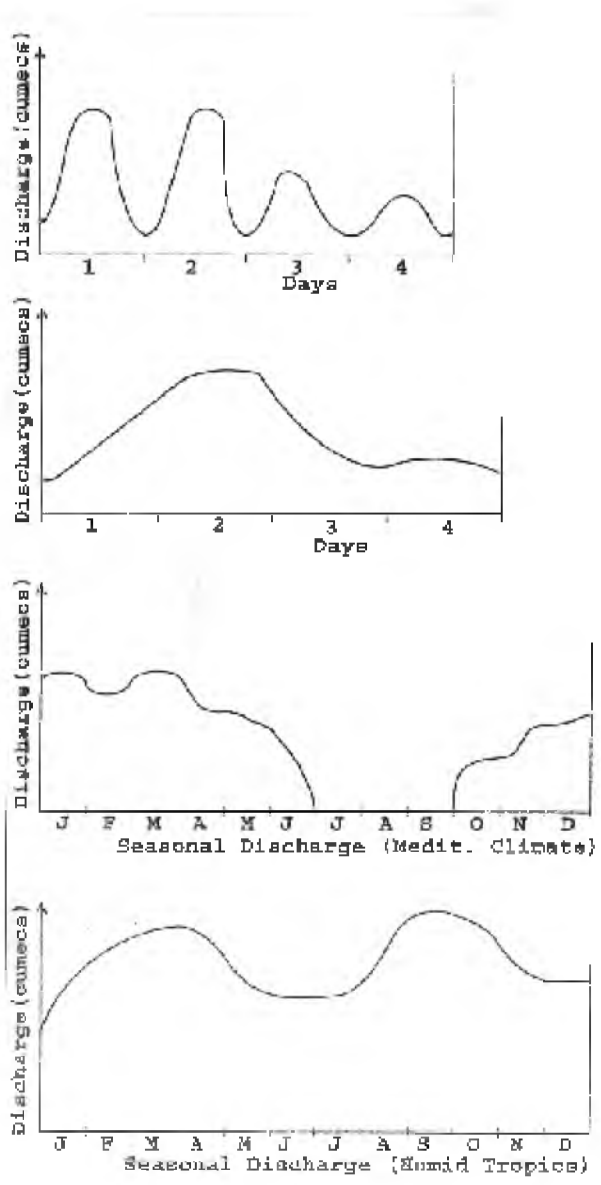
GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 4 cont'd

- Discharge is lower than in hot, wet areas and
- Varies with season.

Each cause - 3 points - 3 x 1 mark
Two causes - 2 x 3 marks - 6 marks
Space - 6 marks + diagram - 3 marks
Time - 6 marks + diagram - 3 marks **[18 marks]**

Short term changes in river regimes:



Question 4 cont'd

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Specific Objective(s): 3; Content: 2 (vi)

(c) Weathering may influence the cross profile-.
Weathering and erosion on the valley sides remove material causing the valley sides to retreat. If the river removes the material transported down slope more quickly than that material is provided then a steeper valley is produced. Rocks that are more resistant to weathering often produce forge like valleys.

Identification of region/zone – 1 mark
Correct process – 1 mark

Any three region/zones - 3 x 2 marks

[6 marks]

Total 30 marks

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 5

Specific Objective(s):3, 5; Content: 3(ii), 4 (i), (ii)

(a) (i) Karst is a landscape that is created by the solution of limestone bedrock. **(1) (1)**

[2 marks]

(ii)

- Purity **(1)**

  - Limestone rocks have different levels of purity. **(1)**
  - The purer the limestone the better the development of karst morphology. **(1)**
  - The best developed features are found in areas that exceed 80 percent purity. **(1)**
  - In Jamaica, one of the areas where karst features are best developed, the limestone is about 98 percent pure. **(1)**

  Reason identified or implied 1 mark
  At least 4 points - 4 x 1 mark – 4 marks

- Bedding **(1)**

  Typical karst features develop both on the surface and underground **(1)** **(1)**

  - For underground features to be fully developed, individual beds must be thick **(1)**.
  - The interbeds should not be impermeable as this limits the depth to which water can percolate. **(1)**

  Reason identified or implied 1 mark

  At least 4 points – 4 x 1 mark - 4 marks

- Structure is also important. **(1) (1)**

  - The limestone should be dense and of low porosity. **(1)**
  - Karst features do not develop on chalk because of high porosity. **(1)**

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 5 cont'd

- However, the limestone should have joints and **(1)** bedding planes.

- These are responsible for secondary permeability **(1)** required for sub-surface solution.

- Vertical fractures provide a focus for the solution **(1)** process.

- Faulting influences the formation of large scale **(1)** features such as poljes.

Reason identified or implied 1 mark

Any 4 points - 4 x 1 mark – 4 marks

- Climate

- Karst features are best developed in hot, wet **(1)** tropical regions.

- Carbon dioxide diffuses into the moisture in the **(1)** air and soil to form carbonic acid which dissolves **(1)** the calcite in the limestone.

- The heat promotes high biological activity **(1)** promoting plant decay. **(1)**

- This releases carbon dioxide. **(1)**

- In permafrost regions, water is frozen and **(1)** unavailable and karst here is poorly developed.

Reason identified or implied 1 mark

Any 4 points – 4 x 1 mark - 4 marks

- Vegetation

(1)

- Tropical vegetation adds large quantities of litter **(1)** which decays rapidly. **(1)**

- There is little biological activity in cold regions **(1)** because of low humus content in the soil.

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

- Relief

  - Karst development is greater in areas of high relief/steep topography or entrenched rivers. **(1)**
  - This facilitates the movement of water, and moving water corrodes faster than standing. **(1)**
  - This brings the rocks into contact with fresh supplies of carbonic/organic acids. **(1)**

Reason identified or implied 1 mark

Any 4 points – 4 x 1 mark 4 marks

Any four reasons – 4 x 5 marks

[20 marks]

(b)

	Correct diagram		Label
Depositional Landform	**1 mark**	**&**	**1 mark**
Erosional Landform	**1 mark**	**&**	**1 mark**

Depositional – sediment transfer **1 mark**
how land form develops **1 mark**

Erosional – erosion process(es) **1 mark**
how land form develops **1 mark**

Maximum marks **[8 marks]**

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

MODULE 3

Question 6

Specific Objective(s):5, 7; Content: 3(viii), 5(iii)

(a) Value of folded and faulted landscapes:

- Source of minerals **(1)**

Cordilleran folds where magma consolidates as batholiths **(1)**

from which molten material arises are the sources of many **(1)**
minerals of economic importance.

The mining is concentrated where the batholiths are either **(1)** **(1)**
uncovered by erosion or lie on the surface. For example;

There is a major zone of mineralisation in the Rockies where **(1)**
copper is found. The Andean region produces tin, copper, **(1)**
silver. Sulphur deposits from volcanoes are mined in **(1)**
Chile. Faulted landscapes in Devon and Cornwall reveal **(1)**
veins containing metal ores.

Folding and faulting have also revealed beds of coal as in **(1)**
the Appalachians.

- Energy **(1)**

Hydroelectric power has several advantages over fossil fuel. **(1)** **(1)**
There is no pollution, it is renewable and is relatively **(1)**
cheap. It is best developed in areas of high relief - fold

mountains or uplifted faulted blocks. For example, Norway has

developed its hydroelectric power resources and bauxite **(1)**
companies have found it economical to send raw materials from **(1)**
several developing countries to be smelted in Norway.

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 6 cont'd

Along belts of shattered rocks, water circulating deep within **(1)** the earth has a fast route to the surface. **(1)** The temperature remains high enough to provide geothermal power. **(1)** For example, Iceland and New Zealand have developed their geothermal power resources. **(1)** In the USA, it is associated with Basin and Range topography **(1)** and, in Kenya, with the Rift Valley. **(1)**

- Tourism. **(1)** Folded mountains have been the focus of a range of tourist **(1)** and leisure activities. **(1)** There is scenic value to the towering peaks. **(1)** They are valuable for winter sports – amateur and professional events. **(1)** There are hiking trails. They attract people interested in scaling high peaks **(1)** and rock climbing **(1)**, for example, Rugged Switzerland have developed an important tourism industry around its fold mountains.

- Biodiversity. **(1)** In many countries, plants and animals in accessible areas are approaching extinction **(1)** and inaccessible mountain areas have become the reserves of valuable species. **(1)** For example, in some cases as in Jamaica, highland areas have been designated National Parks and protected areas. **(1)** One of the reasons for this is to protect endemic species. **(1)**

- Natural Boundaries. **(1)**

Any two values
Identified + elaborated + example + diagram
1 + 1 + 1 + 2

2 x 5 marks

[10 marks]

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 6 cont'd

(b) Introduction **1 mark**

Risk avoidance strategies

(1)

- Land use regulations Certain parts of a city/country are **(1)** unsuitable for certain types of land uses. In other cases, there are dangers involved in having land uses in close **(1)** **(1)** proximity - residential and noxious chemicals, for example, **(1)** obvious risks can be avoided by specifying areas where residential, commercial and industrial functions are allowed- zoning. Zoning regulations are not only useful in specifying functions. Within residential areas they could specify where **(1)** **(1)** land is unsuitable for building purposes – too steep and subject to erosion, too close to water courses, where residential uses and wastes could put fresh water supplies at risk.

  (1)
  Land use regulations could specify the density, height, dimensions, alignment of buildings, the width of roads, the **(1)** need for access roads, all in the interest of safety.

  (1)
  In agricultural areas, land classification systems could **(1)** protect food supplies by specifying land subject to flooding and unsuitable for agricultural purposes. Where necessary land use regulations can be backed up by compulsory purchase and **(1)** land acquisition.

  Any three – (3 x 1) **3 marks**

(1)

- Financial incentives are useful in guiding development. **(1)** These could take the form of tax exemptions, favourable land prices, the provision of infrastructure/utilities. In this **(1)** way, commercial/industrial ventures could be guided to areas where they could do least harm to people and the environment.

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 6 cont'd

When financial incentives fail, there can be harsh **(1)** penalties for unacceptable uses. In most countries, laws are **(1)** in place but they are not strictly enforced.

Any three – 3 x 1 mark **3 marks**

- Natural resource management **(1)** Hazards can be avoided if **(1)** governments exert strict control over the management of natural resources. Many landslides are caused by the removal **(1)** of forests from hillslopes where they stabilize the soil and conserve water supplies. Beaches are being eroded because of **(1)** the type of structures on coastlands and sometimes by attempts **(1)** **(1)** to protect the beaches. Wetlands should be protected because they serve as nurseries for fish and protect coastal areas. **(1)** Rivers are being mined to provide sand for building purposes.

Any three - 3 x 1 mark **3 marks**

- Education **(1)** is essential if resources are to be managed. There **(1)** is a need to increase public awareness of the value of the **(1)** **(1)** resources, the protective functions they serve and their **(1)** importance to the health of the environment.

Any three – 3 x 1 mark

Avoidance strategies – Any three 3 x 4 marks

[12 marks]

Reduction

- Building standards **(1)** **(1)** Regulations can specify engineering standards, design and **(1)** construction material to reduce the risk of hazards. In hurricane and earthquake zones, there are standards specifying the amount of steel that should be used in the construction of

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 6 cont'd

(1)
walls; the shape of roofs, the manner in which roofs should be
(1)
attached. These regulations specify the techniques and
(1)
materials that mitigate but may not eliminate risks.
Any three – 3 x 1 mark **3 marks**

- Retrofitting **(1)**

In most instances, the building stock is already in existence
(1)
so steps must be taken to improve resistance. Retrofitting
(1)
involves strategies to strengthen structures especially those
(1) **(1)**
in high risk zones and structures devoted to sensitive uses

such as hospitals and schools. Windows are modified and
(1) **(1)**
strengthened. Roofs are changed.
Any three – 3 x 1 mark **3 marks**

- Waste managements **(1)**
(1)
There are also regulations governing the handling of wastes.

This is particularly important in small islands where waste
(1)
disposal sites are on coastlands and there is the risk of
(1)
contamination of underground water supplies. Regulations for
(1)
the design of disposal sites. Regulations specifying how

hazardous waste, wastes from hospitals (points, needles)

should be treated to avoid the spread of diseases.
Any three – 3 x 1 mark - 3 marks
Reduction – Any two – 2 x 4 - 8 marks

[20 marks]

Total 30 marks

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 7

Specific Objectives: 5, 6; Content: 2 (ii), (iii)

(a) Introduction

Global sea rise and consequences **(1)**

- Consequences to small islands. At present many small islands are a few metres above sea level and a high percentage of **(1)** the land area comprises coastlands. There is a **(1)** concentration of resources on coastal areas. With rising sea levels, coastal areas could be flooded resulting in a **(1)** loss of resources as well as a large proportion of the **(1)** islands. The Maldives are under threat. **(1)** Already two islands in Kiribati have been lost. Early in 2005 several **(1)** were inundated.

(1)

- Consequences to the world's cities. Cities in both developed **(1)** and developing countries are on low coastal areas, or on tidal reaches – New York, London, Bangkok. There is a **(1)** concentration of resources as well as people. **(1)** The flooding of New Orleans demonstrates the problems which can occur when **(1)** large numbers of people are displaced. Sea rise will not **(1)** only be gradual. Storm surges may become more frequent, sea **(1)** walls, levees breached causing loss of lives, damage, loss of property.

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 7 cont'd

- Consequences to surface and underground supplies of water. **(1)** **(1)**
As sea level rises there will be salt-water intrusion polluting wells on which communities depend for fresh water. **(1)** This is especially serious for small islands where **(1)** watersheds are small and fresh water supplies are low. **(1)**
Already some states such as Thailand, are experiencing salt **(1)** water intrusions.

Global sea level rise

- Consequence to agricultural areas. **(1)** Many fertile agricultural **(1)** areas are on the coast where the land is flat and where **(1)** alluvium from rivers have built up fertile flood plains and deltas. In Pakistan, for example, most of the rice crop is **(1)** grown on the river delta and already this area is subjected to periodic and deadly storm surges. A rise of just a few **(1)** cms will result in a loss of valuable land on which the **(1)** country depends for food as well as for export.

- Loss of wetlands

Nursery for fish, store and regulation of water
Flood mitigation
Biodiversity lost or modified
Protection of coasts
Conclusion

Any three consequences 3 x 5 marks
Identified + elaboration + example
1 mark + 3 marks + 1 mark

[15 marks]

GEOGRAPHY
UNIT 1 - PAPER 02
MARK SCHEME

Question 7 cont'd

(b) **Specific Objective(s) 4; Content: 3 (iii)**

Divergent Features	Convergent Features
• Movement **(1)** Plate margins diverge and magma rises to fill gap creating oceanic crust. This is a constructive **(1)** process and in mid- Atlantic the new sea floor moves apart – sea floor spreading. **(1)**	Here plate margins override and one is forced beneath the other – subducts. **(1)** Usually the oceanic plate subducts. This is a destructive process. **(1)** Associated with the subduction zone are deep sea trenches. **(1)**
• Volcanoes **(1)** Fresh magma rises from the earth's mantle and initially form submarine **(1)** volcanoes which in time grow above sea level.**(1)** New ocean floor is built up into mid-ocean ridge. **(1)**	Heat produced as the plate subducts converts it into magma which tries to rise to the surface. **(1)** It may reach the surface in the form of volcanoes which form either island arcs **(1)** or long chains of fold mountains. **(1)**
• Type of eruption **(1)** Lava is ejected from fissure **(1)** and usually there is no explosive activity. **(1)** It is basaltic with little silica and builds up basaltic plateaus by **(1)** successive flows.	The lava is more acidic than lava at constructive margins. **(1)** It easily may solidify to form batholiths. **(1)** Eruption is often violent spewing pyroclastic material ash and gas. **(1)**
• Land forms **(1)** The largest product of constructive plates is the island of Iceland **(1)** where continued fissure eruptions are extending the land area and causing widespread destruction. **(1)** Lateral movements produce faults.	The movement creates double island arcs, **(1)** cordilleran chains such as the Andes **(1)** and, where convergent movement produces collision a variety of complex **(1)** landscapes – thrusting, faulting – are produced.
• Earthquakes **(1)** experienced are usually shallow. **(1)**	Earthquakes experienced are both shallow **(1)** and deep. **(1)**

Indication of feature (point of comparison) – 1 mark
Elaboration – 2 points for each - 4 marks
Any three features 3 x 5 marks [15 marks]
4 marks for diagrams

Total 30 marks

C A R I B B E A N E X A M I N A T I O N S C O U N C I L

ADVANCED PROFICIENCY EXAMINATIONS

GEOGRAPHY

UNIT 1 - PAPER 3/2

MARK SCHEME

SPECIMEN

Geography

Unit 01 – Paper 03/2

Mark Scheme

Module 1

Question 1

Specific Objective(s): 4, 11 Content: 4(iv), 6(vi)

(a)

Table 1: Urban Functions

Urban Functions	Activities
1. Education	University, schools, library, museum
2. Public Transport	Railway station, bus station
3. Entertainment, Leisure	Cinema, skating rink
4. Retail	Dress shop, department store, hardware
5. Financial	Bank, insurance
6. Legal/Administrative	Town hall, Court house, House of representatives

(12 marks)

(b) Dependency ratio using 0-14 and 60+ $= \frac{21.4}{27.75} \times 100 = 77\%$

OR

Dependency ration using 0-14 and 65+ $= \frac{18.55}{30.6} \times 100 = 61\%$

(c) Youth dependency $= \frac{11.7}{37.45} \times 100 = 31\%$

(6 marks)

Total 18 marks

In each case:

Correct formula seen/implied (1)
Correct numerator/denominator (1)
Correct answer (1)

Geography

Unit 01 – Paper 03/2

Mark Scheme

Module 2

Question 2

Specific Objective(s): 3, 5 Content: 2(v), 3(ii)

(a) (i) A - Stream order 1
B - 1
C - 2
D - 3

(4 marks)

(ii) Third order

(1 mark)

(b) (i) $\frac{L}{A}$ (total length of all streams)
(Area)

(2 marks)

(ii) Bifurcation ratio $\frac{7}{3} = 2.3 : \frac{3}{1} = 3 : \frac{5.3}{2} = 2.65$

(4 marks)

(c) (i)

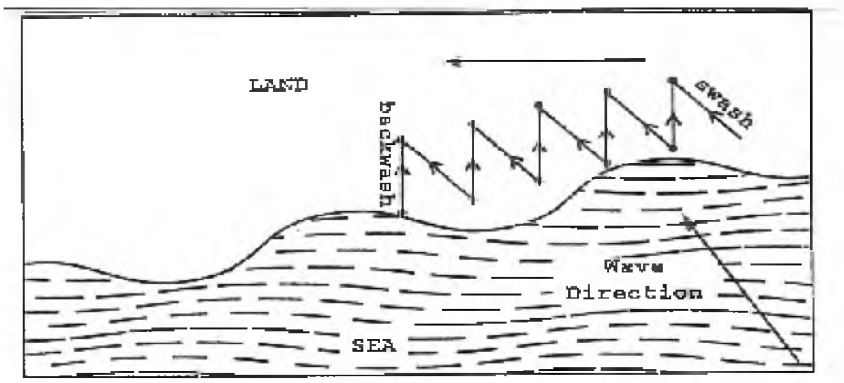


Figure 3. Coastline

(5 marks)

(ii) The pebble becomes smaller smoother, flatter after being carried over a long distance.

(2 marks)

Total 18 marks

Geography

Unit 01 – Paper 03/2

Mark Scheme

Module 3

Question 3

Specific Objective(s): 2, 3, 9 Content : 1 (ii), 4(iv), 2(ii)

(a) Flooding, fire, disease, hurricane

Any three – 3 x 1 mark

(3 marks)

(b) Conditions and reason for hazard – (1) + (2) marks

Flooding
- Settlements are located at the edge of the river and in the river itself
  + reason for hazard

Fire
- Houses are closely packed
- Houses and materials are highly flammable
  + reason for hazard

Diseases
- Poorly ventilated and closely packed buildings
  + reason for hazard

Hurricane
- Exposed and fragile nature of the settlement allow easy destruction by high winds
  + reason for hazard

Any 3 conditions – 3 x 3 marks

(9 marks)

(c) Three reasons from Figure 4: Evidence (1) + Reason(1)

- Presence of boats suggests that fishing is a major source of livelihood and hence the need to locate close to the river.

- Presence of boats also suggests that the river is a major medium for transportation

- Poverty is evident and thus the need to acquire land where no major investment cost is required.

- The river provides a ready supply of water for domestic and other purposes.

Any 3 reasons – 3 x 2 marks

(6 marks)

Total 18 marks

Caribbean Examinations Council
Master Data Sheet

Subject: CAPE Geography Unit: 2 Year: 2009 Specimen

Question	Module/Syllabus Reference	Profile	Key	Question	Module/Syllabus Reference	Profile	Key
1	1.1	KC	A	**31**	3.3	KC	D
2	1.2	KC	D	**32**	3.3	KC	A
3	1.4	KC	B	**33**	3.3	KC	B
4	1.2	KC	A	**34**	3.2	KC	A
5	1.6	KC	D	**35**	3.2	KC	C
6	1.8	KC	B	**36**	3.2	KC	A
7	1.11	KC	C	**37**	3.2	KC	D
8	1.2	UK	D	**38**	3.9	UK	D
9	1.2	UK	A	**39**	3.7	UK	C
10	1.5	UK	D	**40**	3.2	UK	D
11	1.6	UK	C	**41**	3.7	KC	A
12	1.8	UK	D	**42**	3.7	UK	B
13	1.4	PS	A	**43**	3.6	PS	C
14	1.4	PS	A	**44**	3.8	PS	A
15	1.6	PS	B	**45**	3.8	PS	C
16	2.3	KC	D				
17	2.3	KC	C				
18	2.4	KC	A				
19	2.6	KC	C				
20	2.8	UK	D				
21	2.6	KC	D				
22	2.6	KC	C				
23	2.3	UK	C				
24	2.3	UK	B				
25	2.3	UK	C				
26	2.1	UK	A				
27	2.2	UK	C				
28	2.2	PS	C				
29	2.3	PS	A				
30	2.7	PS	C				

C A R I B B E A N E X A M I N A T I O N S C O U N C I L

ADVANCED PROFICIENCY EXAMINATIONS

GEOGRAPHY

UNIT 2 – PAPER 02

MARK SCHEME

SPECIMEN

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

MODULE 1

Question 1

Specific Objective(s): Mod 1 – 7, 9, 10 Content: Mod 1-2 (i); (ii)
Mod 2 – 2, 9; Mod 2 (ii); 1 (ii)
Mod 3 – 2 Mod 3-4(iii)

(a) (i) Three different types of vegetation are

- Woodland
- Trees and Shrubs
- Mangroves
- Pasture
- Marsh or Swamp

Any three – 3 x 1 mark (3 marks)

- Types of vegetation:

- Woodland
  Located in three main areas, southeast between eastings 47 and 60, forming the largest cluster of woodland; offshore on Great Goat Island and Little Goat Island between eastings 42 and 45 and in the north-west between eastings 37 and 45.

- Trees and Shrubs
  Found in isolated patches of land at the north western, northern and eastern edges of the large area of woodland. These occur between eastings 43 and 49, 51 and 53 and 59 and 60 respectively.

- Mangroves, Marsh and Swamp
  These vegetation types occur extensively along the coast, broken only at the western end where developmental activities occur. The mangrove vegetation is located largely on the seaward side of the coast and the swamp or marsh between the mangrove forests and the land. Both types of vegetation are within the lowland areas where the many rivers and streams enter the bay.

- Pasture
  Except for small isolated pockets in the northern portion of the study area, this type of vegetation forms one continuous belt stretching roughly from north-east to south-west between eastings 37 and 48.

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

At the western end, it is broken by the Harbour Bay settlement, two main roads and a few patches of trees and scrub and sugar cultivation. It is hemmed in by a continuous band of settlement on the north, sugar cane cultivation to the east and the bay to the South.

Any three vegetation types – 3 x 2 marks (6 marks)

- Influence of Physical and Human Factors on the Nature of the Vegetation.

- In the high and rugged landscape areas, woodland is the dominant vegetation. **(1)**
  There is virtually no evidence of human activity, except along the southern and eastern edges. **(1)**

- Mangroves and marshes or swamps are found in the estuary of a number of water courses such as Black River and Salt Water Creek.**(1)**
  These rivers deposit their materials brought down from the upland areas and mangroves help to stabilize the land upon which the vegetation grows.**(1)**

- At the western end of the area, there is evidence of human influence on the vegetation. **(1)**

- Mangroves and marsh or vegetation have been removed to facilitate developmental activities such as the building of a power station **(1)** settlements and sugar cane cultivation.

- At the eastern end of the area, the topography and relative isolation of the area seem to have restricted human interference with the **(1)** vegetation.

- Some areas of trees and shrubs have experienced major human interference. **(1)**
  These are areas inland from the coast on flat land.**(1)**
  They are dissected by road and rail networks that facilitate intrusion into the areas. **(1)**

- The close proximity of settlements such as Old Harbour Bay, Old Harbour, Tamarind Tree and Church Pen as well as farms within the pasture is indicative of the influence of human activities on the nature of the vegetation of the area. **(1)**

- These activities appear to have influence on the landscape. The presence of pasture and shrubs within

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

the sugar cane cultivation area also **(1)** points to the fact that woodland had extended into the area but was cleared to allow for sugar cane cultivation.

Three points for each factor – 3 x 1 mark

Two factors - $\begin{pmatrix} \text{1 physical} \\ \text{1 human} \end{pmatrix}$ - 2 x 3 marks

(6 marks)

(b) Three reasons why sugar cane cultivation is the dominant agricultural activity;

- The presence of large areas of flat land such as those located in the valley of the Rio Minho and its tributaries that allow for the cultivation and easy use of machinery.
- The availability of supply of fresh water from the Rio Minho and its tributaries to facilitate the irrigation of sugar cane crops, especially in the dry season.
- The presence of a large supply of labour in the nearby settlements of May Pen and Hayes, for example, to facilitate the planting and harvesting of the sugar crop.
- The extensive and elaborate road and rail network with direct links to the large settlements of May Pen, Spanish Town and Old Harbour and old Harbour Bay to facilitate the movement of goods, machinery and people to support the activities associated with the sugar industry.

Any 3 reasons elaborated 3 x 2 marks (6 marks)

(c) (i) Three types of economic activity west of eastings 41:

Transportation and Communication, Energy Supply, Port Facilities, Large Concentration of Population, Sizeable Areas of Flat Land.

Any 3 one mark each

- Transport and Communication

This is a critical element in the development of the area. **(1)** The extensive network of roads and railway **(1)** allow for the

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

movement of goods **(1)** and people to and from the area. This contributes to other related economic activities that promote the development of the area. **(1)**

Any 3 points – 3 marks

- Energy Supply

The presence of the power station **(1)** on the Bay between eastings 38 and 39 and northings 38 and 39 with transmission lines linking **(1)** the large settlements of May Pen, Spanish Town and Old Harbour, for example, has served to support the development of economic activities in the settlements as well as the bauxite and aluminium **(1)** works located between eastings 24 and 25 and northings 38 and 39 and eastings 35 and 36 and northings 37 and 38 respectively.

Any 3 points – 3 marks

- Port Facilities

The area also has facilities for the export and import of goods. These are located within the Bay. **(1)** They facilitate the delivery of raw materials **(1)** for production and export of finished goods. **(1)**

Any 3 points – 3 marks

- Large Concentrations of Population

The presence of large centres of population within the area is also a contributory factor to the economic **(1)** development of the area. These centres support the development by having a readily **(1)** available supply of labour for the industries and providing a suitable demand for the products in the area.

Any 3 points – 3 marks

- Sizeable Areas of Flat Land

The sections of flat land especially in the extreme **(1)** west of the area has facilitated the development of the sugar **(1)** industry and also the construction of road **(1)** network and **(1)** settlements which provide the support for the sugar industry. In the northern areas and in the west, the flat land has supported **(1)** the continuous band of settlement from

May Pen south eastwards towards the Bay **(1)** area linking other economic activities.

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

Three reasons - 3 x 2 marks

(9 marks)

(d) (i) Null hypothesis: There is no relationship between population growth and per capita GDP.

(1 mark)

(ii)

Country	Pop Growth	Per Capita GDP	d	d^2
Costa Rica	6	3	3	9
Brazil	3	6	-3	9
Dominican Republic	9	8	1	1
El Salvador	8	7	1	1
Jamaica	4	5	-1	1
United Kingdom	1	1	0	0
Trinidad and Tobago	2	2	0	0
Venezuela	5	4	1	1
Haiti	7	10	-3	9
Honduras	10	9	1	1
	(1)	**(1)**	**(1)**	$\Sigma d^2 = 32$ **(2)**

(5 marks)

$$R_s = 1 - \frac{6 \times 32}{1000 - 10} = \frac{192}{990}$$

$$= 1 - 0.194$$

$$= 0.806$$

(3 marks)

(iii) There is a strong positive relationship between population growth and per capita GDP.

(2 marks)

(iv) Compare the computed R_s value with the critical values in the significance table **(2 marks)**

(e) PPP – the per capita GNP adjusted for the cost of living in different countries. **(2 marks)**

Total 45 marks

Question 2

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

Specific Objective(s): 2; 9 **Content: 1 (ii); 2 (ii)**

(a) • **Rossby Waves**

In the upper troposphere winds follow an undulating **(1)** path in the westerly windbelt around the earth. They move along the Polar **(1)** Front approximately 60° North **(1)** and South latitude **(1)** and are called Rossby waves. At this position, there is a mixing **(1)** of cold and warm air and once set in motion by the coriolis force, **(1)** long waves form along the boundary between the colder and warmer air.

The number of meanders varies **(1)** with the seasons from 4 to 6 in summer and 3 in winter. This forms a complete pattern around the **(1)** globe.

• **Polar Front Jet Stream**

The velocity within the Rossby waves is not uniform. Within the waves there are narrow bands of high velocity air **(1)** that form along the Polar front and along the Hadley cell in the subtropics in both hemispheres. They are also meandering and move from west to east **(1)**.

These are known as the jet streams **(1)** and can exceed 230 km/hr. Five streams have been recognized but only two are of significance. **(1)**

The Polar front **(1)** jet stream is located along the Polar front at altitudes of between 7 600 and 10 700 or between the Ferrel and Polar cells. **(1)** The jet stream varies in extent and is responsible for fine or wet weather. When it loops southwards, it carries cold tongues of air, **(1)** which descend in a clockwise **(1)** direction and give stable conditions **(1)** associated with anticyclones.

When it streams back north **(1)**, it is now warmed and carries warm **(1)**tropical air **(1)** which rises, moves in an anticlockwise direction, brings heavy rainfall and is associated with depressions. **(1)** Sometimes the waves become very pronounced and detach the masses of cold or warm air.

• **Subtropical Jet Stream**

The subtropical jet stream **(1)** occurs about 25° to 30° from the

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

Equator in the boundary between the Hadley and Ferrel cells. **(1)** They meander less than the polar jet stream **(1)** and have lower velocities. **(1)** Sometimes they contain 'jet streaks' **(1)** which move faster than **(1)** their surroundings and play an important part in storm **(1)** formation.

Diagrams - 4 marks
Rossby waves + 2 jet streams - 11 marks

(4 + 4 + 3 marks) (15 marks)

(b)

- Climate

Areas with tropical grasslands have high annual temperatures, **(1)** generally more than 25°C. **(1)** Annual rainfall varies between 50 and 127 cm but what is significant is its distribution. **(1)** Rainfall is concentrated in a 6 to 8-month period **(1)** and for the rest of the year, there is a water deficit **(1)** caused both by the lack of rainfall and high evapotranspiration. **(1)** Had the rainfall been distributed throughout the year, **(1)** such areas would support tropical forests. **(1)** During the long dry periods, fires frequently occur. **(1)**

Plants which grow in such areas must be xerophytic, that is, be able to withstand **(1)** drought; and pyrophytic, be able to withstand fires **(1)**. Grasses are both **(1)**. They dry down during periods of drought but come to life in the wet season **(1)**. Their growth points, unlike those of trees and shrubs, are at ground level **(1)** and are actually stimulated by fires **(1)**. Trees and shrubs are killed by frequent burning **(1)**. There are some areas within the savannas that have moist soils **(1)** either because of their location along rivers **(1)** or because of the high clay content **(1)**. These areas support woodlands **(1)**.

- Human Factors

But not all tropical grasslands are climatic climax communities.**(1)** Some grasslands are found in areas where the rainfall is sufficiently well distributed to support **(1)** forests. Many of these savannas are the result of **(1)** human activities. Trees are destroyed by frequent burning **(1)**; by the actions of man's animals **(1)** in eating twigs and removing growing tips. In these ways, forests are converted to grasslands **(1)**. Experiments in the Rupununi grasslands in Guyana have shown that when areas of the grasslands are protected **(1)** from fires, trees **(1)** re- enter. In some areas on the fringes of the savannas bordering the Sahara desert where farming has been abandoned, **(1)** trees are establishing themselves.

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

6 points for 2 climate factors – 6 x 1 marks – 6 marks

9 points for 3 human factors – 9 x 1 mark – 9 marks

(15 marks)

Total 30 marks

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

Question 3

Specific Objective(s): 7, 8, 9; Content: 2(iii), 3(i),(ii), 3(iii),(iv)

(a) Introduction - **2 marks**

CHALLENGES

- The discomfort of environmental conditions

  - Hot (27°C), wet (2 000-3 000 mm) conditions throughout the year.
  - Human activity limited by intense heat, **(1)** constant humidity, dense vegetation, flooding near rivers and coasts. **(1)**

- Challenge of biodiversity

  - Tropical rain forest rich in plant species.
  - The largest number of species per hectare in the world.
  - Half world species.
  - However, abundance is low.
  - Valuable species do not grow in clusters.
  - Exploitation laborious.
  - Creates difficulty in estimating current status and value of **(1)** tropical forests since in many areas valuable species already **(1)** harvested.

- Challenges of microorganisms

  Diversity not restricted to plants

  - Diversity in microorganisms some of which spread diseases in man.
  - 'Old' diseases such as malaria had to be eradicated before several areas of tropical forests exploited **(1)** - Panama Canal.
  - With new irrigation schemes, malaria **(1)** reappearing.
  - Newly emerging diseases such as Ebola **(1)** associated with areas of tropical rainforest.

- Soil fertility depends on maintenance of forest cover **(1)**

  - Decline once forests removed. **(1)**
  - Decline much faster than in areas of temperate forests. **(1)**
  - Commercial agriculture requires large inputs of artificial fertilizers, pesticides, **(1)** weedicides.
  - Production is expensive. **(1)**

- Conflict between development and needs/desires of indigenous peoples

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

- Development destroys indigenous ways of life **(1)** and livelihood.

- Development of hydroelectric potential in interior **(1)** of Brazil involved flooding of the lands and property of indigenous peoples.

- Opening up of roads in Brazil sparked violent clashes **(1)** between loggers, miners, ranchers and indigenous peoples.

- Indigenous peoples are essential as they hold key to use of indigenous plants and rely on rain forests for survival.

- Maintaining balance between conservation and development

  - Poor countries need to develop all their resources including forests.
  - Also urged by international agencies to conserve forests for greater good of the world climate.
  - Challenge to develop poor countries while conserving the forests.

OPPORTUNITIES

- Genetic diversity

  - Species produce variety of valuable products – fruits, nuts, medicinal herbs, **(1)** firewood. **(1)**

- <u>Medicine</u>

  - Many of the species are unknown **(1)** and the properties of many of those that are known are not yet discovered **(1)**.

  - There is great potential for development of drugs.

  - Most drugs developed from tropical plants, **(1)** for example, quinine (malaria), curare (anaesthetic), rosy periwinkle **(1)** (leukemia).

- <u>Ornamentals</u>

  - Plants are valuable for ornamental industry.
  - Many house and garden plants including orchids belong to tropical rain forests.

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

- Export of tropical birds have great potential. **(1)**
- There is great potential for food crops, fibre.

- Ecotourism

Vast potential with the growth of ecotourism. **(1)**

- There is worldwide interest in sustainable **(1)** tourism. **(1)**
- Presents opportunity for countries that do not have **(1)** sand/sea but want to broaden resource **(1)** base.
- Ecotourism occurs in Costa Rica, Belize.
- Many countries encouraged to conserve remaining forests to take advantage of growing interest in forest-based ecotourism. **(1)** (Puerto Rico)
- Tourism can be managed to offer opportunities to local/indigenous people.
- Opportunities in 'adventure' tourism – people wanting different experience or scientific tourists. **(1)**

- Opportunities for research

- Many uses yet to be explored.
- Opportunities for research into new technologies related to wood.
- Opportunities for the study of sustainability of tropical forests **(1)** and the livelihoods of people of the tropical forests. **(1)**
- Sustainable timber production and harvesting which experience has shown can be profitable. Experiments with non-timber sources of paper **(1)** (hemp, agricultural waste). **(1)**
- There is much potential of agroforestry imitating stratification of forests.

- Summary statement

Opportunities for protecting global climate

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

- Protection of global climate allows for protection of climate of tropical rain forests.

Introduction **2 marks**

3 challenges + 3 opportunities
6 x 2 marks **12 marks**

Summary statement **1 mark**

(15 marks)

(b)

A – platy	C – prismatic	**4 correct max.**	**3 marks**
B – blocky	D – columnar	**3 correct -**	**2 marks**
		2 correct -	**1 mark**

(3 marks)

(c) Climate

- The tropical rainforest experiences high temperatures **(1)**; heavy rainfall **(1)**;

- Short to very short dry **(1)** season; long growing period **(1)**, these promote development of tropical rain forest. **(1)**

- Tropical soil forming processes – laterization **(1)** and soils called oxisols [formerly laterites/latosols / ferralitic] **(1)**

- High temperature and heavy rainfall speed up chemical reactions **(1)**, for example, hydrolysis speeded up three times for every 10°C rise in temperature **(1)**.

- Precipitation provides water for reaction **(1)**.

- Clay minerals broken down as a result of chemical reaction.

- All by-products of weathering are translocated if not taken up by plants **(1)** with the exception of iron and aluminium **(1)** sesquioxides which are less soluble **(1)**.

- These oxides accumulate in upper horizon giving it a reddish colour. **(1)**

- Translocated material accumulate in lower horizon. **(1)**

- Older soils are deeply weathered, acid and leached.

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

Vegetation

- No winter season so, breakdown of organic matter occurs all year round. **(1)**

- High litter **(1)** fall from evergreen vegetation and high rate of decomposition. **(1)**

- Production of organic **(1)** acids from decomposition and these also accelerate **(1)** rock decay.

- Large amounts of nutrients produced by decomposition. **(1)**

- Nutrients would be translocated and lost from the soil system were it not for the tropical forests. **(1)**

- Fungi in soil have a mycorrhizal/symbiotic association with the roots of trees. **(1)**

- They obtain carbon from trees and in exchange they provide to the trees the nutrients released by decomposition. **(1)**

- Nutrients are stored in trees and protected from being lost. **(1)**

- Vegetation is essential to fertility of tropical soils.

Any 12 points – 12 x 1 mark
6 points from two aspects of climate
6 points from two aspects of vegetation

(12 marks)

Total 30 marks

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

MODULE 2

Question 4

Specific Objective(s): 3, 6; Content:2, 3 (ii)

(a) Changing Employment Patterns in a MDC, 1975 – 1997:

Figure 2 shows a rise (step) in employment in the services sector and a steep decline in employment in the manufacturing sector.

Factors:

- Decline in Heavy /Traditional Industry:

  - Steep decline in manufacturing employment, fall in

    manufacturing contribution to GDP, for example, UK suffered **(1)** large scale deindustrialization in recession years of 1975 and 1985.

  - More severe in older, heavier industries such as iron and steel, chemicals, shipbuilding textiles. **(1)**

  - Regions most dependent on traditional heavy industries were hardest hit by deindustrialization **(1)**, for example, Wearside in the UK was leading shipbuilding centre in 1980. Yet by 1990's its shipyard closed.

  - Ruhr steel industry – employment in Germany halved between 1961 and 1988.

  - Efficient traditional industries often survived **(1)** and achieved higher output levels than before. They often employed **(1)** fewer workers.

  - New industry and services were often unwilling to hire these redundant workers. Redundant miners did not necessarily make good car workers.

At least 5 points – 5 marks

- Re in-dustrialisation **(1)**

  - How has re-industrialisation happened? New industries have emerged to replace **(1)** old ones.
    For example, in the UK, EU received massive investment by foreign firms especially Japanese, South Korean and Taiwanese **(1)**.

  - Shift to new industries **(1)**.

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

- Foreign firms were eager to set up business in Europe prior to creation of the single market in 1992 **(1).**

- New manufacturing businesses were formed in electronics
and motor cars in **(1)** 1980's.

- Rapid growth in knowledge-based, hi-tech industry **(1).**

- Bulk of industry has gone to old industrial regions such
as South Wales and Central Scotland **(1).**

- Smaller firms provide skills-based employment, attract women and academics – fewer employed **(1).**

At least 5 points – 5 x 1 mark – 5 marks

- Tertiarisation **(1)**

  - Shift to services **(1):** imported luxury items reduce need for locally manufactured goods

  - Rising incomes – personal, financial, transport, education and leisure services **(1).**

  - Demographic factors – ageing population requires more resources/services devoted to health care, increase in number of single families requiring more services **(1).**

  - New technology also creates new service activities, for example, cash cards, mobile phones **(1).**

  - Tertiarisation is also linked to deindustrialisation. As employment in manufacturing has fallen, redundant factory workers seek work in tertiary sector.

  - Growth in tourism in sunbelt of EU, Mediterranean, France, Italy, Greece and S. Spain **(1).**

  - Expansion of producer services directed towards manufacturing industry (advertising, legal services, market research) has been strongest in London, Paris, New York and Tokyo **(1).**

At least 5 points – 5 marks

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

Impact of 3 factors on employment – Decline in traditional industry – 5 marks

Re-industralisation	**– 5 marks**
Tertiarisation	**– 5 marks**
Introductory statement	**– 1 mark**

(16 marks)

(b) Reasons supporting statement:

Any 2 reasons elaborated – 3 + 4 marks

- Importance to the economy **(1)**

  For many small Caribbean islands, agriculture is the mainstay of the economy. In St Lucia, for example,**(1)** bananas accounted for more than 60 per cent of exports and in all, the Windward Islands accounted for about 41 Per cent of exports. **(1)** The percentage of the workforce (**1)** dependent on bananas is as high as 86 percent in St Vincent.

- Small Scale of Production **(1)**

  In the case of bananas, the crop is grown by small farmers on tiny plots of hilly land.**(1)** While output per hectare might be relatively high, the scale of production is too small to enable farmers to compete with large scale producers in Latin America. **(1)** Total output is so low that other agricultural exports are combined to produce economic quantities for export. **(1)** These exports will decline. Moreover, export of bananas from the Windward Islands amount to less than 2 per cent of the bananas entering world trade. **(1)** This is too small to make a difference to prices and **(1)** conditions on the world market.

- Suitability of physical conditions/infrastructural arrangements **(1)**

  There are few crops that thrive as well as bananas in the **(1)** climate and relief of Windward Islands. Bananas are shallow **(1)** rooting and can be grown on slopes. Although they are **(1)** affected by strong winds, they recover swiftly. The whole**(1)** infrastructure has been built up to support bananas.

- Involvement of US Corporations in Bananas **(1)**

  Large US corporations (Dole, Del Monte, Chiquita) dominate **(1)** production in Latin America. They use large quantities of **(1)** chemicals and pay low wages. **(1)** The profits from this trade do

not go towards improving the standards of the poor but to large wealthy corporations. **(1)** Efforts of workers to join trade unions have been violently suppressed. **(1)**

OR

- Large subsidies of European beet sugar. **(1)**

  Elaboration (2)

  Reasons refuting statement:

  Any 2 reasons elaborated – 3 + 4 marks

- Liberalisation of trade **(1)**

  is supported because it establishes ground rules **(1)** for trade and is fair to all trading partners. **(1)**

- Limiting Production in Other Regions. **(1)**

  Preference to Caribbean means high tariffs **(1)** or quotas for Latin American bananas and it was argued, hindered the expansion of production in Latin America. **(1)**

- Preferences encourage inefficiencies **(1)**

  Failure to adopt new technologies **(1)**, adopt labour saving devices **(1)** , to produce those crops that are best suited **(1)** to local conditions.

- Encourages Reciprocal Action in Competitor **(1)**

  - Can lead to trade war **(1)**

  - For example, US imposition of tariffs **(1)** on French wines, French cheese, some Chinese goods.

Total 30 marks

Question 5

Specific Objective(s): 3, 4, 7; Content: 3(ii), 4 (v)

(a) For a named major industrial region, for example, South Wales, candidate should discuss the following processes:

- Early attractions – raw materials, energy, labour, transport. Product
- Growth of core and agglomeration

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

- The attractions of the area
- Possible linkages

Some other major industrial regions – Ruhr
- NE USA

SOUTH WALES

- Early Attraction

  Raw materials – a ready supply. (1) Coking coal and iron are found together in exposed seams on steep valley sides. **(1)** Proximity meant that adjoining areas were ideally suited for industrial production.**(1)** This was in keeping with Weber's least - cost location for two gross raw materials. **(1)** In addition, there was limestone to the north of this region.

  A number of rivers flowed southwards into the Sea- River Taft. Earlier, these fast flowing rivers had been used to

  turn wheels that supplied power to blast furnaces. **(1)** Labour in the area had built up a great deal of expertise in iron making. **(1)**

- Growth of Core and Agglomeration

  Soon, an industrial landscape spread **(1)** up the valleys of South Wales and people from rural areas were attracted to the industrial area. **(1)** South Wales industrial area became a core industrial region. **(1)** It possessed raw materials, specialised skills, technology and the ability to export manufactured goods through its many ports. **(1)**

  Such clusters attract other industries because of the savings that arise from concentration. **(1)** This is known as agglomeration. **(1)** The manufacture of coal and steel attracted other industries**(1)** including tinplating, chemicals, copper, lead and zinc smelting. Tinplating uses local steel and the nickel works has become the world's largest.

- Attraction of the Area

  Although the area has lost much of its original attractions, there were many attractions which served to diversify manufacturing in the region. **(1)**

  - There was a skilled workforce and labour costs were low. **(1)**

  - The area had built up well-developed transport infrastructure. **(1)**

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

- Factory sites were available. **(1)**
- There was a large local market. **(1)**
- The cost of accommodation was low. **(1)**

• Possible Linkages

- These factors attracted industries **(1)** to South Wales which, by 2000 had a varied economic base.
- Over 380 international companies **(1)** have located in South Wales.
- Foreign investment **(1)** has been considerable.
- Some benefits **(1)** from linkages; chemicals and pharmaceuticals; electronics, components, telecommunications, plastics.

At most four points for each process
4 x 4 marks

(16 marks)

(b) Introductory statement:-

All-inclusive resorts are self-contained properties, physically **(1)**, socially **(1)** and economically. They are tourist enclaves.

Any one – 1 mark

Advantages:-

• Convenience **(1)**

They are attractive to tourists who pay one price for **(1)** accommodation, meals and entertainment before leaving home.

This means that there are no price uncertainties **(1)** at the destination **(1)** and this provides the tourists with a measure of comfort.

• Safety **(1)**

The enclave offers a safe, protected environment **(1)**. There are many safety concerns **(1)** in traveling to tourist destinations in the Caribbean. The enclaves are protected by physical barriers **(1)** in the form of walls, fences as well as patrolling security guards.

• Self sufficiency **(1)**

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

It is attractive to those who dislike the harassment **(1)** experienced while attending shopping in local shops/craft-markets. Shopping facilities are provided on the resort **(1)** premises. These are branches of the in-bond shops found on **(1)** local high streets and, for those who want local arts and **(1)** crafts vendors are contracted to set up stalls in the hotels either on a daily basis or at specially arranged local fairs.

Those who want to go further afield can arrange to be a part **(1)** of sight-seeing tours **(1)**, for example, to Kingston in the case of Jamaica, or Dunn's River Falls. There are arrangements between hotels for exchange of dinner guests to add variety **(1)** to the overall package.

Profit **(1)**

Hoteliers see advantages in this arrangement. Because all amenities are brought to the tourist **(1)**. They get an extremely high percentage **(1)** of the tourist dollar.

The kitchen staff are more fully employed since guests who, under different arrangements would have eaten in town, now all dine at the hotel. Meal planning is easier **(1)**.

They have additional revenue **(1)** from leases to vendors, arrangements with tour operators **(1)** and shop keepers (1).

- Jobs **(1)**

There are some benefits to communities. Some communities that were too isolated **(1)** to attract hotels now find that their sites are ideal **(1)** for all-inclusives and they provide jobs for community members **(1)**.

DISADVANTAGES:

- Decline of Commercial Enterprises **(1)**

But there are disadvantages to communities as well.
Many of the shops, craft markets, restaurants that depended on the tourist trade have gone out of business. **(1)** Taxi operators, independent tour guides **(1)**, car rental companies have reduced **(1)** incomes.

- Isolation **(1)**

Tourists are isolated from the rest of the community **(1)** and this breeds resentment. **(1)** The majority of the tourists are foreigners (1) and this reinforces the image of separateness.

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

- Leakage in foreign exchange

  Most of the transactions are **(1)** carried on abroad – travel agents, marketing. Because guests are mainly from foreign countries **(1)**, foodstuffs are brought in from abroad especially by large resorts.

Introductory statement	**1 mark**
Any 2 advantages identified + elaborated 2 (1 + 2 marks)	**6 marks**
Any 2 disadvantages identified + elaborated 2 (1 + 2 marks)	**6 marks**
Concluding statement	**1 mark**
	(14 marks)

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

MODULE 3

Question 6

Specific Objective(s): 6 Content: 4(i), (ii)

(a) Impact on Farming Communities

Especially services in countries such as (Jamaica, Trinidad & Tobago) where there is seasonal rainfall, and where there are no irrigation **(1)** schemes to make good the shortfall in the dry seasons. In the southern plains of St. Elizabeth, farmers have developed a system of growing scallions utilizing extensive mulching to conserve limited water supplies. When the dry season is extended however, there is crop **(1)** loss resulting from the drought**(1)**as well as from attacks by pests.

The effects are not restricted to crops. Farm animals suffer from inadequate access to good pastures and this reduces the output of **(1)** milk.

Disease

One of the most important causes of illness and death among infants in Jamaica is gastroenteritis and this is most prevalent in the dry season **(1)**when there is a deterioration in the quality **(1)** and quantity **(1)** of water and when many rural families depend on sources of water that are contaminated by waste.

Other water borne diseases affecting the population, typhoid **(1)** one outbreak in Westmoreland, Jamaica, was associated with the contamination of water by sewage and this caused the death of several persons. There are also sporadic cases in the inner city of Kingston where access to potable water is a problem.

Salinization

Several areas along the South Coast of Jamaica suffer from periodic drought **(1)** pressure is placed on wells which supply water and the water level in coastal wells may fall **(1)** so low that there are salt water intrusions **(1)** into the wells. At this point the well water is useless.

Inability to attract industries

Many industries depend on access to supplies of water, since water may be incorporated into the products or be necessary for cooling. Such areas would therefore be unable to attract industries and the investment that could transform many rural areas.

(3+3+3+1 marks)

(15 marks)

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

(b) **Introductory statement (2 marks)**

Spatial development in colonial period influenced by location of towns, plantation agriculture and by mining. These development enclaves were the cores **(1).** Rest of country, the peripheries (1).

- Sugar cane: **(1)**

  - Land cleared for sugarcane cultivation, primarily. Land unsuitable remained in natural state **(1).**

  - Steep slopes unsuitable for growth of sugarcane – soils shallow, susceptible to erosion **(1).**

  - Best land- flat, low lying – appropriated Interior of Guyana with its mountains and forests avoided **(1).**

  - Stage set for narrowing of production to one or two commodities. A plantation "core" established **(1).**

At least 3 points – 1 + 3 – 4 marks

- Ports: **(1)**

  - Sugar destined for export so trans-shipment port necessary **(1).**

  - Ports established, in most cases on leeward sides for protection against prevailing winds (1).

  - Commercial activities attracted to ports. Ports became administrative centres, home of colonial administrators (1), businessmen, local elite.

  - Municipal spending biased in favour of this urban class **(1).**

  - Little or no investment in non-sugar rural areas. Resources flowed from rural to urban – a parasitic relationship **(1).**

At least 3 points – 1 + 3 marks – 4 marks

- Minerals: **(1)**

  - Some countries had valuable minerals for example, Jamaica,(1)Guyana had bauxite (1), petroleum in Trinidad.

  - Company towns developed to facilitate mining and processing.

  - Mandeville, Jamaica; Linden in Guyana; San Fernando near

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

the refining complex of Point-a-Pierre in Trinidad. These became new growth poles **(1).**

- Many of the mining towns had the internal structure of Colonial towns which developed in the East-native and **(1)** European quarters.

- These developments established the preconditions for uneven pattern of development in the Caribbean. The cores formed the focus of social, economic life of the Colonies (**1).**

At least 3 points – 1 + 3 marks – 4 marks
Introductory statement (2 marks)
Concluding statement (1 mark)

Three cores / development strategies - 3 x 4 marks (12 marks)

(15 marks)

Total 30 marks

Question 7

Specific Objective(s): 5, 7; Content: 2(iii), 4(ii), 5(i), 5(ii)

(a) The Dominican Republic **(1)**

1 mark for naming countries; 3 marks for calculations.

(2 marks)

$$\text{CHANGE} = 0.718 - 0.541 = 0.177 \quad \textbf{(1)}$$

$$\% \text{ CHANGE} = \frac{0.177}{0.541} \times 100 \quad \textbf{(1)}$$

$$= 32.7 \quad \textbf{(1)}$$

(b) Bilateral aid **(1)** From one country to another, for example, Britain to Nigeria or India. Often the terms are dictated by the donor and operates to the advantage of the donor **(1).** Usually there are strong economic and political ties between donor and recipient **(1).**

Multilateral aid **(1)** Several counties give assistance to a number of countries **(1).** The amount involved may be small but rate of interest is high **(1).**

Charitable aid **(1)** Aid extended by charities such as OXFAM and the aid is more likely to be provided where the need is justified and there are no political ties **(1).** The charities come under the umbrella of NGO **(1).**

(6 marks)

(c) **Essay**

GEOGRAPHY
UNIT 2 – PAPER 02
MARK SCHEME

Introduction

(2 marks)

Essay should address both when the aid is ineffective and when it is effective.

Aid offered by charitable organizations is often effective **(1).** They respond to humanitarian situations although the form of the relief may be inappropriate **(1).** Aid offered to build capacity effective as it leads to growth of cadre of specialists **(1)** that could help in development of the country **(1).**

Aid can also be directed to the development of infrastructure **(1)**– roads, bridges, rail **(1),** that open up country and that support other development **(1).** It provides capital for programmes that otherwise would not attract investment **(1).**

(9 marks)

However, aid can have depressing effect **(1)** on indigenous development leading to reduction in prices of locally produced goods **(1)** and therefore increasing poverty among rural populations and small entrepreneurs **(1).**

Aid can promote dependency **(1),** reduce initiative and self-reliance preventing the emergence of indigenous entrepreneurs and solutions **(1).**

Often aid does not reach those who need it **(1).** Much of the aid remains in donor countries as it goes towards salaries for consultants **(1),** equipment manufactured in donor countries **(1).** Some of the technologies may be inappropriate **(1).** Often aid is suspended when recipient countries 'transgress' and so the flow is unpredictable **(1).**

(8 marks)

Conclusion **(2 marks)**

C A R I B B E A N E X A M I N A T I O N S C O U N C I L

ADVANCED PROFICIENCY EXAMINATIONS

GEOGRAPHY

UNIT 02 – PAPER 032

MARK SCHEME

SPECIMEN

GEOGRAPHY
UNIT 2 – PAPER 032
MARK SCHEME

MODULE 1

Question 1

Specific Objective(s): 8, 11

Content: 3(i), 2(iv), 2(v)

(a) Measurement of soil texture

(i) In the field:

- Remove all particles.
  Moisten a sample of soil. (1)
- Roll the sample.
  Attempt to form a ring with the rolled soil. (1)
- A soil sample with a high sand content will not roll. (1)
- A soil sample with a high silt content will roll but cannot be molded into a ring. (1)
- A soil with a high clay content will both roll and mold.

At least 4 points – 4 x 1 = (4 marks)

Either (ii) In the laboratory:

- Remove all particles. (1)
- Put the sample of soil in a glass container. (1)
- Shake well and allow to settle. (1)
- The sol will settle according to weight – sand at the bottom, silt and clay. (1)
- Measure the relative height of each layer. (1)

At least 4 points – 4 x 1 = (4 marks)

OR

- Remove all particles. (1)
- Use 3 sieves of different sizes. (1)
- Place the sample in the sieve capable of removing the smallest grain size – clay.
  Weigh the clay. (1)
- Place the residue in a sieve capable of removing the silt.
  Weigh the silt. (1)
- Place the rest in a sieve capable of removing sand.
  Weigh the sand.

(4 marks)

GEOGRAPHY
UNIT 2 – PAPER 032
MARK SCHEME

Question 1 (Cont'd)

(b) A transect is the most appropriate technique for measuring changes.

- Prepare recording sheets. (1)
- Select the site for the transect running down the slope. (1)
- Take measuring tape and measure equal intervals along the slope to mark points to be sampled. They may be 1m apart. (1)
- Place stakes to mark the sampling points. (1)
- Beginning at Station 1, note characteristics of the vegetation, for example, small trees, diameter at breast height, height of lowest limb. (1)
- Record results on recording sheets. (1)
- Dig a soil pit, ensuring that the sides are straight. (1)
- Measure the depth of each horizon/colour/texture/presence of living organism/depth of C horizon. (1)
- Record results on recording sheets. (1)
- Move to Station 2 and subsequent Stations and carry out the same measures. (1)

(10 marks)

Maximum of 10 marks

Total 18 marks

GEOGRAPHY
UNIT 2 - PAPER 032
MARK SCHEME

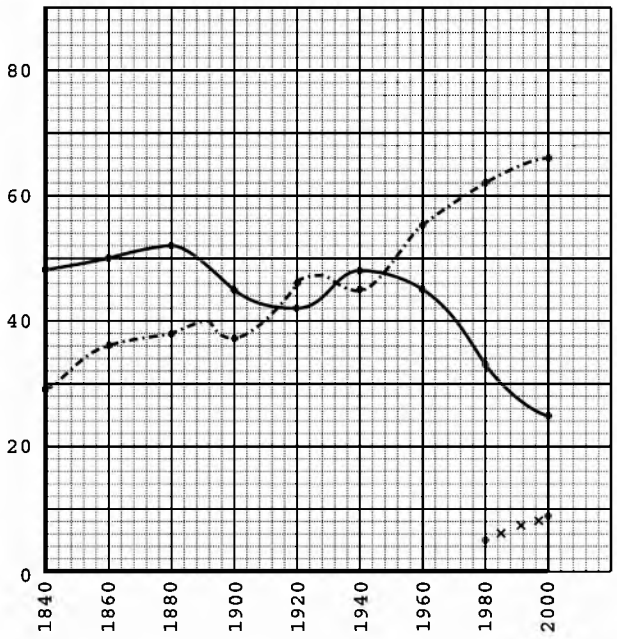
MODULE 2

Question 2

Specific Objective(s): 1, 10

Content: 1(i), 4(ii)

(a)



Title (1)

Secondary

Quaternary

Key (1)

Suitable Scale (1)

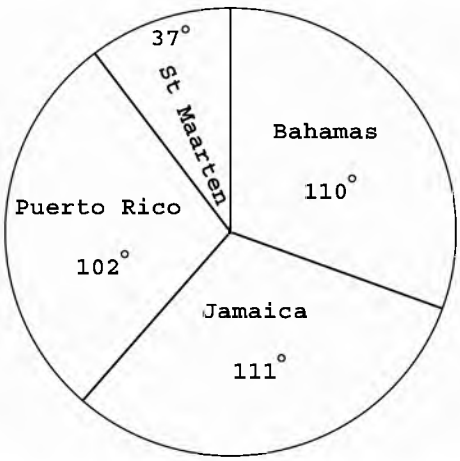
Labelled Axes (1)

Each correct line

3 + 3 + 2

(12 arks)

(b) **Tourist Arrivals 2004**



(4 marks)

Total 4,583, 362

	%	°
The Bahamas	30.7	110
Jamaica	30.9	111
Puerto Rico	28.1	102
St Maarten	10.4	37

All 4 correct - (2 marks)
2 - 3 correct - 1 mark only

Total 18 marks

GEOGRAPHY
UNIT 2 – PAPER 032
MARK SCHEME

MODULE 3

Question 3

Specific Objective(s): 2, 9

Content: 3(iii)

(a) Spearman rank correlation coefficient

Name in full (2)
Partial (1) **(2 marks)**

(b)

Countries	GNP (1)	Energy (2) Consumption	R_1	R_2	d	d^2
Norway	40,080	3,622	1	6	-5	25
Switzerland	34,380	5,284	2	2	0	0
Japan	32,380	4,058	3	4	1	1
USA	29,340	8,051	4	1	-3	9
Germany	21,400	4,267	5	3	-2	4
UK	8,970	3,992	6	5	-1	1
Argentina	4,570	1,653	7	8	1	1
Brazil	3,600	1,012	8	9	1	1
Malaysia	2,600	19,950	9	7	-2	4
Egypt	1,290	638	11	12	1	1
			(2)	**(2)**	**(3)**	**(3)**

(10 marks)

$$r_s = 1 - \frac{6\sum d^2}{n^3 - n}$$

(c) Calculation: $r = 1 - \frac{6 \times 47}{1000 - 10}$

$$= 1 - \frac{282}{990}$$

$$= 1 - 0.28$$

$$= 0.72$$

Substituting in his/her $\sum d^2$ - (1)

Correct answer - (1) **(2 marks)**

(d) There is a strong positive correlation between GNP per capita and Energy Consumption per capita.

(2 marks)

Total 18 marks

CARIBBEAN EXAMINATIONS COUNCIL

REPORT ON CANDIDATES' WORK IN THE CARIBBEAN ADVANCED PROFICIENCY EXAMINATION

MAY/JUNE 2004

GEOGRAPHY

GEOGRAPHY

CARIBBEAN ADVANCED PROFICIENCY EXAMINATION

MAY/JUNE 2004

INTRODUCTION

Geography is a two-unit course, each unit consisting of three Modules. The examination for each Unit consisted of three papers. Papers 01 and 02 were examined externally by CXC, while Paper 03 was examined internally by the teacher and moderated by CXC.

Paper 01 consisted of nine, compulsory short-answer questions, with three questions from each Module. Candidates were required to answer all questions in this paper, with a maximum of 81 marks contributing 30 per cent to the total assessment. Paper 02 consisted of seven questions, one compulsory question based on practical skills from the three Modules and two free response questions from each Module. Candidates were required to answer the compulsory question and one question from each Module, a total of four questions contributing 135 marks. In general, this paper was designed to test the candidates' comprehension and ability to apply knowledge. This paper contributed 50 per cent to the total assessment.

Paper 03, the Internal Assessment, consisted of three assignments, one from each Module. This paper contributed 54 marks, 20 per cent, to the total assessment.

GENERAL COMMENTS

Just over 800 candidates sat the two units (355 for Unit 1 and 455 for Unit 2) and the percentages receiving Grades I and II rose from 2.4 to 6 in Unit 1 and from 4.9 to 7.7 in Unit 2. In Unit 1 there was improvement in all three papers. Unit 2 had lower means despite the higher percentage of candidate receiving Grades I and II. The mean score on this Unit was reduced by the higher percentage of candidates achieving Grades VI and VII.

In each Unit, the mean score was highest on Paper 03 and lowest on Paper 02. The performance on the Physical Geography components (Unit 1, Module 2 and Unit 2, Module 1) was weak compared with Human Geography. The weakest performance was on Module 1 of Unit 1 and on Modules 2 and 3 of Unit 2.

There was a vast improvement in the quality of the Internal Assessments. However, there was a tendency for teachers to be over generous especially with submissions that exceeded the word limit. In the future, candidates will be penalized for exceeding the word limit.

Note: Amendment to the syllabus in Geography is effective for examinations in May/June 2005

DETAILED COMMENTS

UNIT 1

PAPER 01

Module 1: Population and Settlement

Paper 01 comprised nine compulsory structured questions.

Question 1

In Question 1, the stimulus was a graph showing the relationship between GDP per capita and the population of a country and in Part (a) candidates were asked to identify specific areas on the graph corresponding with different relationships of population to resources. This section was generally well done.

Part (b) (i), called for a definition of 'optimum population'. Candidates did not express themselves clearly and often failed to link the numbers to available resources.

In Part (b) (ii), measures taken to reduce the effects of over population, candidates confused over population with overcrowding, and Japan with China. Sometimes they failed to give details of the policy they described and so they did not earn all four marks. However, most of the candidates were familiar with China's one child policy.

Question 2

Question 2 (a) was well done. Candidates were in the main, clear on the distinction between population density and distribution, correctly relating the former to the land area. However, there was less success on Question 2 (b). Candidates were asked for two economic and social factors which may cause declining rural populations. They confused social and economic. They did not make clear whether they were referring to forces in the urban or rural area and often they described impacts rather than causes. In Part (c), relatively few candidates were able to name the Lorenz curve which was one method of depicting population distribution. Many candidates also had difficulty interpreting the diagram.

Question 3

Part (a) was generally well done and candidates were able to name different types of internal migration. However, teachers need to stress the fact that all types of movement do not constitute migration, for example, circulation is not considered migration. As in Question 2 (b), candidates did not seem to be able to distinguish among physical, social and economic forces (Question 3 (b)) and between causes and consequences.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Question 4

Although the diagram showing a model of a drainage basin on the question paper was not ideal, candidates were able to the interpret the questions that were based on it.

In Part (b), candidates were asked to define the water table and far too many perceive it as a zone layer or area of permeable rocks, where water is stored. It is this type of misunderstanding of concepts that is partly responsible for the weak performances on Paper 1. Many candidates did not appear to understand the term 'variation in gradient' in Part (ii).

Part (c)(i) had very poor responses. Candidates were presented with an equation and asked to supply the factor which, when added to the equation, would take into account short-term changes in the water balance. A variety of responses were given, for example, size of drainage basin, throughflow, baseflow. Very few candidates gave the correct response, that is, changes in storage, and they were unable to explain the effect. Similarly, most candidates were unable to outline the purpose of using the equation for soil moisture balance.

There was a better response to Part (d) (i) relating to the soil type with the lowest field capacity. However, it became clear that for many, it was a question of guess work since they were unable to explain the choice of the soil type in Part (ii). Many candidates did not understand the concept of field capacity.

Question 5

Part (a) of Question 5 was based on a diagram of a cross section of two waves and candidates were required to identify certain features. The majority of candidates were able to do so. Similarly, most of the candidates were able to distinguish between tides and waves in Part (b), although a few envisage tides as resulting from earthquakes. However, very, very few were able to explain the statement that in a wave, the water is stationary. This might be difficult for teachers to communicate but it is such a fundamental principle that a greater effort must be made to get across the fact that until the waves break, the movement is largely vertical rather than horizontal.

Part (c), a description of the process of hydraulic action, was answered well. Those who failed to gain full marks omitted the effect of pressure exerted by air in cracks.

Question 6

In Part (a), candidates were asked to suggest a theory which explained the steep-sided nature of the river valley shown in a diagram. Most explained the process of carbonation or solution in the erosion of a limestone valley. A few candidates described rejuvenation and down-cutting while others described the collapse of the roof of an underground cave. There were several highly imaginative suggestions, however. In Part (i), very few candidates were able to

distinguish between 'porous' and 'permeable' rocks. They did not see porosity as an aspect of permeability nor did they see the relationship between pores and porous.

In the accompanying diagram, Part (d)(i) and (ii) called for the identification of rocks with high drainage density and an explanation of the choice. Some ignored the diagram and even when they gave the correct response, they were unable to relate their choice to the characteristics of the rocks.

Question 7

There was a high response to this question. However, the responses to Parts (a) and (b) were weak. Both the definition and description of flash floods were inadequate. The short term nature and the high intensity were not brought out. Most saw the event as prolonged and leading to saturation of soils thus missing the essential nature of flash flooding. Section C, reasons for settlement of flood plains, was well done.

Question 8

In Part (a), candidates were required to identify the type of volcano shown in a diagram. The response to this was fairly good. However, there were several candidates who named several types and in Part (b) several features, offering the examiners a choice. This is unacceptable and candidates must submit specific responses.

Part (c) proved to be challenging. Candidates were required to identify a type of volcanic eruption based on a description. The correct response was a lahar, made clear by the fact that, unlike pyroclastic flow, it was fluid-mud. Parts (c) (ii) and (d) were based on the description and many candidates did not earn these marks.

Question 9

Part (a) relating to the utility of a seismic risk map was quite well done . In Part (b), candidates were required to give examples of primary, secondary and tertiary effects of earthquakes. Since tertiary effects are not covered in all the texts this aspect proved challenging. However, the entire question appeared to be beyond the competence of the majority of the candidates.

UNIT 1 - PAPER 2

SECTION A

Question 1

Question 1 was the compulsory map question and it was based on a 1:50,000 extract of May Pen, Jamaica. Part (a)(i) required for a description of the settlement pattern within specified grids and many candidates did not stay within the boundaries. Those who did, gave fairly good descriptions of the pattern. In Part (a) (ii), the accounts given for the location of May Pen were often inadequate although this was a classic example of a settlement developing at a bridging point on a river with good road and rail links. Part (a) (iii) required a description of the direction of growth. This presented some difficulty. It was apparent that there was a dense nucleus in the vicinity of the river and the inference could have been made that there was movement towards the less well-settled north and that the most recent developments were taking place towards the south east where planned settlement was displacing areas of mixed cultivation.

Responses to Part (b), a description of the coastal area, were better than in previous years but candidates need to improve their skills in sketching maps. Some did not include keys and labels.

While most candidates were able to identify areas of flooding in Part (c)(i), they were unable to justify their selections. Simply stating that the area was flat or a flood plain was not sufficient at this level.

In Part (c)(ii), relatively few recognized the technological hazard of an industrial waste pond and those who did could not explain why this situation posed a threat to the surrounding area through, for example, seepage, the breaking of banks.

SECTION B

Module 1: Population and Settlement

Question 2

The definition of life expectancy, Part (a), should have included a phrase or statement to indicate that it applied to a particular cohort

and therefore changed. The phrase "at birth" would have satisfied this need. In Part (b), the candidates were given a table showing life expectancies in selected countries and asked to comment on the changes and differences. This section had poor responses. Candidates at the CAPE level must be able to cope with a table involving four or five columns. The difficulties did not stem so much from the number of columns. Candidates did not appear to understand that they could not make meaningful observations about increase and decrease without considering percentage change. In some cases, they tried to give reasons for the change instead of describing the change. Broad trends were not mentioned.

Parts (b)(ii) and (c) were fairly well done. Candidates were knowledgeable on factors influencing life expectancy and the consequence of an ageing society.

Question 3

Primate cities are identified by the extent to which they dominate the urban hierarchy numerically. They are not just capital cities. Nor is primacy related to physical expanse. Because this was not fully grasped, the responses to Parts (i) and (ii) were poor. Teachers need to emphasize that primacy is a characteristic of urbanization in the developing world.

Part (b) (i) dealt with characteristics of counterurbanisation. The majority of candidates had a good grasp of the issues. They had a fair knowledge of how technology influenced the process of counterurbanisation but less of the influence of planning. This was inspite of the extensive studies of new towns, green belts and corridors as well as buffer zones.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Question 4

Candidates were able to list the factors influencing the velocity of a river but many could not describe how the factors influenced velocity. They demonstrated some confusion over the terms 'wetted perimeter', 'hydraulic radius' and 'cross sectional area'. Moreover, they were unclear as to the relationship between the value of the hydrau-

lic radius and velocity, that is, the larger the radius, the less the friction and the greater the velocity.

It is commendable that a large number of candidates were familiar with a stretch of coastland in their territory and many were able to draw a map of the area and label significant features. There were those, however, who simply made reference to a number of locations and appeared not to have detailed knowledge of a specific stretch as stipulated in the syllabus.

In Part (b), candidates sometimes described the processes at work on the coastline but made no reference to the features observed. There were a few instances in which fluvial processes were thrown into the responses.

However, some excellent responses to this question were obtained, the discussions were accurate and diagrams well executed.

Question 5

Question 5 was not a popular question with fewer than 20 per cent of the candidates attempting it. The concept of 'recurrence interval' was understood by most in relation to the time between flood events. However, few understood it to refer to frequency of a flood event of a particular magnitude.

Most candidates could identify changes occurring in a river channel in terms of features produced. Some described the erosional process at work but did not refer to the changes resulting. There were a few excellent diagrams but proper labelling and integration into the text continue to be problematic for too many candidates.

Module 3: Natural Events and Hazards

Question 6

Although faulting is included in the CSEC syllabus, few candidates were able to define a fault (Part (a)) or explain how two types are formed (Part (b)). Several candidates described a fault simply as a 'crack' with no elaboration. Far too many defined it as a plate boundary and went on in Part (b) to elaborate on plate tectonics and related landforms. Some who correctly defined faults could not ex-

plain the landforms associated with them. Diagrams did not show displacement; movement was not indicated.

In Part (c), candidates could state how folded landscapes could be valuable assets but often there was no elaboration.

Question 7

This question required knowledge of current capabilities in predicting earthquakes (Unit 2, Specific Objective 1, Content 3i). It is not clear whether the poor responses were caused by a failure to complete the Module or inadequate preparation. It was apparent that candidates were unfamiliar with the term 'land deformation' and misunderstood 'natural phenomena' as used in prediction. Most described folding, faulting and plate movements as predictors while natural phenomena were interpreted as atmospheric conditions. Some candidates discussed the effects of earthquakes rather than the prediction of them.

Responses to Parts (b) and (c), the role of dams and reservoirs in the control of flooding, were beter.

UNIT 2 - PAPER 01

Module 1: Climate, Vegetation and Soils

Question 1

This question dealt with the effects of carbon dioxide on the energy balance. Many candidates, wrote competently on the subject. Others misunderstood the term 'energy balance', saw carbon dioxide as contributing to the depletion of ozone, or wrote about the effects on photosynthesis without reference to the energy balance.

In Part (b), key components of the distinction between absolute and relative humidity, such as, the role of temperature in relative humidity, were left out. Section C, the conditions necessary for the formation of precipitation, attracted very poor responses. The majority could identify one condition and more often than not this was condensation. Few candidates identified cooling.

Question 2

There were some good answers to this question which dealt with the characteristics of coniferous forests, Part (a)(i), and adaptation to climate conditions, Part (a)(ii). Candidates are advised to read the entire question before beginning to write. Often they go beyond what is needed in an early section only to find that they have to repeat the same material in a later section. In Part (b), they were required to describe the impact of man on both the nature and extent of deciduous forests. Very few candidates paid attention to both the nature and the extent.

Question 3

Part (a) required the candidates to label the soil profile which develops under tropical rain forests to show the main characteristics. In most instances, the labeling was inadequate as the characteristics of the horizons were not included in the responses.

Part (b) called for a definition of soil texture. Most definitions were crude and referred to coarseness or fineness. They did not mention the fact that it was the proportion of minerals of different sizes that determined the texture.

In Part (c), candidates were required to explain how soil texture affects soil organic matter. Most misunderstood this question interpreting organic matter as living organisms and failing to come to grips with issues of aeration, oxidation, and decomposition.

Module 2: Economic Activity

Question 4

In Part (a), most of the candidates had a fair knowledge of the types of activities that are classified as quaternary. Part (b) (i) was also done fairly well. Candidates were acquainted with the way in which employment in the secondary sector was changing. They were less acquainted with changes in the tertiary sector in Part (b)(ii). In Part (c), the majority of the candidates were able to point to forces such as globalization and competition as forces for change in the agricultural sector in the Caribbean.

Question 5

In this question, candidates were asked to define two economic concepts, that of 'economic man' (Part (a)(i)) and 'sub-optimum location' (Part (a)(ii)). For economic man, candidates inserted the expression 'maximizing profit' into a variety of situations without coming to grips with the concept. Elements of 'perfect knowledge' and 'rational thinking' need to be stressed in teaching Specific Objective 3. Most candidates pointed out that sub-optimum location was not the area of maximum profit. Few were able to refer with accuracy to Smith's model or margin of profitability. Too many perceived sub-optimum as least cost location. In Part (b), a small number of candidates interpreted the informal sector as attempts by the government to create jobs for the unemployed. Some discussed the benefits occurring to the economy rather than reasons for its development as required by the question.

Question 6

In Part (a) (i), candidates were given a table showing tourists arrivals in selected Caribbean countries and asked to describe the trends. They were able to recognize increasing arrivals and the expansion of cruise ship arrivals in some of the countries. Trends were country specific rather than general.

In Part (ii), they were asked for reasons for the trends they had described in Part (a) (i) and very few referred to these trends, that is, slow expansion in stayover and big expansion in cruise. Some discussed the growth of tourism worldwide, development of airports, effect of climate, and physical features of the country.

In general, very good responses were obtained for Part (b) which required a reason for the growth in global tourism.

Module 3: Development and Disparity in the Caribbean

Question 7

Candidates were required to explain why colonialism is a political process (Part (a)(i)) and an economic process (Part (a)(ii)). These two sections had extremely poor responses. Yet, the material ought to have been covered in Module 3, Content 2(ii), the relationship be-

tween colonialism and development as well as under models of development such as the plantation model, dependency theory and core-periphery model. The poor responses to simple, straightforward questions in Module 3, suggest that these topics, which many candidates found challenging, were neglected.

Part (b), the constraints imposed by external migration, was quite well done, although some candidates focused on the receiving end.

Question 8

The extent of disparities within countries was the subject of Part (a), specifically disparities in the level of poverty. They were asked to give reasons for the disparities and they tended to emphasize disparities in development rather than poverty. Little attention was paid, for example, to conditions in rural areas that would contribute to poverty.

Part (b) required the three indices used for indicating Human Development. This was done fairly well.

Question 9

In Part (a)(i), the concept of 'age dependency ratio' was fairly well understood although there were some problem areas, for example, ratios, specific age groups. Most candidates did not appreciate the fact that they were supposed to use the table to explain the overall trend. In other words, the responses were to be based on an analysis of the table as specified in the question.

In Part (b), the statement was complete as presented. The majority of candidates had absolutely no ideas of how to state a null hypothesis. The ability to calculate the Spearman's Rank coefficient was required.

UNIT 2 - PAPER 02

SECTION A

The compulsory mapwork question was based on an extract of Dominica on a scale of 1:25,000 and in Part (a), the candidates were required to describe the distribution of vegetation on the extract.

There were some extremely good responses but candidates continue to confuse crops with vegetation and to read the key instead of the map extract which does not always contain all the categories shown in the key. Just as candidates pluralize 'forest' and 'savanna', there was a for them tendency to pluralize scrub.

In Part (b)(i), candidates were required to suggest three types of economic activities using map evidence and in Part (b)(ii) to suggest reasons for the dominance of each in the area. Here too, there were some good responses but in many instances, there was a failure to focus on map evidence. As in the final part of this question, many candidates wrote from general knowledge rather than from evidence.

In Part (c)(i), candidates earned high marks for good sketch maps of the airport location although a few lacked keys. In the final section, most candidates identified the potential of the forests for further development. Some used the mere presence of a river as evidence of hydroelectric power potential.

SECTION B

Module 1: Climate, Vegetation and Soils

Question 2

Climate was the subject of Question 2 and responses were in general fairly good. In Part (a)(i) and (ii), candidates identified the forces controlling atmospheric motion and the characteristics of jet streams. There is a need, however, for candidates to distinguish between 'describe' and 'explain'. Many explained the effects of jet streams when they were asked to describe the characteristics. The explanation was required in Part (iii).

In Part (b), most candidates gave reasonable definition of lapse rates and correctly identified the conditions influencing these rates. There is a need for clarification of adiabatic lapse rates because many candidates saw DALR and WALR as weather phenomena themselves. The differences in the rates were dealt with inadequately.

Question 3

The area examined in Part (a), was vegetation, the fragility of tropical forest ecosystems and the effect of altitude on vegetation in Part (b). Overall this question was fairly well done with the exception of Part (b).

Candidates often failed to gain full marks on Part (a) because they were unable to expand on the points made. Often, there was a failure to address the value of the ecosystem as a global resource. In Part (a)(ii), candidates needed to be more specific in accounting for the factors which made the system fragile, for example, the low species diversity.

In Part (b), there was once more the confusion of vegetation and cultivated crops. Responses did not reflect a clear understanding of the effect of altitude on vegetation. Some candidates confused latitude and altitude.

Module 2: Economic Activity

Question 4

This question required candidates to account for the changes which have taken place in agriculture in the European Union over the past three decades.

Many candidates had no idea what the European Union was and some included the Caribbean, India, Mexico and even the Sinai desert within the grouping. One statement read '... some of the countries in the EU are not in Europe.' Some candidates interpreted decades as centuries and wrote of the change from the use of primitive technologies and from slave production. Candidates who were better prepared referred to the role of the EU and the Common Agricultural Policy (CAP) for examples, in providing subsidies and incentives, and to the changes in technology and methods of production.

Part (b) required an evaluation of the impact of commercial and subsistence agriculture on the physical environment. This was fairly well done, but some used the terms 'peasant' and 'subsistence' interchangeably.

Question 5

This question on tourism and the operation of transnationals was poorly done. Candidates spent too much time writing and rewriting the question in different ways. Most were quite unacceptable for post CSEC level. However, there was one candidate who wrote an almost perfect response.

The distinction between mainland and island tourism required in Part (a) was appreciated by most candidates. A few made sweeping statements such as main lands have no coasts, islands have no resources. Part (b), dealing with locally produced food and the characteristics of tourisms, presented a greater challenge. Few candidates discussed ownership of the hotels or the stages of development model.

Part (c) required candidate to discuss transnational corporation and their effects on industrial development. Most ignored 'effects' and dealt with theories of industrial development.

Module 3: Development and Disparity in the Caribbean

Question 6

Import substitution was a strategy adopted by industrialised countries in the developing world in the early stages. It was a policy adopted and sponsored by almost all countries in the developing world. If it is neglected in Unit 2, Module 2, Content 2 (vi), it should not be ignored in Module 3, Content 2 (iii), post-colonial development strategies. There is little evidence that candidates knew anything about import substitution and Parts (a) and (b) were very poorly done.

Part (c) asked for a criticism of economic measures of development. This is the normal, accepted language used in the text. Yet, there was widespread misunderstanding and confusion regarding economic models and government economic policies. Those who understood what was requested confused economic and social indicators.

Question 7

Part (a) examined the concept of spatial dualism and spatial concentration. Most confused the term 'spatial' interpreting the term as sectoral, for example, tourism in Jamaica and petroleum in Trinidad and Tobago. Some discussed the country as a whole, for example, improving Jamaica's human resource potential. Other used inappropriate examples, such as Barbados where the concentration is not marked.

Part (b) required for steps that CARICOM could take to reduce disparities among member countries. Some discussed steps already taken. Others discussed disparities within individual countries. Some made suggestions which were weak and/or not fully developed.

INTERNAL ASSESSMENT

Far too many candidates failed to gain marks due to using the wrong skill or no skill at all in their presentations. Some candidates simply copied or used material from the Internet or textbooks to produce lengthy, irrelevant compositions. In a few cases, the content was not on the syllabus at all, for example, desalination process.

Candidates are reminded of the following:

- One skill must be chosen for each Module from the list stated in the syllabus p35. The skill chosen must be stated explicitly in the purpose or method, for example, 'Map**s** will be used to delimit the Central Business District (CBD)....'; 'Graphs will be presented to investigate the differences in .....'. One skill per Module is sufficient.

- The topic must have geographical merit as stated on the syllabus. The topic 'Yam festival is about more than yams' offers little geographical significance. However, if it was used as an example of changing marketing strategies in small farming and its effect on demand, then questionnaire use with the farmers may have yielded interesting insights into agricultural change.

- The scope of some studies was too wide and unmanageable (by the candidates), for example, a study using five cross sections and long sections of the Rio Grande river was unnecessary. The candidate could have compared three sections along the river using mapping skills.

- The information presented must come only from the skill presented. Hence integration of diagrams and text is crucial, with close reference being made to the illustrations, 'Figure 1 shows ... or Map 2 shows ...'

- Diagrams must be well-labelled and/or annotated. The main features shown are then described and explained or analysed.

- Summary of findings should include a general statement relating to the purpose. It should highlight the most significant results.

- No credit was given for extraneous materials from textbooks and the Internet. This irrelevant material then greatly exceeded the limit of 700 words. The main information must come from the skill being presented.

- Bilbiographies must follow the conventions: that is, Alphabetical by author's surname, date of publication, title, publisher, location of publication (any style manual consistently used). Internet sources, atlases and encyclopedia should be cited as sources. Candidates should note that one book does not create a bibliography.

Candidates are reminded that assignments should be presented on A4 paper, written on one side only. Care must be taken to leave wide margins for binding. Items chosen for comparison should have some contrasting features.

UNIT 1

There was an uneven performance across the Modules, with evidence of rushed, superficial drafts of studies in Modules 3, Hazards. Generally, Module 1, Population pyramids gained the most marks.

Module 1: Population and Settlement

Candidates are reminded that they must use dot maps to investigate population distribution and flowlines for migrations. Candidates who attempted CBD delimitation did not show the appropriate mapping skills and so received little credit.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Many candidates failed to receive credit for field photographs when the syllabus clearly states field sketches. Field sketching is an essential geographical skill even if done from photographs taken in the field. Field work should focus on ONE skill to be presented and analysed.

Module 3: Natural Events and Hazards

The use of questionnaire is not one of the skills for this module and gained no credit. Photographs when used must be annotated and form the basis of interpretation. Often photographs merely accompanied written text and were used as illustrations.

UNIT 2

Surprisingly these were not as well done as those of Unit 1. It was expected that many candidates who did Unit 1 in the previous year would improve on Unit 2 but this was not evident.

Module 1: Climate, Vegetation and Soils

Some candidates did good soil studies using soil pits and presenting well-labelled profiles describing features of each horizon. Other studies of vegetation transects and quadrats could have gained more credit if students restricted themselves to those findings. Some candidates confused tracking maps with synoptic charts. Synoptic charts are summaries of weather conditions based on isobar, weather stations presentation. The Module called for the use and interpretation of weather instruments. The interpretation of meteorological office data will not suffice.

Module 2: Economic Activity

Candidates presented good studies based on statistical or graphical analysis of tourist and cruise arrivals.

Module 3: Development and Disparity in the Caribbean

Spearman's rank correlation coefficient was well utilized to investigate disparities among countries.

CARIBBEAN EXAMINATIONS COUNCIL

REPORT ON CANDIDATES' WORK IN THE CARIBBEAN ADVANCED PROFICIENCY EXAMINATION MAY/JUNE 2005

GEOGRAPHY

GEOGRAPHY

CARIBBEAN ADVANCED PROFICIENCY EXAMINATION

MAY/JUNE 2005

Introduction

This year, 1138 candidates wrote the CAPE examinations in Geography. The number writing Unit 1 was 861 while 277 wrote Unit 2.

There were some improvements in map reading skills. It would appear that there was greater success in completing the syllabus since most candidates attempted the questions in Module 3 and there was an improvement in the performance on this Module over previous years. Responses to questions in human geography, Module 1 of Unit 1 and Modules 2 and 3 of Unit 2 continue to be better than those in physical geography, Modules 2 and 3 of Unit 1 and Module 1 of Unit 2.

However, there were problems that were common to all papers. There is a marked inability to define basic geographical concepts. Too many candidates are losing marks because they do not understand the geographical terms used. They do not appear to be able to differentiate economic from social and physical factors. A concerted effort must be made to overcome these common problems.

It seems that the majority of the candidates cannot write well-constructed, coherent sentences. The problem is not only one of grammar. Candidates often write two words which may have some bearing on the answer but neither describe nor explain the phenomenon as requested. When they attempt to go beyond this, they do not seem to be able to write a paragraph in which an idea is developed but present a number of disconnected statements, leaving the examiner to attempt to see the association or interpret what is written in the light of the questions asked. Responses are not structured even when the questions are. In far too many cases, examiners need to interpret what candidates write and to agree on what the candidates are attempting to convey. This is a major problem and is unacceptable at this level.

DETAILED COMMENTS

UNIT 1

PAPER 01

Module 1: Population and Settlement

Question 1

In Part (a) (i), candidates were asked to distinguish between 'population distribution' and 'population density'. Although most of the candidates appear to know the difference, they found it challenging to put the concepts into words. Often, they could not find an alternative to the word 'distribution'.

In Part (a) (ii), very few candidates had difficulty calculating the population density as required. The main weakness was a failure to give the unit of measurement, persons per km^2. In Part (b), candidates were required to 'Outline two economic factors that influence variations in population distribution.' This question had very poor responses. Candidates seemed more familiar with physical influences and a large number of the responses was directed to migration rather than population distribution.

Question 2

Question 2 (i), required a definition of 'doubling time of a population'. Generally, this was well done. However, when asked for a way in which doubling time impacted on a country's development, there was, in most cases, a failure to relate the response to whether the doubling time was short or long and this was necessary if the answers were to make good sense.

In Part (b) (i), knowledge of Boserup's view of the relationship between population and resources was generally lacking. Some confused her work with that of Malthus and the reference to 'he' rather than 'she' confirmed the lack of familiarity. It was not surprising, therefore, that they were unable to outline a criticism of her theory in Part (ii).

Question 3

Most candidates were able to define international migration in Part (a) (i) and to state social problems in destination countries in Part (b) (ii). However, some confused social with physical and economic problems. Others did not adequately define the problem. 'Illegal aliens' or 'the spread of disease' is not sufficiently specific. There

was a similar problem in Part (a) (iii) where candidates were asked for the benefits accruing to the countries of origin. The benefits should be clearly stated. 'International recognition' is too vague to be credited. However, responses to this

section were fairly good.

In Part (b), candidates were asked to describe, with the aid of a diagram, the relationship between the volume of migration and distance. This was poorly done. Models of distance decay or flow lines were acceptable. The latter was more numerous but many failed in their attempts to show the relationship by giving an indication of the change in volume with distance.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Question 4

This question tested the candidates' understanding of flows and features in the drainage basin. In Part (a), the question was 'how' is ground water stored. Most candidates responded to 'where'. Very few could define a 'perched water table' in Part (ii), the impermeable rock above the water table collecting water, as the name suggested.

In Part (b), few candidates were able to give the distinction between an 'artesian basin' and 'aquifer'.

In Part (c), candidates tried to show diagramatically how overuse of a well may affect the water table, but most of them ignored the word 'overuse'. Little attention was paid to the proper placing of the well in the water table. Few candidates were able to draw and name the cone of depression.

Question 5

Many candidates were unfamiliar with the diagram of the Hjulstrom curves in Part (a) (i) and superimposed their own lines. The majority of those who appeared to be familiar with the diagram failed to distinguish the critical velocity curve as a line and could not correctly insert 'particles eroded' and 'transported'. Some understood that the cohesiveness of clays explained why it required a velocity similar to that of pebbles to initiate movement.

In Part (b), the concept of entrainment was often confused with erosion. A few even suggested train-like shapes.

Question 6

Candidates were asked to draw a diagram of a stretch of coastline showing a hooked or recurved spit in Part (a) (i) and to suggest reasons for the development of the recurved ends in Part (ii). Diagrams were poorly executed with little attention being paid to its relation to longshore drift or to the trend of the coastline. Few candidates

could show the recurved spit, insert the wind direction or refraction. Many associated the recurved spit with fluvial processes at the mouth of the river.

In Part (c), the majority of candidates could not describe the formation of a cuspate foreland which many confused with a delta.

Module 3: Natural Events and Hazards

Question 7

There were some candidates who had a very clear idea of the distinction 'between natural hazards' and technological hazards. These, however, were in the minority. In giving examples of technological hazards, there was often a failure to distinguish between the technology and the misuse of it required in Part (b).

Question 8

Generally, candidates are not making a distinction between the theory of Continental Drift which was the answer needed in Part (a) (i) and plate tectonics. The names of the Super Continents should have been clues. They could not explain why scientists did not accept the theory of Continental Drift in Part (ii).

In Part (b), candidates were asked for evidence of sea-floor spreading. Most candidates gave evidence for Continental Drift while some explained the process.

Question 9

This question tested knowledge of plate tectonics and was answered fairly well. In Part (a), most candidates were able to identify the plates, and the direction of movement in Part (b).

In Part (c), however, knowledge of faulting was extremely weak. Candidates could not make a simple comparison of normal and reverse faults in terms of movement of the blocks and the gradient of the fault plane.

UNIT 1 – PAPER 02

SECTION A

Question 1

This question was the compulsory map work question and was based on a map extract of Tobago on a scale of 1:25,000.

In Part (a), candidates were asked for the factors which influenced the *pattern* of settlements on the coastal area of the map. The majority of candidates made no reference to the pattern and some did not restrict their answers to the coastal area.

In Parts (b) (i) and (ii), there were many good sketches of the coastline and the features named. However, too many candidates appeared unfamiliar with the term 'promontory.' Often there was a failure to provide a key. Too much time was spent describing the coastal area and the vegetation, rather than the coastline – (trend, shape, relief) that was required in Part (b) (iii).

The responses to Part (c), revealed a fundamental misconception about the nature of hazards. A hazard represents the interface between a possible event and vulnerable people. Lives or property must be at stake. A steep cliff on an uninhabited coast is not an example of a hazardous area. A deserted coastline exposed to hurricane winds cannot be accepted as a hazardous area. In addition, it is not enough to mention an earthquake as a possible hazard. There must be map evidence to support a possible threat.

SECTION B

Module 1: Populations and Settlement

Question 2

This question tested knowledge of rural settlements and the responses seem to indicate that this aspect of settlement is neglected. In Part (a) (i), the responses were not specific to rural settlements but the candidates focused on factors influencing the location of settlements in general. Some candidates described the reasons for migration to rural areas. They were unfamiliar with recent changes in rural settlements (ii) and those who were, were unable to write comprehensively about the changes in order to earn the marks allotted.

In Parts (b) (i) and (ii), many candidates did not understand the term 'hierarchy' and were unable to distinguish the elements in the hierarchy needed to differentiate between size and functions, the change from the provision of low order to specialized goods and services.

Question 3

This was the more popular of the two questions in the Module and was attempted by about 80 per cent of the candidates. However, there needs to be a clearer understanding of the term 'population structure' as required in Part (a). The term has a specific, clearly defined meaning in geography or demography which must be conveyed to candidates. Too many described the differences in birth and death rates rather than the proportion of the population in the different cohorts which results from the interplay of these forces. Emphasis should be on the youthful population of developing countries and the ageing population of developed countries. This structure is captured in population pyramids, and diagrams typical of developed and developing countries would have earned marks.

The responses to Part (b), factors influencing the rate of urbanization, were fairly

good. A few candidates wrote of the factors influencing population distribution such as relief and resources while some tended to list the individual services provided by urban areas rather than group them under the broad heading of services. There was general misunderstanding of the term 'urban sprawl' in Part (ii). Many candidates elaborated on strategies to curb urbanization rather than the physical growth of the city. They did not appear to understand how the creation of Green Belts curbed urban sprawl.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Question 4

This question was attempted by about 60 per cent of the candidates and was done very poorly. Part (a) required the candidates to explain how 'weathering' and 'mass wasting' contributed to denudation. Candidates did not understand the term 'denudation'. There were fairly good descriptions of weathering and mass wasting but they could not make the link between these concepts and denudation.

In Part b (i), candidates were required to give a description of rock structure. The majority of the candidates did not know what rock structure was. Many interpreted it as soil structure and described types of soil structure such as crumb structure while others described it as the shape and colour of the rock. The responses to Parts (ii) and (iii) were extremely weak. Lack of understanding hampered their ability to respond adequately to these parts. Part (b) (ii) called for an explanation of the influence of rock structure on surface form. The majority of candidates did not understand 'surface form'. Some saw it in terms of permeability and porosity; others with drainage density. Part (iii) revealed a misunderstanding of the role of weathering in the drainage basin as several candidates described channel processes.

Question 5

This question was attempted by 41 per cent of the candidates. The responses revealed one of the major weaknesses observed throughout the paper, ignorance of basic geographical concepts. It also demonstrated that field work is being neglected.

Part (a) (i), misinterpreted as 'base level' was seen as 'base flow' or seasonal fluctuations in the flow of rivers. The diagram required in this section was not properly labelled. Neither was it given a title. In Part (a) (ii), the few who understood the concept had no problems describing the effects of changes in base flow on a river valley, a topic that is fully discussed in all the texts.

In Part (b), candidates were required to draw upon their experiences in the field – the examination of a stretch of coastline that they had studied. It was clear that in most cases, the responses were not based on actual field work. In a question such as this, the students should be able to describe the particular stretch in detail – the actual location, the trend, wind direction and the features required. Instead, the descriptions were vague and there was little evidence of the familiarity expected of a field exercise.

Module 3: Natural Events and Hazards

Question 6

It should be noted that Module 3 in both Units is specifically designed as the integrative module which pulls together in the physical and human sections. This is the spirit of the question which called on the candidates to bring what they had learned about climate and drainage basin characteristics, to bear on the hazard, flooding. It was attempted by just 17 per cent of the candidates.

In Part (a), although the candidates were able to identify the greenhouse gases and describe the role they played in global warming, they were unable to make the link between global warming and flooding. In other words, candidates seemed unaware of the association between global warming and rising sea levels. This is surprising in view of the coverage of the phenomenon both in the texts and the media.

Part (b) was done better. Candidates clearly outlined drainage basin characteristics and were able to say how these affected the magnitude of a flood. However, in some cases, there was some confusion between drainage basin and channel characteristics, and with climatic factors and climatic regions.

Question 7

In this question, candidates were required to assess the differential impact of an earthquake and, in general, the question attempted by about 83 per cent of the candidates, was well done. Candidates were given specific headings under which to organise their responses and their greatest difficulty appeared to be an understanding of what was required under each of the headings. For example, they were not sufficiently able to distinguish between the 'physical environment' and the 'man-made environment' and for this reason lost marks. Again, basic, geographic understanding is poor. Most candidates had difficulty in describing the characteristics of the physical environment that might account for differences in impact.

Part (b) was the more challenging portion of this question and the problem was again one of an understanding of features or concepts. Too many candidates could not distinguish between 'lahars' and 'pyroclastic flows'. Some made reference to basic and acidic lavas and the associated flows. Since the majority did not know the difference between the two, they were unable to compare the effects. The majority of responses were restricted to the destruction of property and livestock without any reference to the characteristics of the event.

UNIT 2 – Paper 01

Module 1: Climate, Vegetation and Soils

Question 1

This question tested the candidates' understanding of atmospheric moisture and the conditions influencing and resulting from moisture in the atmosphere. In general, the performance on this question was poor.

In Part (a) (i), they were asked to distinguish between 'absolute humidity' and 'relative humidity'. There were a few good responses but there was the same problem with definitions observed earlier. In Part (a) (ii), candidates attempted a definition of condensation rather than a description of the process. Those who described the process ignored cooling beyond dew point and the presence of hygroscopic nuclei.

In Part (b), candidates were asked to describe the formation of cyclonic rainfall.

They confused cyclonic with other types and their diagrams, more often than not, were illustrative of convectional rather than cyclonic rainfall.

Question 2

The question was designed to test the candidates' understanding of the relationship between 'vegetation' and 'physical and human processes'. It was fairly well done. In Part (a), the definitions of the term 'biome' were generally good and so were the descriptions of the characteristics of the vegetation. However, many were unable to say how the characteristics enabled the vegetation to survive in the particular climatic conditions and there were many inventive responses.

In Part (b), two effects of deforestation on the sustainability of the tropical rain forest biome were required. In many cases, candidates did not capture the large scale implied by the term 'biome' and responses were more applicable to 'biomass'. In addition, they neglected to link the action to the sustainability of the system.

Question 3

The focus of this question was on soils. Candidates performed creditably on Part (a), demonstrating an understanding of the term and the influence of parent material on its characteristics. However, Part (b) was misinterpreted by most of the candidates. They confused a soil catena with a soil profile and they drew diagrams showing a typical profile rather than a typical catena.

Module 2: Economic Activity

Question 4

In this question, candidates were required in Part (a) (i) to describe the characteristics of primary economic activity. This was done well by most candidates but quite a few simply cited examples of the economic activity. Where they were asked for an example of a quaternary industry, some gave vague responses such as 'technology' or 'hi-tech' but most of the responses to this question were good.

In Part (b), the aim of CAP was well done. A few of the aims were not sufficiently specific, for example, to help EU farmers. Part (ii) required ways in which CAP influenced agriculture in Europe. In general, the responses demonstrated insufficient knowledge or understanding of CAP.

In Part (c), candidates demonstrated a fair understanding of sustainable agriculture although there should have been a clearer link to the health of the environment. A few confused the term with subsistence agriculture.

Question 5

The stimulus in this question was a map showing elements of the location of a town and candidates were required to suggest reasons for the location of the town. This was well done. They saw the importance of transportation, relief and a former coal field. There was no evidence, however, that the river was a source of hydroelectric power.

In Part (b) of this question, candidates were asked to explain the term 'industrial inertia'. Very few were able to do so and many confused the term with 'industrial agglomeration'.

Question 6

Part (a) of this question was based on line graphs showing visitor arrivals in Barbados. Candidates were asked to describe the changes between 1970 and 2000 and responses were excellent. A few demonstrated their knowledge of the subject by giving reasons for the changes although these were not required.

In Part (b), candidates were asked the reasons for the increasing number of visitors from the UK. This was also well done.

In Part (c), candidates were required to "Outline one difference between 'island tourism' and 'mainland tourism'". Little knowledge of this section of the syllabus was demonstrated and the marks gained were quite low.

Module 3: Development and Disparity in the Caribbean

Question 7

In Part (a), candidates were presented with a diagram of Rostow's model of development and asked to name three of the stages. Most were able to do so. They had less success in Part (b) in describing the developments that were supposed to occur in Stage 3. Many recognised that economic growth was supposed to occur and given the fact that it was a model of development, this was a logical assumption but they could not move beyond this to give the specifics of the model.

In Part (c), candidates were asked to explain why some models were described as examples of 'Eurocentric development thinking.' The response to this was fair. Candidates correctly made association with the course of the Industrial Revolution. There were those however, who very loosely linked it with Western or American ideas of development.

Question 8

In Part (a), candidates were asked to explain the difference between a 'homogeneous region' and a 'planning region'. Too many candidates simply defined the two rather than concentrate on the differences between them.

Part (b) was poorly understood as candidates could not propose a hierarchy in which regional planning can occur. Many ignored the term 'your country' and gave responses which were from over the world.

Question 9

In Parts (a) and (b), candidates were given a table showing demographic characteristics of selected Caribbean countries and asked to select two indicators of development and to explain why they could be regarded as measures of development. Several problems were identified. Some ignored the indicators given in the table. Others selected the dependency ratio. However, in explaining why this was a measure of development, candidates did not distinguish between the implications of youth and old age dependency to development. Similarly, in selecting death rate as an indicator, they did not deal adequately with the fact that many developed countries have higher death rates than developing because of the ageing population. Fertility rate and life expectancy were more straightforward choices.

In Part (c), candidates were asked to rank data in preparation for the calculation of the Spearman's rank correlation coefficient. Teachers are reminded that such exercises are being done in the context of development and not as a problem in mathematics. Therefore the results must be consistent with what is being taught in development. There must be an understanding of the meaning of an inverse relationship as

one in which there is a correlation between what may be described as 'best' and 'worst.' A relationship between 'best' and 'best' is a positive one. If the table is organised in such a way that the result is an inverse relationship between GDP and life expectancy or a positive relationship between GDP and infant mortality then the results do not support what is being taught in development. As GDP increases so does life expectancy and the relationship is positive. Countries with a high GDP have low infant mortality. This is an inverse relationship.

The problem stems from the fact that the texts in use instruct that the indices with the highest number should be given a value of 1. This is fine when all the high numbers indicate 'best' as in GDP and life expectancy. However in cases where a high number of one means 'best' (as in GDP) and a high number of another means 'worst' (as in infant mortality), the table would be organised in such a way as to give an inverse relationship. This would be mathematically correct but students are taught that the relationship between the two is positive and the exercise should support this. Countries with 'good' GDP usually have 'good' infant mortality rates. Therefore, as a first step, student must be made to understand what the numbers mean. It is not that the highest **number** should be given a value of 1, but the number that is indicative of 'best' (or worst) and that would be a high number for GDP and a **low** number for infant mortality. The relationship would then be positive. The test must be used to support the teaching.

Beyond this, too many candidates do not appear to be acquainted with this test. It is the only statistical test given in the syllabus and candidates need to understand its significance. It should not be a mechanical exercise.

More effort is needed to bring life to this Module dealing with development.

UNIT 2 - PAPER 02

SECTION A

This was the compulsory question and there were two parts. The first part was based on a map extract of Morant Bay, Jamaica on a scale of 1:50,000 and the second part consisted of a table. There seems to be an improvement in map reading skills but certain problems persist.

In Part (a), too many candidates fail to distinguish between natural and cultivated vegetation (i). Grid references appear to be an area of difficulty as many candidates selected areas outside that specified.

In Part (b), candidates were required to identify agricultural activities on the map extract. Too many continue to select activities indicated in the key rather than those appearing on the map. Candidates must understand that what they are given is an extract and that all activities indicated in the key may not appear on the extract. Those who correctly identified the activity were able to account for the locations and Part (b) (ii) was well done and so was Part (b) (iii), the identification of possible

sources of pollution along the Morant River.

In Part (c), candidates were asked to calculate several statistical measures – range, median, mean and interquartile range. Few were able to calculate the interquartile range or to describe its advantage over the range.

SECTION B

Module 1: Climate, Vegetation and Soils

Question 2

Part (a) tested the candidates' knowledge of global surface and upper wind circulation and how they relate to surface weather conditions. Relatively few candidates attempted this question and it was answered unsatisfactorily. They were unable to explain the effect of pressure gradient, Coriolis force and friction on the horizontal movement of air. Supporting diagrams were totally inadequate

In Part (b), few candidates knew the meaning of an air mass and there was confusion with jet streams and atmospheric stability. Therefore they could not identify the different types nor explain how they influenced surface weather conditions.

Question 3

This question tested knowledge of the distribution and characteristics of vegetation types and their interrelationship with climate. It was the more popular question in the Module as it was attempted by 66 per cent of the candidates and the responses were better. In Part (a) (i), candidates were able to name areas of temperate grasslands but were unable to locate them accurately on the map. Part (a) (ii) presented more difficulty and this appears to be a weakness that is associated with climate in general. Few candidates knew the characteristics of the climate associated with temperate grasslands – rainfall, temperature, temperature range.

Part (b) called for a description of the characteristics of tropical savannah vegetation. In Part (i), there was a general familiarity with the subject. Candidates must be encouraged to write full, flowing descriptions rather than to make statements. There is an increasing tendency to write in bullet form and often full marks are not awarded. Most of the marks were earned in Part (ii), man's influence on tropical savannas. Candidates were well acquainted with destructive activities but often the influence was related to soil characteristics and the link with vegetation was not well made. Some made careless errors such as focusing on the wrong vegetation type- tropical rain forest rather than savannas.

Module 2: Economic Activity

Question 4

This question was the less popular of the two questions in the Module. It required an examination of the effects of traditional and non-traditional forms of agriculture on the Caribbean environment. There were two main problems. Firstly, most candidates were uncertain as to what was meant by 'traditional agriculture' and 'non-traditional agriculture'. They associated non-traditional agriculture with the use of fertilisers and mechanization. Moreover, it would appear that they have more knowledge of harmful than beneficial effects and therefore were unable to say anything about the effects of hydroponics, for example. There was a general lack of specific knowledge on this subject.

Question 5

This question on tourism was the more popular and there were many good responses. In Part (a), candidates were required to draw a map showing the location of tourism development in the Caribbean. In the main, all the basic elements of sketch maps – title, border, key, north point – were ignored. They demonstrated little knowledge of the spatial distribution of tourism development, and they confused names of places.

In Part (b), candidates were asked for the factors influencing the location and nature of the tourist industry. They failed to treat location and nature as two separate elements and it was left to the examiners to interpret the responses. In addition, few candidates gave consideration to contemporary tourism products such as eco-tourism or green tourism and sport tourism. The emphasis was on the traditional sun, sand and sea. Although they were asked to identify a Caribbean country, many failed to do so basing their response on the entire Caribbean and consequently producing very vague answers.

Responses to Part (c) of this section – conflicts in the industry – were well done. Candidates presented well-developed answers and good examples.

Module 3: Development and Disparity in the Caribbean

Question 6

The specific objective tested in Part (a) was the role of history in the spatial development process. Candidates were asked for the continuing importance of port cities despite post colonial strategies. It was a popular question but few were able to make a satisfactory link between history and the importance of cities today. Some looked at post colonial strategies only and made no attempt to establish the importance of ports in the colonial period.

In Part (b), the emphasis was on disparities in development. Some candidates did not attempt to answer this section and those who did had very vague notions of inequity

and why it was considered undesirable in developmental terms. There was a focus on 'people' issues and a neglect of broad economic and spatial issues such as rural-urban disparities.

Question 7

'With reference to a specific country explain three results of inadequate access to water in rural areas.'

Candidates supplied a great deal of information on the results of lack of access but many ignored the request for specific examples and for restricting the examples to rural areas and therefore lost marks.

In Part (b), candidates were asked to distinguish between GNP and GDP. Responses were fairly good but they must include the time period for measuring the two.

Part (c) required an explanation of the *weaknesses* of GNP as a measure of development. Many explained the term. Many responded with the bulleted format that is now becoming all too common in responses. Candidates are losing the art of communication in a coherent manner. 'Informal sector' is not an acceptable substitute for a statement that 'economic measures of development ignore the contribution of the informal sector'. It is not acceptable even if there was a request for a *list* of weaknesses and candidates will not be credited for such responses.

INTERNAL ASSESSMENT

Overall, there was a slight improvement in the quality of the Internal Assessments as the topics were more manageable, more focused and there was adherence to the word limit. The guidelines given in the syllabus were followed and there were very few reports that were outside the syllabus. It was gratifying that candidates from some of the new schools in particular presented extremely high quality papers based on meticulous field research. Some schools did not receive the amendments to the syllabus and presented three instead of one study per candidate. But there are many problem areas.

Some methodologies were weak and there were instances in which the discussion and analysis had no relation to the objectives and methodologies but appeared to be copied from texts. Analyses must be more than description of findings and should analyse the data collected.

The focus must be on the skill selected and the skill must be clearly stated in the methodology. If the skill is the use of a questionnaire, the study must be based on an analysis of the responses obtained. The study must revolve around the data collected in the survey. Many selected skills were not appropriate to the Unit, for example, the analysis of photographs is appropriate for Unit 1 but not for Unit 2. The analysis of photographs remains a major problem. Candidates continue to use them for illustrative purposes rather than for analysis. In several cases, they were awarded high

marks by teachers despite this short-coming. Candidates are missing the point of interpretation when they present a photograph of a farmer in a banana field. A photograph of a volcanic eruption is useless unless it illustrates an important point about the nature of the eruption or the stage of the process and it is possible to tell the story by analysing a series of photographs. It is true to say that the vast majority of the studies based on photographs were unsuccessful. It has become too easy to download photographs of volcanic eruptions or the tsunami from the internet and to use them to 'decorate' a study. This is not considered to be interpretation of photographs.

Far too many candidates placed all the maps and diagrams together at the beginning of the paper and did not integrate them into the texts. Illustrative material should be as close as possible to the discussion that supports it. Diagrams were not always well-labelled. If the axes of graphs are not labelled, the diagrams do not convey the information they are supposed to.

For the conclusion, the candidates must treat this in the context of their objectives, discussing the extent to which these were met or their assumptions upheld.

Candidates must follow recognized conventions for writing references. Having selected a form, they must use it consistently. They should also adopt the convention of in-text referencing and should present a minimum of three references to work published within the last 10 years.

In general, the exercises were marked too generously. More importantly, there were too many instances of inconsistent marking. Teachers tended to treat hand-written papers more harshly than those that were typed or word-processed.

CARIBBEAN EXAMINATIONS COUNCIL

REPORT ON CANDIDATES' WORK IN THE
CARIBBEAN ADVANCED PROFICIENCY EXAMINATION
MAY/JUNE 2006

GEOGRAPHY

GEOGRAPHY

CARIBBEAN ADVANCED PROFICIENCY EXAMINATION

MAY/JUNE 2006

INTRODUCTION

This year, 1 849 candidates wrote the CAPE papers in Geography. The number writing Unit 1 was 1 029 while 820 wrote Unit 2.

There were some improvements in map-reading skills. It would appear that there was greater success in completing the syllabus since most candidates attempted the questions in Module 3 and there was an improvement in the performance on this Module over previous years. Responses to questions in human geography, Module 1 of Unit 1 and Modules 2 and 3 of Unit 2 continue to be better than those in physical geography, Modules 2 and 3 of Unit 1 and Module 1 of Unit 2.

However, there were problems that were common to all papers. There is a marked inability to define basic geographical concepts. Too many candidates are losing marks because they do not understand the geographical terms used. They do not appear to be able to differentiate economic from social and physical factors. A concerted effort must be made to overcome these common problems.

It seems that the majority of the candidates cannot write well-constructed, coherent sentences. The problem is not only one of grammar. Candidates often write two words which may have some bearing on the answer but neither describes nor explains the phenomenon as requested. When they attempt to go beyond this, they do not seem to be able to write a paragraph in which an idea is developed but present a number of disconnected statements, leaving the examiner to attempt to see the association or interpret what is written in the light of the questions asked. Responses are not structured even when the questions are. In far too many cases, examiners need to interpret what candidates write and to agree on what the candidates are attempting to convey. This is a major problem and is unacceptable at this level.

DETAILED COMMENTS

UNIT 1

PAPER 01

Module 1: Population and Settlement

Question 1

Candidates were asked to explain the relationship between doubling time and the growth of population. Most were able to define doubling time but were unable to make the link with population growth.

In Part (b)(i) candidates were given statistics and asked to use the information to outline growth of population in a country showing the characteristics. The demographics were typical of those of a Less Developed Country. Few candidates were able to use the statistics to explain population growth. Instead, many calculated population growth.

Part (b)(ii) required a problem experienced by a country with the dependency ratio shown in (b)(i). Most candidates focused on the term ‘dependency ratio’ rather than the problems experienced.

Most candidates were able to identify one measure which planners could adopt to reduce the effect of population growth but faltered in respect of a second measure. Often they gave two aspects of the same measure such as two aspects of family planning.

Forty seven per cent earned between 0 and 3 of a maximum of nine marks and four per cent earned more than 6 marks.

Question 2

In Part (a)(i) candidates were required to define 'optimum population'. Few candidates were able to make a satisfactory link between numbers and resources. In (a) (ii) they were asked for two reasons why optimum population does not remain static. Many identified two factors but could not state how they operated to produce change. Part (b) produced poor responses – the procedure for calculating annual population growth rate. Some restricted their calculations to natural increases and failed to consider net migration. Even when they knew all the elements they were unable to describe the procedure. Five per cent scored more than six marks and fifty-six per cent between 0 and 3 marks.

Question 3

Part (a)(i) was relatively well done. Most candidates understood the concept of 'counter – urbanization' altogether a few confused it with urbanization. There was a fair response to Part (a)(ii), factors influencing the scale of counter urbanization. However, the emphasis was on traditional urban problems such as crime, pollution as opposed to improvement in transportation and improvements in technology. Few were able to outline the steps they would take to carry out a traffic count. Sixty-three per cent earned between 0 and 3 and just two per cent earned 7 to 9 marks.

Module 2: Hydrological, Fluvial, Costal and Limestone Environments

Question 4

In Part 4 (a) candidates had difficulty defining the term 'fetch'. They concentrated on wave rather than wind. In Part (b) they were asked to explain why the east coasts of islands in the Eastern Caribbean were regarded as high-energy coasts. They failed to sequence winds, fetch wave energy and erosive power. A few confused the concept of high energy coasts with electrical energy. Part (c) required a description of a feature created as a result of land rising relative to the sea. The majority could identify a feature but ignored the instruction to describe. Six per cent earned at least 6 marks while 70 per cent earned less than 4 marks.

Question 5

The stimulus was a diagram showing daily fluctuation in river discharge and in Part (a) candidates were asked for the unit of measurement and the factors that would account for the fluctuation. In both parts the performance was extremely poor. Some failed to consider the fact that the changes were daily. Too many confused the diagram with a storm hydrograph. Few knew the unit of measurement. In Part (b) they were asked to explain the formation of two surface features caused by the solution of limestone. Candidates do not know the difference between surface and underground features. When they knew them, they could not explain their formation. They confused features – clints and grykes. Only one per cent earned between 7 and 9 and 84 per cent between 0 and 3 marks.

Question 6

This was relatively well done as 11 per cent of the candidates earned between 7 and 9 and 41 per cent between 0 and 3 marks. In Part (a) they were asked for a definition of infiltration. Many confused it with percolation. Few were precise and so could not earn full marks. In Part (b) they were asked to use the diagram given to describe the changes in infiltration in relation to the duration of rainfall.

Most saw the relationship but concentrated more on infiltration while ignoring rainfall duration. They, therefore, could not earn full marks. Most correctly identified flooding as a consequence of the gap between run off and infiltration but could not develop the issue. In Part (c) they were asked to identity a factor other than rainfall that affects infiltration. The response to this was fair.

Module 3: Natural Events and Hazards

Question 7

This question had the best response in the entire paper. Seventy-seven per cent earned more than six marks and two per cent between 0 and 3 marks. They were able to classify the hazard events in Part (a) and also to describe how hazards could be exacerbated by human activities in Part (b).

Question 8

In Part (a) candidates were asked to use diagrams to assist in an explanation of the relationship between basin shape and flood responses. Responses were poor. Many considered drainage patterns rather than drainage basins. They did not appear to understand the meaning of flood responses. Diagrams were not well executed. In Part (b) times were given for the arrival of earthquake waves and candidates asked to identify the types of waves. This presented difficulty and candidates do not appear to be familiar with the characteristics of seismic waves. Five per cent earned between 7 and 9 and 72 per cent between 0 and 3 marks.

Question 9

Candidates were given several mechanisms for predicting volcanic eruption and asked to explain how they were used. In general, they could not explain how they were used as predictive tools. Part (b) required candidates to explain why more deaths or injuries result from earthquakes than from volcanic eruptions and few could relate this to predictive powers, the six of the areas affected or to the secondary effect of earthquakes. Four per cent earned more than 6 marks and 61 per cent between 0 and 3 marks.

UNIT 1

PAPER 02

SECTION A

Question 1

This was the compulsory map-reading question based on a map extract of Dominica. In Section (a) candidates were asked to describe the location of a town with the aid of a sketch map. **Surprisingly, a large number of candidates in several centres seemed to have been supplied with tracing paper to trace the map. They produced large maps which, obviously did not comply with the concept of a sketch map. This is the first time that this has been seen on such a large scale and should not be allowed to happen again**. Apart from this, candidates ignored the instruction to describe the location of the town and instead described the functions and the settlement pattern in the area.

Part (b) explains how the drainage pattern is influenced by the relief. Few candidates paid attention to the drainage pattern. They made no attempt to identify patterns but focused on a few of the rivers. Responses were extremely weak.

In Part (c), the questions based on the photographs were well done although there was a tendency to see more than what was actually shown.

SECTION B

Module 1: Population and Settlement

Question 2

In this question, candidates were provided with a map of the world and asked to name specific areas (a)(i) which they ably accomplished. In Part (ii) they were asked to describe the distribution of population in South America. Again, most failed to describe. Perhaps more effort should be devoted to ensuring that candidates understand what is expected from these terms. This is a recurrent problem and candidates lose marks because they do not follow instructions. Part (iii) was also based on the map of South America but candidates gave very general responses to a request for reasons for variations in population distribution within the continent. It seems that they were not familiar with conditions within South America. In Part (b), there were a few extremely good responses to this question which requested reasons for changes in the character of rural settlements. On the whole, however, it appears that candidates are not aware of the changes or reasons for them. Perhaps more attention should be devoted to rural settlements and up-to-date material sought. Candidates wrote extensively about rural urban migration and push/pull factors without addressing the central issue – the changes resulting from factors such as migration, technology and transport.

Question 3

In responding to Part (a)(i) candidates are expected to give the full name and use of the urban model shown. The Hoyt model was not a satisfactory response. A fair number of candidates were able to name it as well as to label the different sectors (ii). There was less success with Part (iii) which required reasons for the pattern and, therefore, a clear understanding of the Hoyt's rationale. A good response had to make the link between the pattern and the role of transport.

The responses to Part (b) were also unsatisfactory. Candidates were clearly more familiar with urban land use in developed than in developing countries and their answers were written with countries rather than with specific cities, as requested in mind. They also tended to describe rather than explain. A good response should have addressed the unplanned nature of many cities, the reasons for the presence of squatter areas, the highly differentiated residential areas, the strong emphasis on commercial/administrative over industrial functions.

There was a better response to Part (c), the problems affecting the quality of life in large cities in the developing world. However, it was clear that their discussions were not based on a knowledge of specific case studies. They were mainly rambling accounts that could not be applied to any country in the world.

Module 2: Hydrological, Fluvial, Costal and Limestone Environments

Question 4

This was the more popular of the two questions in Module 2. How do meanders develop? A surprisingly large number of candidates could not answer this question. Some described the development in terms of differential erosion of hard and soft rocks, interlocking spurs, the overcoming of obstacles. Some of those who were generally on the right track confused concave and convex, point bars and riffles. Few were able to give a coherent account and to show an appreciation of the complexity of the processes that one expects at this level. Some of the best efforts were more appropriate to the CSEC level.

In Part (b), candidates were required to explain how the shape and size of river channels affected their efficiency. Candidates had to appreciate the concept of efficiency to do justice to this question. They had to understand the role of friction and its influence on velocity and a good response would have had this concept as an introduction. This appreciation was generally absent. They confused channel shape and size with drainage basin shape and size. Shape was interpreted as plain view, whether the river meandered or "flowed straight" or in some cases, whether a valley was V-shaped or U-shaped. A few discussed the concept of wetted perimeter and hydraulic radius but could not develop the discussion to demonstrate the effects on efficiency. Candidates have an extremely poor understanding of basic geographical concepts and perform poorly on all questions which are based on such concepts.

Question 5

Relatively few candidates selected this question and it was not well handled. They did not understand the concept of a beach profile and this was demonstrated in the types of diagrams produced in Part (a). In Part (b) they were expected to explain how the composition of beach materials influenced the slope. Many compared sandy with shingle beaches. Some outlined the role of constructive and destructive waves in beach formation. In Part (c) they had to describe the role of sub-aerial and marine processes in the formation of cliffs. They were more familiar with marine than sub-aerial process. They were able to explain marine processes but not how these played a role in the formation of cliffs. Some placed the emphasis on cliff retreat.

Module 3: Natural Events and Hazards

Question 6

To answer Part (a) adequately, candidates had to appreciate that the secondary effects of earthquakes could be just as lethal as the primary. People are killed by the collapse of buildings but also by fires resulting from ruptured gas mains, from mudslides and tsunamis.

By and large, candidates were unfamiliar with the term seismic gap and there were numerous inventive and creative responses to this Part (b).

Part (c) was fairly well done – the stages of disaster planning. There was some confusion between actions generally considered as a response and with those regarded as belonging to recovery. However, on the whole, candidates were able to gain marks on this section.

Question 7

Surprisingly, a large number of candidates were unfamiliar with intrusive landforms. This is an area that is covered in the CSEC syllabus and candidates should have been able to build on this base. Generally, responses were poor, diagrams unacceptable. When the landforms were correctly identified little information was given on their formation.

The responses to Part (b) were poor largely because there was no appreciation of the difference between the theory of continental drift and plate tectonics. Candidates must see these as developmental processes.

UNIT 2

PAPER 01

Module 1: Climate, Vegetation and Soils

Question 1

The focus was on greenhouse gases and global warming. The definition of the 'greenhouse effect' was fair in Part (a) but there was some confusion about which of the gases was responsible for the effect in Part (b). On the role of greenhouse gases in global warming, there were a few excellent responses which earned full marks. However, the majority could not explain the role in allowing the entry of shock wave and re-radiation. Many explained the effects in terms of the depletion of the ozone layer and U-V rays. Four per cent earned between 7 and 9 marks and 59 per cent between 0 and 3 marks.

Question 2

Here too, there were a few candidates who gave excellent responses to this question and gained full marks on Parts (i) and (ii) which called for a labeling of a diagram illustrating conditions of atmosphere stability. However, most seem not to have recognized the graph. Neither did they appear to understand the concept of lapse rate in Part (b). They were credited for recognizing the change in temperature with altitude but few were specific enough to earn full marks. In Part (c) many gave the correct answer for absolute humidity but could not distinguish the essential difference between absolute and relative humidity. Fifty-one per cent earned between 0 and 3 and nine per cent more than 6 marks.

Question 3

Many candidates produced well drawn sketch maps of areas of tropical grasslands but too many wasted time trying to draw maps of the entire world. Some drew detailed cross sections for which they were not given credit. While they were able to identify the characteristics of the grasslands, most were unable to outline the ways in which the vegetation was adapted to drought. The percentage earning between 7 and 9 marks was 13 while 51 per cent earned between 0 and 3 marks.

Module 2: Economic Activity

Question 4

This question examined the candidates' understanding of economic activity and the responses were fairly good. They were able to describe the characteristics of primary economic activity required in (a)(i) and to give examples of quaternary activities. In so far as the latter was concerned, the response 'Hi tech' was not appropriate neither was 'computer.' In Part (b)(i), knowledge of the aims of CAP and its influence on agriculture (ii) in the EU was also quite good although few quoted the more recent reforms.

In Part (c), many candidates confused sustainable agriculture with subsistence agriculture and few mentioned the requirement to maintain productivity for the future. Roughly 20 per cent of the candidates earned in excess of 6 marks and 29 per cent between 0 and 3 marks.

Question 5

The focus of this question was tourism. The response to Part (a) – a package tour was fairly good and candidates earned marks for the inclusion of a group of services, fixed prices but there was some confusion with "all inclusive" and 'group tours'. Part (b) required higher-order reasoning and the performance here was not very good. In essence, they were asked why was it that some considered the economic benefits of tourism over-valued. They tended to argue in terms of disadvantages and negative impacts, but there were those who correctly argued for leakage of profits, low level employment. Arguments to contradict the view of the critics were not credited. Forty-nine per cent of the candidates gained between 0 and 3 marks and 12 per cent more than 6 marks.

Question 6

Very few candidates understood the term 'deindustrialization' and the performance on this question was extremely poor. Less than one per cent gained more than 6 marks and 93 per cent between 0 and 3. They confused the term with spatial changes which could be a result of deindustrialization. Others saw it in terms of rural/urban changes. As a result, they were unable to cite those factors contributing to deindustrialization and when they did they were unable to elaborate or give examples. Few mentioned the increasing emphasis on services in developed countries.

Module 3: Development and Disparity in the Caribbean

Question 7

In Part (a) few candidates were able to explain the strategy of 'import substitution'. Many attempted a literal translation and a variety of goods/services were 'substituted' rather than the expected goods previously imported. Candidates largely ignored the impact of the strategy on the location of the industry.

In Part (b) some wrote in general terms absent the factors influencing the location of industry and sometimes, chanced upon a part of the expected response. Most could identify the criteria used to demarcate homogeneous regions.

Question 8

This was very, very poorly done. The mechanism of "backwash effect" suggested by Myrdal was rarely mentioned and its role in the development of peripheral areas could not be explained. This situation could be the result of several factors. The candidates were not taught the model. The model was not taught in the context of industrial development and could not be applied. Even those candidates who performed well on other questions faltered on this. Similarly, few understood the need for a Gender Development Index In Part (b) and many rambled on about gender differences. Very few were able to state concisely the indices measured in the Gender Development Index in Part (c) and merely made intelligent guesses.

Question 9

In Part (a) the candidates were provided with a table showing Human Development Indices for three Caribbean countries and asked to make comparisons. There were many excellent responses. They described and compared the trends and the best answers were supported by evidence from the tables.

In Part (c) a few candidates did not link the fact that in the absence of pollution there were benefits to coral reefs and tourism, for example. Responses were fair.

UNIT 2

PAPER 02

SECTION A

Question 1

This was the compulsory map-reading question. Too many candidates cannot read and interpret maps and a greater effort must be made to integrate map-reading skills into the teaching of the content of the syllabus. For example, the factors affecting the distribution of population could be taught through the medium of maps.

In Part (a)(i), the identification of the vegetation on the map extract posed no difficulty. However, few could make a simple statement that the distribution was even/widespread; scattered or in isolated patches using map evidence. Far too many spent time describing and explaining the distribution of crops. In Part (ii), even when the vegetation was correctly identified, very few gave reasons for the pattern – relief, human activity.

In Part (b), candidates stated correctly that there was greater economic activity to the north than south of northing 64 but the elaboration that could have secured full marks were missing. Some confused economic activity with settlement and explained the factors influencing the settlement, for example, Port Antonio and the small villages. Others listed schools and hospitals.

Part (c) was devoted to the application of Spearman's rank correlation to an understanding of relationships between two variables. There is some disquiet about the request for a formula and the argument is that students ought not to be required to learn a formula but that the emphasis should be on the application. This is the only formula that students are required to learn and, it may be that we are underestimating the abilities of students. The fact is that more candidates knew the formula and correctly applied it for full marks than were able to state the null hypothesis or to identify the limitations of using the statistical test. Some answers were marked by careless calculations or transcripts when they knew the formula. The fact that so many did not respond to any part of this question indicates that the test is being ignored. This is the only tool required for the analysis of relationships among indicators.

SECTION B

Module 1: Climate, Vegetation and Soils

Question 2

Most of the candidates knew the weather system which affected the Caribbean. The main difficulty was in locating the systems on the map of the Caribbean. Cold fronts were placed too far south by which time they would have lost their character. Similarly, the majority knew the conditions associated with a cold front Part (ii). In Part (b)(i) the definition of a microclimate was not well done although the term 'micro' should have given an indication of its meaning.

Part (b)(ii) had both extremely good and very poor responses. In other words, those who know the answer knew it extremely well while others guessed. In some cases the candidates were able to identify the difference between urban and rural microclimates but they could not account for them.

Question 3

The soils which develop under coniferous forest were not on the syllabus and it is regrettable that the question appeared on the paper in (a)(ii). This was taken into consideration during the marking. The definitions of soil horizons were in the main inadequate in Part (ii). There was a fairly good understanding of soil-forming factors although some candidates confused physical and chemical processes. Responses also tended to be skeletal and the link between the soil- forming factors and the process was often not made. Soil conservation methods were well understood. Candidates should be encouraged to avoid different aspects of the same process – deforestation/afforestation.

Module 2: Economic Activity

Question 4

There is a great deal of confusion over the terms 'traditional' and 'non-traditional'. Many interpreted traditional as subsistence or peasant and excluded plantation altogether or was classified as non-traditional. Also, they were unfamiliar with the techniques in non-traditional agriculture and only a very few considered hydroponics or organic farming, for example. There were instances in which they did not distinguish between the effects of traditional versus non-traditional but rather discussed them together. In some cases the techniques were described but candidates made no reference to their influence on the environment.

Question 5

In Part (a) candidates were asked to draw a well-labeled sketch map showing the location of tourism development and locations unsuitable for this development. Such a sketch map could have included the location of a popular resort, the nearest town/capital or airport, an area of swamps or one exposed to prevailing winds or our steep rocky coasts. These are the locational issues that would be drawn to their attention in a discussion of tourism development in the Caribbean islands. Sketch maps were poorly executed. It was not always clear why an area was unsuitable.

Part (b) called for an explanation of factors influencing the nature and location of the tourist industry. They were expected to write about the characteristics of the sites, in some islands, proximity to airports or capital cities, the success of all-inclusive resorts in isolated areas. In so far as the nature was concerned, they should have been able to write authoritatively on ecotourism, heritage, sports and cruise ships. Their responses were unsatisfactory.

Part (c) required candidates to 'describe ONE conflict that arises because of the development of tourism'. Conflict was confused with disadvantages.

Module 3: Development and Disparity in the Caribbean

Question 6

Many candidates responded to this question. Most wrote at length about the impact of emigration in Part (a) and marks on this section were high. Those who performed badly did so because they confused emigration with immigration and ignored the manner in which the movement influence development.

Part (b) called for an evaluation of education strategies with respect to the reduction in inequalities. Many attempted to evaluate the strategies without mentioning the strategies. Others described the strategies but did not evaluate their effects on reducing inequalities. However, there were extremely good responses and high scores.

Question 7

This was not well done. Part (a) called for a discussion of regional disparities in wealth across the Caribbean. Many looked at disparities within countries. Responses were general and not supported by any Caribbean examples. They could have applied equally to Britain or the U.S.A.

The responses in Part (b) illustrated the problems students continue to have with models of development and their inability to apply these models to the real world. But it was pleasing to see that some candidates used the example of attempts to regenerate Kingston's inner city and discussed its limited impact because of lack of political continuity and high crime levels.

INTERNAL ASSESSMENT

Generally, the standard of the internal assessments was low. Skills were not carefully chosen, especially for Unit 2. Often where skills were appropriate, the actual data and analysis did not reflect use of the skills.

'Sampling methods' were often stated as the skill, but not utilized. Questionnaire administration was heavily used in Unit 2.

Many of the studies were very descriptive. Graphs and tables were described and summarized, but little analysis and discussion done.

Cover Page	Must be on the cover, with the research question/statement clearly outlined.
Purpose	Variables must be clearly stated and some explanation given of the research problem.
Methodology	If field work is involved the candidates must state clearly when and where and give details of the technologies used. If a questionnaire is used, a sample must be included in the appendix; the number of respondents, location and method of sampling must be given. If secondary data are being used the source must be clearly stated, the method of presentation, analysis including formulas must be given. Care must be taken that data collected lends itself to analysis and interpretation.
Presentation	Inappropriate graphs were often used, for example, line graphs were used to show discrete data. The fonts were often too small. Many figures lacked: figure numbers, titles, axes, north arrow, frames, scales and keys. Figures were often poorly drawn, with text in pencil. Photographs were often not labeled. Maps were not used effectively and not given appropriate titles. Study areas not always highlighted in map and standard colours not often used (for example, rivers drawn in red, orange, and green).
Quality and Description of Data	Data were sometimes of poor quality. For example, the testing of lapse rate with five temperature readings at different places, or basing an analysis on one interview.

Students often gave detailed descriptions of what is already clearly given in figures.

Photographs and maps were not used effectively. Where photo analysis is the skill, the student often used secondary data, rather than gathering the data from the actual photos or maps.

Analysis

Generally poorly done. There was little attempt to relate findings to expected outcomes, textbooks or accepted models. For example, students found that river velocity is decreasing downstream, but made no attempt to explain the anomaly. Factors influencing industrial location were examined but Weber's model was not used or tested and no locational analysis was done.

CARIBBEAN EXAMINATIONS COUNCIL

REPORT ON CANDIDATES' WORK IN THE CARIBBEAN ADVANCED PROFICIENCY EXAMINATION MAY/JUNE 2007

GEOGRAPHY

GEOGRAPHY

CARIBBEAN ADVANCED PROFICIENCY EXAMINATION

MAY/JUNE 2007

INTRODUCTION

Geography is a two-Unit subject with each Unit consisting of three Modules: Unit 1 – Population and Settlement; Hydrological, Fluvial, Coastal and Limestone Environments; and Natural Events and Hazards; Unit 2 – Climate, Vegetation and soils; Economic Activity; and Development and Disparity. Both Units are examined by three papers. Papers 01 and 02 are external examinations while Paper 03 is the Internal Assessment examined internally by the teacher and moderated by CXC.

Paper 01 consists of nine compulsory short-response questions with three questions based on the contents of each Module. Each Module contributes 27 marks. The Paper contributes 30 per cent to the Unit.

Paper 02 has a compulsory mapwork question (Section A) based on the contents of the three Modules and six questions in Section B with two questions based on the contents of each Module. Candidates are required to answer one question from each Module in Section B. Each Module contributes 45 marks to the total 81 marks for the Paper. Paper 02 contributes 50 per cent to the Unit.

Paper 03, the Internal Assessment, contributes 54 marks or 20 per cent to the Unit. Each Unit is examined by a single project.

DETAILED COMMENTS

UNIT 1

PAPER 01

Module 1: Population and Settlement

Question 1

The stimulus in Part (a) was a diagram showing the relationship between per capita GDP and total population. The question was well done with most candidates scoring full marks.

The vast majority of candidates understood the concept of optimum population but many had difficulties in relating it to the quality of life in Part (b).

In Part (c), candidates were asked for the characteristics of a country that is overpopulated. Some students did not understand the term ‘characteristic’. For example, poverty is a characteristic of an overpopulated country. But, all overpopulated countries are not affected by high levels of crime and violence, nor do they all face problems of traffic congestion.

Question 2

In Part (a) candidates were asked to define the term 'dependency ratio'.

There was a good response to this although errors were made in respect to the age cohorts that comprised the economically active group. In Part (b) (i), there were careless arithmetical errors in the calculation of the dependency ratio and many candidates did not express it as a percentage and so could not be awarded full marks. In addition, the rounding up of decimal places presented difficulties to some candidates. In Part (b) (ii), candidates were asked for the 'implications of the dependency ratio' and the term seemed to present a problem. This was one of several questions that showed candidates' unfamiliarity with instructional terms.

Question 3

Part (a) comprised a model of urban structure which candidates were asked to name. The model was frequently confused with others; the name Burgess was omitted. Concentric model is not enough since the diagram takes the form of concentric circles. One of the most common mistakes encountered in Parts (a) (ii) and (iii) was the failure to identify zone by number so that there was no way of knowing which zone was being described.

On the whole, this question was quite well done.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Question 4

In Part (a), candidates were asked to name three ways in which water was stored within a drainage basin. Although the response to this part was fair candidates confused 'stores' with 'flows'. Many listed infiltration and base flow as storage components.

Candidates offered the same explanation for trellis and rectangular drainage. Rectangular and trellis drainage are two distinct patterns resulting from two different processes. This is an error made in a text used by students, and teachers should make the correction if this particular text is used.

Question 5

In Part (a), candidates were asked to explain one condition under which braided channels may develop.

A critical aspect of the correct response is the need for a **change** in velocity of the river rather than generally low velocity. Some candidates confused braiding with delta meander formation.

In Part (b), candidates were asked to explain how bird's foot deltas were formed. The diagrams which accompanied the responses were poor. The majority of candidates described the formation of deltas and ignored the specified 'bird's foot'. In general, this question which covered material that form a part of the CSEC syllabus, produced the lowest scores.

Question 6

Part (a) dealt with uvalas which are features found in some limestone areas and common in Jamaica. A significant percentage of the candidates omitted the question or presented them as features of river valleys or coasts. Many candidates where unfamiliar with this term. Few candidates correctly described the sequence of sinkhole formation, collapse and lateral expansion.

Part (b) tested the candidates' knowledge of the factors affecting the development of coral reefs. There were many good responses. One of the main problems encountered was the failure to specify temperature conditions and the reliance on general terms such as 'ideal', 'optimum' or 'right'. The use of the terms 'tropical' and 'equatorial' in the question should have indicated that climate conditions were expected.

Module 3: Natural Events and Hazards

Question 7

In Part (a), candidates were asked to give the characteristics of a flash flood that created hazardous conditions. In general, this section was fairly well done. However, many candidates gave descriptions of the consequences of flash floods, focusing on the damage caused rather than on the nature of the event.

Part (b) requested the effects of events associated with volcanic hazards. Candidates were able to describe the events – gas emissions, lahars and pyroclastic flows – and to give specific examples of areas where these created hazardous conditions. Many produced extremely good responses to the effects. In some cases, however, they confused pyroclastic flows and lahars as well as their effects.

Question 8

For Part (a), the stimulus in this question was a map of Iceland bisected by a plate boundary and candidates were asked to name the plates, the bisecting ridge and the ocean. Many candidates were able to identify these features.

In Part (b), candidates were tested on seismic waves and their movements. Responses were extremely weak. Some candidates may have guessed the correct response since they were unable to give a reason for their choice.

Question 9

Part (a) of this question was based on the tendency of victims of disasters to return to high risk areas. Candidates performed extremely well on this section, giving good accounts of the reasons for this tendency. However, many lost marks because they used different words to describe the same underlying motive – "attached to the area" and "family ties" or "familiar environment".

Part (b) tested the candidates on community mitigation measures and this, too, was well done. Not surprisingly, the focus was on preparation for hurricanes.

PAPER 02

SECTION A

Question 1

This was the compulsory question on the application of practical and map-reading skills and tested the candidates' knowledge of specific aspects of settlement, limestone characteristics and hazards. A common problem encountered in both Units was an increasing reluctance to identify locations by the use of grid references. This should be corrected.

Part (a) (i) required candidates to describe settlement patterns in relation to the map extract. Too many gave definitions of settlements. When the map extract was referred to, sufficient care was not exercised in describing the occurrence. For example, a linear settlement was often described as being along a main road when it was along a Class C road. The term 'main' was given to any category of road. There was confusion with regards to the terms used for the types of settlement – nuclear instead of nucleated. Isolated and dispersed are two different types. A description of the 'distribution of settlements' is not the same as a description of the 'types of settlement'.

Part (b) was poorly done by most candidates. Most candidates gave an account of limestone topography but did not provide the requested map evidence for the presence of limestone.

In Part (c), a grid unfortunately was not included and allowances were made for this omission. Those who drew grids performed extremely well on this section.

In Part (d) (i), responses to this section - the attraction of a particular site to a manufacturer – were satisfactory. Unfortunately, in Part (d) (ii), candidates wrote in general terms about hazards without relating the information to the site in question.

SECTION B

Module 1: Population and Settlement

Question 2

This question, which tested the candidates' knowledge of population structure, was the most popular on this paper. However, the overall performance was not very good. While most candidates were able to identify the features of the population pyramids presented in Part (a), they were less successful in accounting for the shape.

In Part (b), many candidates restricted their accounts to the base or apex of the pyramid rather than address its overall shape. Some gave general information on age-sex pyramids.

In Part (c), candidates were asked for the implications for a country showing the age structure depicted. Again, the candidates appeared to have been defeated by the meaning of the word 'implications', interpreting it as recommendation or solutions. They were unable to distinguish between 'social' and 'economic'.

Question 3

In Part (a), candidates did not fully understand the concept of counter urbanization; a process associated with developed countries and tended to confuse it with suburbanization. Few gave credit to technological developments, the shift from manufacturing to services and improvements in technology. Instead there were very simplistic descriptions of crime and overcrowding in city centres and efforts by governments to reduce the urban sprawl.

In Part (b), most candidates were able to identify housing problems common to developed and developing countries in Part (i) and to compare problems in Part (ii). However, too many candidates committed the all too familiar error of writing separate descriptions as a means of comparison. Candidates were not given full credit for this approach. Teachers should discourage the tabulation of answers when comparisons are requested.

Part (c) focused on weathering under different climate zones and produced quite good results with many candidates displaying a good grasp of weathering processes. Some candidates, however, produced general descriptions of weathering without naming the type. In addition, there were far too many instances in which weathering was confused with erosion or the weather.

Question 5

Part (a) (i) focused on the karst landscape. This appears to be a neglected area. Far too many candidates could not give a simple definition of this type of landscape. Others represented it as one of the features found in limestone regions. The important element in the description is the solution of limestone.

In Part (a) (ii), candidates were required to explain why karst features develop on only a small proportion of limestone that covers the earth. One question demanded an application of knowledge of the factors necessary for the formation of karst landscapes – the quality of the limestone and the climate vegetation. Responses were extremely weak.

In Part (b), candidates were asked to explain how two factors cause flood plains to be most well developed in the lower courses of rivers. Here, too, the responses were poor. Some candidates described features of the lower course. They could not explain the interplay of erosional and depositional forces. There were several misconceptions, for example, that velocity automatically decreases at the plain stage.

Responses to this question revealed that candidates lacked analytic and interpretive skills and that few of them can perform above the purely descriptive level.

Module 3: Natural Events and Hazards

Question 6

Part (a) of this question tested the candidates' knowledge of the benefits of folded and faulted landscapes. In general, candidates performed poorly. Some described ways in which folded and faulted landscapes were formed. Others were able to state benefits but could not elaborate or give specific examples.

In Part (b), candidates were tested on their knowledge of risk avoidance and risk reduction strategies. They did not distinguish between reduction – building standards, retro-fitting; and avoidance – land use regulations, education. Moreover, the question asked for strategies that could be adopted by governments. Candidates wrote extensively on hazard management rather than focus on those strategies that could be implemented by governments.

Question 7

This question tested knowledge of the consequences of sea level rise and features at convergent and divergent plate margins. The majority of candidates attempted this question and while most responses were weak there were a few excellent responses.

In general, candidates were aware of the consequences of sea level rise in Part (a), but far too many focused on causes rather than the consequences.

The responses to Part (b) suggested that most candidates have a fairly good grasp of plate tectonics and features of plate boundaries. However, they struggled in making clear comparisons between the features and the movement. Many comparisons were not touched on at all, for example, type of lava and resulting land forms, type of eruption.

UNIT 2

PAPER 01

Module 1: Climate, Vegetation and Soils

Question 1

This question tested the candidates' understanding of adiabatic processes. The very few who understood the concept and mechanism were able to gain full marks. The majority, however, floundered. In particular the crucial concept of temperature change **without** heat exchange between the atmosphere and the rising parcel of air was invariably omitted in Part (a) (i). The changes associated with rising and sinking needs to be fully explained.

In Part (a) (ii), many candidates could not explain the term 'lifting condensation level'.
Parts (b) (i) and (ii) tested the application of DALR to conditions of temperature and height. Some applied the ELR which was inappropriate given that the parcel of air was moving. Others did not use any lapse rate but treated the issue as a straight mathematical ratio, that is, if the temperature at 4000 m is –10 C then at 2000 m it would be $\frac{-10}{4000}$ 2000. This, of course, is not what is expected from geography candidates.

Question 2

This question tested the understanding of soil development on hill slope. Most of the candidates understood the role of the changes in gradient on processes in Part (a) but were unable to elaborate on the results – thin/thick soils, dry/waterlogged soils – to earn full marks. In Part (b), method of vegetation sampling was generally done well.

Question 3

Part (a) of this question required candidates to describe the properties of soil horizons. Most candidates gave satisfactory responses. The weaker candidates focused on descriptions of soil horizons and of the processes resulting in the formation of horizons such as various type of translocation. Part (b) focused on the role of crop rotation in soil conservation and was also well done.

Module 2: Economic Activity

Question 4

The informal sector in Part (a) and difficulties experienced by manufacturing industries in the Caribbean in Part (b), were the areas tested in this question.

Part (a) posed some difficulty. Candidates wrote a great deal about the benefits and characteristics of the informal sector rather than the reasons for the growth of the sector, that is, the ease of entry, the lack of job opportunities in the formal sector. In Part (b), candidates did not identify the difficulties being experienced as requested and even when they identified a difficulty their responses took the form of very brief statements.

Question 5

Part (a), the assumption of Von Thunen's model was well done as was Parts (b) (i) and (ii), the calculation of locational rent and the construction of the bid-rent curve.

Question 6

In Part (a), candidates showed a good understanding of the reasons for the growth of world tourism and the majority earned maximum marks. The performance on Part (b) which was based on a table showing tourist arrivals in Barbados was fair. The major weakness here was that candidates gave reasons for the pattern of arrival rather than a description of the pattern as requested. Many of the descriptions were simplistic consisting of a statement as to whether the figures moved up or down, month by month. The majority of candidates were unable to give a broad picture.

Module 3

Question 7

The focus of this question was on the concept of a region. In Part (a), there was confusion between types of region and the application of the concept at different levels, for example, local and international. The candidates were unable to justify the need for regional planning as a result and gave very general reasons in Part (b).

Question 8

This question posed grave difficulties. Candidates seemed not to understand the term 'spread effects' and, therefore were unable to relate it to regional integration in Part (a). In Part (b), there was some confusion of the models of Rostow and Friedmann but most were able to list Friedmann's four stages of growth. Candidates did not understand the term 'demographic'! They described social, economic and geographic constraints to development rather than characteristics of the population.

Question 9

The stimulus in this question was a table in which candidates were asked to insert the measurements used in the Human Poverty Index in Part (a). Many were unable to do this due to lack of basic knowledge. Similarly, few candidates were familiar with other measures proposed to overcome the deficiencies of the HDI. They were not acquainted with gender empowerment and development measures, for example.

PAPER 2

Question 1

Parts (a), (b) and (c) of this compulsory map work question was based on a map extract of Spanish Town, May Pen, Jamaica, on a scale of 1:50,000. The performance on this section was better than that obtained in recent years. Candidates were able to identify the different types of vegetation in Part (a) (i) and fewer than in previous years listed cultivated crops. There were also fairly good attempts to describe the distribution of the vegetation types but, here too, grid references are required. Part (iii) was not as successful since candidates, while able to explain the influence of a physical factor on the nature of the vegetation, experienced problems in explaining human interference. They could have explained alterations in the vicinity of human settlements and degradation as the road network extended into woodlands.

Part (b) focused on reasons for the dominance of sugar cane cultivation as did Part (c) which asked for an account for the economic activity in a section of the map extract.

Part (d) was based on a table showing selected indices of development and the question tested knowledge of Spearman's rank. By and large, candidates performed well on all parts except Parts (d) (iii) and (iv) where they stated the relationship in general terms and did not appear to be acquainted with the need for tests of significance. Few candidates also knew that Purchasing Power Party PPP, was per capita GNP adjusted for the cost of living.

Question 2

This question tested the candidates understanding of the pattern of wind circulation in the upper troposphere and the factors affecting the formation of tropical grasslands. The performance on both parts was poor. Candidates wrote about the tricellular model which is not applicable to the upper troposphere. Few mentioned Rossby waves and Jet streams and those who did clearly had a poor understanding of the circulation. Almost no one appreciated the fact that jet streams are bands within Rossby waves. More effort must go into the teaching of physical geography.

In Part (b), candidates were asked to explain the role of climate and human factors in the formation of grasslands. Within tropical grasslands there are areas where edaphic conditions favour the growth of trees. But candidates could not be given full credit for focusing entirely on trees. Grasses are affected by drought and the fires that frequently sweep over the land, but there was an even more fundamental problem in the approach to this question. Candidates interpreted the question as the factors leading to the degradation of grasslands and desertification rather than the formation.

Question 3

In Part (a), candidates were required to write an essay describing the challenges and opportunities for the development of the tropical rain forest. The terms "challenges", "opportunities" and "development" were all misinterpreted by a significant proportion of the candidates. They could not see the need to maintain biodiversity, for example, as a challenge or the discomfort of environmental conditions, or the need to balance development and the needs of indigenous peoples and diversity. They could not identify opportunities for the development of drugs or of ecotourism. Candidates should ensure that essays include an introduction and a conclusion.

Part (b) called for the identification of different types of soil structure and most candidates omitted this section. There appears to be a fairly good understanding of the role of climate and vegetation; and the development of the soils of the tropical rain forest. They must, however, be clearer on the role of different aspects of climate – temperature, rainfall – on soil development.

Question 4

The diagram in Part (a) was an illustration of the changing patterns of employment typical of most developed countries, that is, the decline in manufacturing and the increasing importance of services. Candidates were asked to account for the pattern and their responses should have addressed the decline in heavy traditional industries; the shift to knowledge-based industries, employing fewer, highly skilled personnel, tertiarisation, rising incomes, the demand for services and the growth of tourism. The responses were very poor and not developed around specific examples.

Part (b) tested knowledge of recent trends in the export of primary products and candidates were invited to present opposing arguments for preferential treatment. Responses lacked depth. Candidates did not have a significant grasp of the status of the market for Caribbean products.

Question 5

The processes stimulating diversification of the industrial base in developed countries was the focus of Part (a). Many candidates addressed the factors affecting the location of industries. They did not address changes in technology, transportation, and demand for luxury goods.

Candidates were required to assess two advantages and two disadvantages of the development of all inclusive resorts. The responses to this section were fairly good. A few discussed tourism in general and not 'all inclusives'.

Module 3

Question 6

In Part (a), candidates were asked to describe types of transportation in the Caribbean and the problems associated with each type. Some listed the different means of moving by road, for example, bus and truck, but, in general, the listing of types – road, rail, air – was satisfactory. Many did not relate the problems to the territory which they were supposed to name and gave a general description of the problems associated with different types of transportation.

Part (b) was based on a quotation pertaining to the development of cores and peripheries under colonialism. Material for the question is clearly outlined in the Manual on Development. The plantations, mining towns and capitals were cores and the rest of the country, the peripheries. This was not well addressed. Many simply described the effects of slavery. Others interpreted Britain as core and the Caribbean countries as periphery which was, irrelevant in this context.

Question 7

The response to this question was very high. In Part (a), candidates were required to describe disparities existing between two Caribbean countries refering to physical economic and social disparities. Many did not identify specific countries. Discussions lacked organisation and there was a failure to isolate physical, economic and social factors. There was an imbalance in favour of economic disparities and some confusion in definitions. For example, there are disparities in relief, size, climate; in GDP, and employment; in education and health.

Part (b) tested the candidates' knowledge and understanding of post-colonial industrial strategies and the continuing importance of cities. Most candidates ignored 'industrial'. Most had little to say besides import substitution and even here their knowledge was sketchy and it was not discussed in the context of the importance of cities. Few candidates mentioned export processing zones (EPZs)/free zones, and data processing.

INTERNAL ASSESSMENT

A few areas showed improvements over 2006. Generally, candidates observed the word limit and there was an improvement in the cover page. A few of the studies were extraordinarily good and generally, these were in physical geography. The majority, however, continue to be weak and teachers continue to be lenient in the opinion of the Examiners.

Many of the hypotheses were weak: In many cases, the methodology was not appropriate given the purpose of the study. Terms such as 'random sample', 'stratified random sample' were used loosely and incorrectly.

There was a failure to distinguish between the perception of a group and the reality. A sample of persons could give information on their views of a problem and they may be right, but this cannot be presented as the causes of the problem. Much of the problems stemmed from the misuse of questionnaires.

It is clear that some centres are soliciting help from extra-department, extra-school sources. Some of the candidates clearly state the nature of that assistance. However, in many instances it was difficult to assess the actual work for which the candidates were responsible. Candidates wrote “laboratory tests were done” but not who did them. Moreover, when help comes from experts outside the discipline there is the danger that the resulting study may not be a geographical one. An expert can teach a technique but that has to be applied to the solution of a geographical problem. A study based on an experiment to determine whether a stand of trees was mature or immature is not geographical but the technique could be used to determine the status of two stands subject to different types of pressure. There must be no doubt in the Examiners’ minds that the work is that of the candidates. In a few cases, questions about this were raised.

For the most part there was no depth to the analysis. The type of texts appearing in the bibliography is ample evidence that candidates are not reading widely. In many cases, the references are to texts in use at the CSEC level. There is little reading outside of school texts.

It is expected that Maps must support the texts and should not be merely decorative. In a few instances there were more maps and tables than texts. This is surely a waste of the students’ time. The skills used must be appropriate to the Unit. There are a few schools that are still using the old syllabus and not the Amendment to the Syllabus. A single project is required for each Unit. Most of the problems could be avoided by vigilance on the part of teachers. It is not fair for candidates to be penalized for what can be considered ‘teacher errors’.

CARIBBEAN EXAMINATIONS COUNCIL

REPORT ON CANDIDATES' WORK IN THE CARIBBEAN ADVANCED PROFICIENCY EXAMINATION MAY/JUNE 2008

GEOGRAPHY (TRINIDAD AND TOBAGO)

GEOGRAPHY
(TRINIDAD AND TOBAGO)

CARIBBEAN ADVANCED PROFICIENCY EXAMINATION

MAY/JUNE 2008

INTRODUCTION

Geography is a two-Unit subject with each Unit consisting of three Modules: Unit 1 – Population and Settlement; Hydrological, Fluvial, Coastal and Limestone Environments; and Natural Events and Hazards; Unit 2 – Climate, Vegetation and Soils; Economic Activity; and Development and Disparity. Both Units are examined by three papers. Papers 01 and 02 are external examinations while Paper 03, the Internal Assessment, is examined internally by the teacher and moderated by CXC.

Paper 01 consists of nine compulsory, short-response questions with three questions based on the content of each Module. Each Module contributes 27 marks to the total 81 marks for the Paper. Paper 01 contributes 30 percent to the Unit.

Paper 02 has a compulsory map work question (Section A) based on the contents of the three Modules and six questions in Section B with two questions based on the contents of each Module. Candidates are required to answer one question from each Module in Section B. Each Module contributes 45 marks to the total 135 marks for the Paper. Paper 02 contributes 50 percent to the Unit.

Paper 03, the Internal Assessment, contributes 54 marks or 20 percent to the Unit and is examined by a single project.

DETAILED COMMENTS

UNIT 1

PAPER 01

Module 1: Population and Settlement

Question 1

Part (a) required definitions of infant mortality rate and crude death rate. Most candidates could accomplish this task and those who lost marks did so because the definitions were incomplete, for example, no unit was indicated for the time period. In Part (b), candidates were required to identify patterns of infant mortality rates only. However, many considered the relationship between infant mortality and life expectancy which was unnecessary. The responses to Part (c) – reasons for the pattern of infant mortality – were good as most saw its relationship to poverty, poor sanitation and poor health services.

Question 2

The definitions world population growth given in Part (a) were good. However, in Part (b), many confused Malthus' model of population growth with the Lorenz curve. Some who did identify it correctly were unable to name, in Part (b), the two curves – food and population, and in Part (b) (iii) to explain how they were related – arithmetic and geometric with population growth overtaking food supplies at the intersection of the two curves.

Question 3

This question examined knowledge of migration and was well done. However in Part (a) (i), candidates should use acceptable geographical terms for migration, for example, 'internal' instead of local or domestic; 'international' rather than the more precise inter-regional. In Part (a) (ii), most candidates were familiar with the reasons for international migration.

Part (b) focused on counter-urbanisation in more economically developed countries (MEDCs) and presented problems to very few candidates.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Question 4

The stimulus for Part (a) was a diagram showing stream order according to Strahler and candidates were required to label two first order streams in (i) and the highest order segment in (ii). Generally, this was very well done although there were some miscalculations and in some cases a failure to number the highest order segment.

Part (b) required a definition of the term 'bifurcation ratio'. A formula is not a definition although as an expansion, a formula could be included. To define is to say what something is. Similarly, there was no need to calculate the ratio.

Part (c) was based on stream geometry and it was clear that candidates did not understand the concept as the responses were poor. While candidates were able to identify an effect of human activities on flows within a river channel, they could not outline how flows within a channel were affected – for example, with respect to velocity, volume, path.

Question 5

Responses to this question were extremely poor. In Part (a), many candidates could not complete the diagram showing sources of exogenetic load and could not define 'load' in Part (b). In Part (c), instead of identifying the types of load (suspended, solution and bed), candidates described how a river transports its load. Majority of candidates were unable to explain the role of critical erosion velocity in the transportation of the load of a river as required in Part (d). A thorough explanation of the concept of critical erosion velocity is necessary.

Question 6

Responses to this question were very good. Candidates, in general, were able to identify the different types of coral reefs required in Part (a), the factors encouraging their development in Part(b) and their vulnerability to the effects of global warming (rising sea levels, dust, coral bleaching and salinity) required in Part (c).

Module 3: Natural Events and Hazards

Question 7

This question had very good responses. A few candidates had problems with the classification of natural hazards required in Part (a) and in clearly distinguishing between a 'natural hazard' and the 'hazard realized' that is, the natural disaster in Part (b). Part (c) focused on processes at plate margins and was well done.

Question 8

In Part (a), few candidates appreciated the fact that the movement caused by Rayleigh seismic waves was very similar to that of water waves. However for Part (b), they had a good understanding of the ways in which human activities increased the effects of flooding. The focus on the dumping of garbage speaks eloquently of current practices. In Part (c), candidates were asked how the size of a river basin regulates the response of a river to precipitation. The majority found this an easy task although only few articulated concepts such as lag time which is expected from geography candidates at the advanced level.

Question 9

Responses to this question were surprisingly poor. For Part (a) candidates seemingly had no idea of the shape of Hawaiian–type volcanic cones. For Part (b), they could not enumerate the value of faulted landscapes, for example, scenic, minerals and therapeutic. In Part (c), candidates could not explain how the movement of plates over hot spots resulted in volcanic chains.

UNIT 1

PAPER 02

Question 1

The map of Nevis provided was on a scale of 1: 25,000.There was an improvement in standard of candidates' performance on this question.

Part (a) (i) focused on the characteristics of the settlement pattern. The emphasis should be on patterns. What was the dominant pattern? What other patterns were represented and where? The question of where could be addressed by the use of grid references rather than simply place names. Candidates were able to describe the location of Charlestown including key terms, such as coastal, elevation, road intersection and nearby features. However, they were unable to use these factors of the location of the town to explain why the location was important, for example, port, protected harbour, focus of transportation routes.

Part (b) (i) required a description of a section of the map area with the assistance of a sketch map. Generally, the sketch maps were poor although a few were excellent. The sketch map should show the main relief features – a numbered contour line to demarcate the upland areas in the south of the section and the northwest, the coastal strip and cliffs. There should be a title and a key. For some very odd reason some candidates were given tracing paper. Candidates who use tracing paper will be penalized. The skill that is being tested is the ability to draw sketch maps and not to trace features. Having drawn the sketch maps, it should be a simple task to describe the main features. Some candidates produced excellent descriptions. Others gave disorganized accounts often including vegetation and settlement.

Part (b) (ii) was the weakest section. Candidates were asked to compare the river valleys. Few distinguished features of the valleys, for example, straight, winding, steep slopes. In Part (c), the responses to the questions based on the photograph were fairly good.

Module 1: Population and Settlement

Question 2

The stimulus for Part (a) was a graph showing the percentage urban population for Europe and Africa for the years 1960, 1990 and 2004. Candidates were asked to compare aspects of the growth in the two areas. There were many instances in which candidates offered explanations for the growth in the two areas. The formats of the questions are the same every year. Teachers should familiarize candidates with it and explain that these questions are based solely on the interpretation of the stimulus material. Explanations may be requested as follow–up questions. However, most candidates were able to make the comparisons requested.

In Part (b), they were asked to describe factors influencing the location of urban settlements in the Caribbean. Candidates were expected to discuss factors, such as, relief, shelter from winds, sheltered harbours and history. Responses were fair but one very common error was to see the solution in terms of the attraction of urban areas to migrants. In Part (c), the majority of candidates displayed an understanding of the physical and economic factors that influence population distribution in a Caribbean island.

They were able to describe what factors encouraged and what discouraged. Very few were able to discuss historical factors influencing distribution – post emancipation subdivision of estates, subdivisions for ex-indentured servants, influence of the plantation system.

Question 3

The problem encountered in Part (a) was similar to that described for Question 2 (a). Although candidates were required to describe the changes in the age structure of the Chinese population shown on the population pyramid, they tried to account for the changes. Moreover, although the question was allocated four marks only, they tended to write extremely long responses. In general, candidates gave accurate descriptions of the characteristics of the central business district (CBD) required in Part (b) although a few included activities that were not characteristic of the section. Part (c) focused on the benefits and problems of urbanization and had fair responses from most candidates. The problems were better developed than the benefits.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Question 4

In Part (a), the candidates were required to draw a well-labelled diagram of the cross profile of a rejuvenated river valley. Many produced excellent diagrams. Some drew the long profile of a river. Many were not properly labelled, were not enclosed in borders but left, as it were, hanging in an untidy manner.

Part (b) required candidates to explain how paired alluvial terraces are formed and how ground water storage is created. Candidates had the general idea that there was a link between paired alluvial terraces and rejuvenation but the process was poorly understood. Responses to Part (b) (ii) were better although there were candidates who appeared to believe that the water table was a solid object. In addition, there is still the confusion between infiltration and percolation. There were many good responses to Part (c) which focused on the impact of human activity on ground water levels. Some of the responses were directed to water quality rather than water level.

Question 5

The sketches of the storm hydrograph were, in general, quite good although the problems with labelling are again evident.

In describing two factors that influence the volume of a river, candidates did not appear to know that volume and discharge are the same. Discharge is affected by factors such as climate, relief of the drainage basin, vegetation, soil and by the activities of man. In Part (c), they were required to examine ways in which depositional processes influenced landform development on an identified coastal area. Responses were poor. Many confused erosional with depositional processes. Many failed to make the link with a specific coast.

Module 3: Natural events and Hazards

Question 6

In Part (a) (i), candidates were presented with a specific plate boundary and asked for the name of the type and in (a) (ii) for two landforms formed by the movement. Responses were poor as they lacked specificity. The meeting of the Eurasian and Indian plates forms a convergent or collision boundary and has resulted in the formation of the Himalayas and the Plateau of Tibet. Part (b) (i) focused on measures for improving emergency preparedness for flooding. The responses were poor as many described measures to reduce flooding. In Part (b) (ii), the plan to improve the national response was also poor. A plan should include activities for all stages; before (pre), during and after (post).

Question 7

Relatively few candidates attempted this question. In Part (a), candidates were given a diagram showing a model of risk or hazard and asked to describe the concept as shown in the diagram. The diagram clearly showed risk at the intersection of a natural event and a vulnerable population. Again, most candidates ignored the diagram and gave their own definition of risk. Candidates must read the question carefully. The marks assigned to skills or individual questions may be low. However, if candidates fail to gain these marks they could lose up to approximately 12 marks and this could make a difference to the final grade.

Part (b) focused on constructional features produced by volcanism. The performance was weak. Some confused this with plate tectonics. Others gave examples of intrusive features. The descriptions of the different types of faults in Part (c) did not rise above the CSEC level. Here, too many described the movement of plates. The diagrams were unsatisfactory.

UNIT 2

PAPER 01

Module 1: Climate, Vegetation and Soils

Question 1

The stimulus for Question 1, was a map of the world and in Part (a), candidates were required to insert the SW monsoon and NE trades. Most candidates had the directions right but too little attention was paid to the wind belt. There were many good responses to Part (b) which focused on the factors controlling atmospheric motion as well as to Part (c) which focused on the characteristics of jet streams.

Question 2

The majority of responses to Question 2 were also good. Knowledge of weaker systems and symbols seems adequate in Parts (a) and (b) as well as the characteristics associated with hurricanes in Part(c) and mitigation measures in Part (d).

Question 3

This question examined the candidates' knowledge of the tropical rain forest and, in general the performance was good. They had a good grasp of the structure of the rain forest in Part (a) (i), its composition in Part (a) (ii) and knowledge of its importance in terms of biodiversity and climate stability in Part (b).

Module 2: Economic Activity

Question 4

This question was largely based on Von Thunen's model of agricultural land use and again most candidates performed creditably. In Part (b) (i), their interpretation of the relationship between locational rent and distance from the market was very good, as was their knowledge of the effect of changes in transportation required in Part (b) (iii). However, many did not quite grasp the concept of locational rent-profit as they confused it with the rent for property.

Question 5

Part (a) (i) required a definition of the term 'isodapane' and responses were generally weak. There were definitions of isobars and isotherms. In Part (a) (ii),many could not use the diagram showing transport costs to calculate costs for industries located at different intersections. Responses to Parts (b) and (c) were fair but teachers must clarify the role of the size of countries in development. Small island developing states (SIDS) face specific problems. However, this does not mean that the islands are too small to develop manufacturing industries. Hong Kong and Singapore have done so successfully. Capital, energy costs, and reliance on imported raw materials are important impediments.

Question 6

The stimulus in Part (a) comprised a table showing international tourist arrivals for various years and candidates competently identified the trends. However, the performance in Part (a)(ii) was not satisfactory because they failed to use their knowledge of the factors affecting world tourism to explain the trends they described. In Part (b), they were asked to identify ways in which Caribbean – owned hotel chains have benefited the region. Comments needed to be specific to the Caribbean, for example, encouragement of local agriculture.

Module 3: Disparity and Development in the Caribbean

Question 7

Part (a) was based on a table which showed development indices for developed and developing countries and candidates were able to identify the trends. However, responses to the questions on natural regions, Parts (b) (i) and (a) (ii), were weak and so were those for Part (c) which focused on the importance of regional planning, for example, equity considerations and insecurity.

Question 8

Responses to this question underscored the difficulty candidates' face in dealing with development models. In Parts (a) (i) and (ii), they could not identify the diagram as a stage in the core-periphery model. They were not familiar with the measures suggested by dependency theorists to weaken the grip of metropolitan countries – regional trading, protection, control of multinational corporations (MNCs) – or Part (c) which focused on the ways in which backwash effects could deepen regional inequalities – movement of activities and people to key growth points once these have been established, multiplier effects, all surpassing spread effects.

Question 9

In Part (a), the majority of candidates could not define the concepts of relative poverty – a situation in relation to other groups and absolute poverty, the inability to meet basic needs. In Parts (b) (i) and (ii), a small number of candidates correctly identified the differences in the relationship between gross national product (GNP) and gross domestic product (GDP) in the USA and Ireland. GNP was larger than GDP in the USA but the difference was small. GDP was larger in Ireland than GNP and the difference was larger. The candidates clearly did not understand the role of foreign companies in this difference.

The high proportion of candidates who produced 'no responses' for the question in this Module suggests that there is a major problem.

UNIT 2

PAPER 02

Question 1

The map extract provided of Belize was on a scale of 1:50,000. In general the performance on this question was very good. In Part (a), the description of the natural vegetation shown on the map was good but candidates must be more careful in quoting grid references – easting before northing (tip: remember the phrase along the corridor and up the stairs).

In Part (b) (i), candidates were asked to shade on a sketch map provided an area that was suitable for the development of an industrial town and in Part (b) (ii), to describe the factors that would attract industrial development in the area shaded. The area shaded by many candidates was not sufficiently accurate although they gained marks for the description of the pull factors.

The performance on Part (b) (iii) was also generally good. Those who lost marks did so largely because they misinterpreted the question, writing on the influence of the area on the growth made rather than vice versa.

In Part(c) (i), many candidates did not restrict their answers to what was shown on the map extract. The measures to encourage development should have had relevance to the area shown. Part (c) (ii) had poor responses because candidates failed to relate them to the preceding question. The constraints must apply to the suggested measures.

Module 1: Climate, Vegetation and Soils

Question 2

This question had a very low response rate and the few candidates who attempted it showed little knowledge of the concepts required in Part (a): gravitational water, infiltrated water that maps through the aerated zone and hygroscopic water or water held as then films. Part (b) focused on mountain microclimate and had very weak responses.

Question 3

This was the more popular of the two questions based on vegetation and soils. Too many candidates could not accurately locate the Equator and areas of tropical rainforest on the map of Africa provided for Parts (a) (i) and (ii). Part (b) which focused on factors accounting for the distribution of rainforest had a better performance with most candidates describing rainfall and temperature. However, Part (c) which focused on effects of erosion had extremely good responses.

Module 2: Economic Activity

Question 4

The stimulus in Part (a) was a diagram of Weber's least-cost location model and the questions based on it, the identification of points and the type of industry represented, were not well addressed.

In responding to Part (b), Smith's modification of Weber's model, most candidates wrote general criticisms of Weber rather than Smith's concept of sub-optimal location and imperfect knowledge. In Part (c), the inapplicability of Weber's model to the Caribbean was not well addressed. They could not refer to the fact that industrial goods were imported or based on imported raw materials or the role of government in the location of industries. It was clear that the candidates did not have a good grasp of the subject matter and were therefore, not in a position to apply the model.

Question 5

From the performance on Part (a), it is evident that candidates need more practice in interpreting triangular graphs. Many could not plot the points accurately on the given diagram. The definition and characteristics of the informal section required in Parts (b) (i) and (ii) were known to most. While most candidates gave good responses to Part(c) (i), the environmental factors affecting commercial farming in the Caribbean, they had less success in Part (c) (ii) for describing economic factors in spite of the current problems in the market, for example, high costs of production and competition.

Module 3: Disparity and Development in the Caribbean

Question 6

In Part (a), candidates were given line graphs and asked to describe the changes. Candidates are not expected to spend their time calculating exact figures for increases and decreases annually. It seems that candidates do not know what is expected of questions such as these. Changes were requested, for example, after a period which debt, principal and interest all increased, there was a decline in all except interest. What was also of interest was the point at which interest exceeded principal and then a closing of the gap. Candidates need practice in answering these types of skill questions.

There were poor responses to Part (b), which was based on the dependency theory. This underscores an overall weakness in grasping the essentials of theories as models. Asked for the stages by which, according to dependency theorists, the rich got richer at the expense of poor countries, most candidates gave an outline of dependency theory but did not answer the question.

Part (c) focused on constraints presented by to the development of Caribbean Islands by their small size, and had fairly good responses. However, many could not discuss four reasons for this.

Question 7

In Part (a), candidates were asked to use the figures presented to draw compound bar graphs. Many had no idea of what a compound bar graph was. Most were unable to identify the shortcomings of the concept of 'relative poverty'. Part (b) required an essay on import substitution industrialization and was reasonably well done. The responses in describing the actual strategy were weak, that is, the shift from imported manufacturers to local production based on imported raw materials and the barriers erected to protect local production. Reasons for the adoption and decline were mentioned but not well developed.

UNITS 1 AND 2

PAPER 03: INTERNAL ASSESSMENT

1. Format or Structure

The format or structure of the project report has deteriorated; there is some misinterpretation especially in using the:

- mark scheme as an outline
- CAPE Caribbean Studies format
- CSEC Geography SBA format

Presentation of data

There were too many instances of (a) a chapter titled 'Presentation' which is simply a collection of illustrations, with little or no text OR (b) 'a collection of illustrations, each followed by a description or analysis of that specific figure, a format used in Caribbean Studies.

Location

Many candidates followed the CSEC SBA format and inserted location maps in the report before the Presentation chapter.

Presentation of data should be a thorough description of data collected, whether quantitative or qualitative, with illustrations integrated into the text.
Location maps should be incorporated into background or description of findings, as part of Presentation of Data.

2. Use of Inappropriate Techniques

Questionnaires

As stated in last year's report, too many studies, especially in Unit 2, are employing questionnaires inappropriately. For example, a questionnaire was used to (a) establish the causes of flooding in a village in Trinidad, (b) to determine the causes and consequences of coral reef degradation in a tourist zone, (c) to determine factors influencing location of a bauxite processing plant, and (d) to analyse the causes of soil erosion. A questionnaire can, in these inquiries, only be used to establish 'perception' of causes.

Secondly, techniques not listed in the syllabus are being employed to gather data. It is essential that the syllabus be studied carefully and students guided accordingly.

Appropriate methodologies should be chosen to ensure that the research questions can be adequately addressed.
The syllabus should be carefully consulted when projects are being planned.

3. Inappropriate Use of Techniques

Use of Questionnaires

In many cases, a questionnaire was described in the methodology chapter as the instrument being employed. However, there is often no evidence that the questionnaire was used to acquire the data eventually presented. In these cases, there is simply reporting of secondary data (from literature, interviews) with the questionnaires providing only some background of age/sex/occupation, and sometimes not even that.

Methodologies should include not only a description of specific techniques, but also how the data collected will be used.
The data collected as described in the methodology should form the basis of the projects: analyses should be based on the data collected by the student.

4. Poor Use of Maps

There is poor spatial analysis of data collected. There appears to be a trend away from using maps in geographical analysis.

Examples of poor map use:

(a) In studying 'Incidence and impact of tropical storms and hurricanes on an Eastern Caribbean island', changes in storms statistics, for example, speed, pressure with time and tracking maps were shown, but no synoptic maps employed. What better way to display and analyse map data but with synoptic charts?

(b) In 'Testing on von Thunen agricultural land use model in an agricultural region in Jamaica', a questionnaire was employed to collect data for example, crops grown, practices from farmers, but the useful data were then simply described. There was no attempt to map the data. Land-use models are about variation in space. It is expected that they will be tested using maps.

Much of geographic inquiry is still about spatial variation of phenomena, and as such, map interpretation and analysis is still integral to much research.

5. Analysis and Discussion

Again, many of the projects were purely descriptive.

A careful formulated research question will help to guide students in conducting analyses and discussion.

6. Poor Planning and Limited Teacher Involvement

Some project reports raised doubts about the extent to which candidates had adequate guidance in planning and executing the study.

Tip for the Teacher:

A good project is carefully planned and analysed, before broaching the topic to the students. If field based, a reconnaissance field trip is conducted; if based on secondary data, this should be examined beforehand to ensure that the data are adequate and appropriate analyses can be made. A draft outline should be written, or at least conceptualized, to ensure that students can be adequately guided.

7. Marking

Most of the studies were awarded marks in excess of their worth.

Very few projects reached the standard expected at this level. Most of the problems were design issues and this is indicative of the need for better guidance.

CARIBBEAN EXAMINATIONS COUNCIL

REPORT ON CANDIDATES' WORK IN THE CARIBBEAN ADVANCED PROFICIENCY EXAMINATION MAY/JUNE 2008

GEOGRAPHY
(REGION EXCLUDING TRINIDAD AND TOBAGO)

GEOGRAPHY

CARIBBEAN ADVANCED PROFICIENCY EXAMINATIONS

MAY/JUNE 2008

INTRODUCTION

Geography is a two-Unit subject with each Unit consisting of three Modules: Unit 1 – Population and Settlement; Hydrological, Fluvial, Coastal and Limestone Environments; and Natural Events and Hazards; Unit 2 – Climate, Vegetation and Soils; Economic Activity; and Development and Disparity. Both Units are examined by three papers. Papers 01 and 02 are external examinations while Paper 03 is the Internal Assessment examined internally by the teacher and moderated by CXC.

Paper 01 consists of nine compulsory short-response questions with three questions based on the content of each Module. Each Module contributes 27 marks to the total 81 marks for the Paper. Paper 01 contributes 30 percent to the Unit.

Paper 02 has a compulsory mapwork question (Section A) based on the contents of the three Modules and six questions in Section B with two questions based on the contents of each Module. Candidates are required to answer one question from each Module in Section B. Each Module contributes 45 marks to the total 135 marks for the Paper. Paper 02 contributes 50 percent to the Unit.

Paper 03, the Internal Assessment, contributes 54 marks or 20 percent to the Unit is examined by a single project.

DETAILED COMMENTS

UNIT 1

PAPER 01

Module 1: Population and Settlement

Question 1

The stimulus for Question 1(a) was a diagram of the demographic transition model and in Part (a)(i), candidates were asked to describe the characteristics of Stage 4 and in (a)(ii) to name a country that had reached that Stage.

The focus of the responses was on the low birth rate and death rate and not on the total population or on the fact that, as in Stage 1, the birth and death rates fluctuated. Most were able to name a country at that stage. They were also able to define natural increase in Part (b) but relatively few could adequately explain how war influenced the shape of the population pyramid in Part (c). They ignored ‘the shape’ and described the general impact of war on population.

Question 2

In Part (a)(i), candidates were asked to name the theory illustrated in the diagram which showed the relationship between population and food supply. A surprisingly large number of candidates thought that the diagram represented the Lorenz curve rather than the Malthusian theory. However, in Part (a)(ii), the majority recognized the point at which population balanced food supply.

Part (b) called for a description of three types of migration - involuntary, circulation and step. Most candidates were familiar with involuntary migration and gave several examples of the occurrence. They were less successful in their attempts to describe circulation and step migration. The missing element in step migration was movement up the settlement hierarchy.

Question 3

In Part (a), candidates were asked to identify sectors in Hoyt's sector model and most were able to do so. Few, however, could state the assumptions of the model in Part (b), confusing these with the general details of the model. Part (c) was also not well done. In trying to distinguish between the site and situation of a settlement, candidates tended to use the same words and failed to portray site as the actual spot while situations reflected relation to surroundings.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Question 4

In Part (a), candidates were asked to distinguish between 'watershed' and 'catchment area'. There was more success in describing 'watershed' than catchment area, although in most cases, candidates were credited for an idea that was very poorly expressed. In Part (b)(i), candidates were asked to use a diagram to estimate the infiltration rate after 15 minutes of rainfall. Some were not sufficiently careful to be close enough to the correct response to receive credit, but it was generally well done and they proceeded to give reasonable responses to Part (b)(ii), the difference between rates of 15 minutes and 1 hour of rainfall, and Part (b)(iii), a possible explanation of high infiltration rates throughout the rainfall event.

Question 5

In Part (a), candidates were expected to draw a diagram showing the main features of either a braided stream or a meandering stream. The diagrams were very poorly executed. Candidates showed no knowledge of what was expected in a diagram. Meanders were represented as bends and braided channels were without direction of flow. Labeling was poor or omitted. Diagrams were not enclosed. Rudimentary steps in drawing diagrams were not appreciated. The responses to Part (b), a description of a condition under which a braided stream developed were fairly good. Candidates were not acquainted with the manner in which coastlines changed as deltas developed which was required in Part (c). This part had a very high percentage of candidates who gave no response.

Question 6

In Part (a)(i), most candidates were able to make an association between karsts and limestone. Few associated solution process with the formation of karst topography. They were generally unable to say why this topography was not well developed in Arctic regions as required in Part (a)(ii). They confused cross-profile and long-profile in Part (b) and focused more on the river channel than on the river valley.

Module 3: Natural Events and Hazards

Question 7

In Part (a), candidates were presented with a description of three events and were required to identify each type of hazard. The response was fair, but many did not see the failure of flood walls after Hurricane Katrina as a technological hazard. They represented it as a climatic hazard or as a flood.

In Part (b), the features resulting from sea-floor flood spreading was not well done. Candidates were credited for identifying the topographic features but in general, they could not describe their formation or could not describe them in the context of sea-floor spreading.

Question 8

Part (a) called for an explanation of why some tectonic plates subducted while others did not. The responses were extremely superficial. Some knew that it was related to the density of the plates but failed to say which of oceanic and continental was more or less dense and the relation to subduction. The responses to Part (b) were similarly unsatisfactory. The flooding that follows volcanic eruption was attributed to tsunamis rather than the expected melting of snow, ice or the bursting of dams created by lava flows.

Question 9

It appears as if candidates did not read Part (a) carefully. No consideration, in many cases, was given to the fact that the warning to the people of Yunnan was given a few minutes before the earthquakes. So, candidates wrote about the recurrence intervals. Some related the unusual activity of animals but not the tremors or movement of groundwater.

Part (b), requested information regarding post-disaster activities immediately following earthquakes. There were very good responses. Again, candidates must be encouraged to read questions carefully. Too many wrote of the long-term rather than the immediate responses.

UNIT 1

PAPER 2

Question 1

The map work question was based on a map extract of Dominica on a scale of 1:25,000.

In Part (a), candidates were required to account for the distribution of population on the map extract. They were therefore requested to give reasons for the way in which the population was distributed. A response that earned full marks, would have described the distribution and given reasons why the population was distributed in the way described. It would have drawn attention to the sparse population of the interior and the concentration on the coasts. Relief distinguished interior from coastal areas and the concentration along the coastal region could have been explained in terms of roads and economic activity. In the elaboration, there could be a discussion of nucleated and linear patterns but the focus should not have been on patterns. Services tend to follow populations rather than vice versa. Students should be discouraged from using churches and schools as reasons for population distribution. They are not usually established in empty areas.

A grid was provided for Part (b) and on it candidates were asked to draw the course of a river, insert the stream order of the tributaries and the watershed of the basin. There were good responses to this section. However, many candidates did not appear to understand the concept of a watershed.

Part (d) called for the interpretation of a photograph which showed a conservation measure on a slope. The question asked for evidence of instability, the type of hazard posed and an explanation of how the conservation measure afforded protection. Few candidates had problems in identifying the evidence of instability but the hazard and protective measure posed difficulty for many.

Module 1: Population and Settlement

Question 2

The stimulus for Part (a) was a map of the world showing population distribution. Candidates were asked to describe two features of the distribution; to identify four factors affecting population on a global scale and to explain how the factors affected the distribution shown on the map.

While candidates correctly listed four factors affecting population distribution, they were unable to relate those to the pattern on the world map. The factors seemed to be studied in a vacuum and without reference to actual population distributions.

In Part (b), candidates were sent on an imaginary walk along a transect of a city in a more developed country (MDC) and were asked to describe the zones. They all identified the CBD but this became the opportunity for them to enlarge upon the functions of the central business district (CBD) and they ignored the fact that a description was required – the buildings, retail centres, areas in decline. Some candidates failed to identify the second zone requested.

Question 3

The diagram in Question 3 showed real and projected population growth in developed and developing regions and in Part (a)(i), candidates were asked to describe the growth shown on the diagram. Candidates should be advised that when they provide more than what is requested they do not earn more marks. Too many candidates combined a description with very poor attempts at explanations. It is more rewarding for them to concentrate their energies on the provision of full descriptions of the phenomenon presented. In Part (ii), they were asked to describe projections for growth in developing regions. Again, many gave projections for both developed and developing regions. Nevertheless, those who applied themselves to the given task performed creditably.

In Part (b), the performance on the essays on the economic, social and environmental consequences of migration on the sending country was fair. There was some confusion between sending and receiving countries and among social, economic and environmental consequences. The responses for the environmental problems caused were particularly weak. When essays are requested, an introduction and conclusion are required.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Question 4

Part (a) called for a description of three transfers within the hydrological cycle. This was a popular question. Candidates correctly identified the transfers but could not describe the transfer process, that is, the movements from one store to another. There was some confusion in distinguishing ‘through flow’ from ‘ground water flow’ and ‘infiltration’ from ‘percolation’. However, in general, there was a fair response to this section.

In Part (b), dealing with the influence of physical and geological factors on drainage patterns, candidates identified the patterns but many were unable to explain the influence of geology and relief. Some could not distinguish between 'geology' and 'relief'.

Question 5

Few candidates attempted Question 5. Several candidates were able to give a fair outline only of the contributions of Darwin and Daly to the development of theories on coral reef formation in Part (a). There was more familiarity with Darwin's contribution than with Daly's but a few candidates had a thorough appreciation of both.

In Part (b), candidates had a fair knowledge of the types of landforms that develop in coastal regions. They had difficulty explaining the processes. Explanation for the development of bayhead beaches were fair, but barrier islands and shingle beaches presented greater difficulties. The diagrams were very poor.

Module 3: Natural Events and Hazards

Question 6

In Part (a), candidates were asked for two ways in which human activity contributed to imbalances in the hydrological system. The most common responses were urbanization, deforestation and blocked drains but they did not make the link with imbalances.

Part (b) requested the reason(s) for earthquakes only occurring in well-defined areas. The response expected is that earthquakes are associated with plate margins. Maps were provided for candidates to show the location of the margins. The maps submitted by candidates, lacked titles, keys and it wasn't clear what they were trying to show. Candidates were unclear about the types of plate margins and often, the link with earthquakes was not clearly specified. The essays lacked introductions and conclusions.

Question 7

The stimulus for Part (a) was a modified diagram – one that appears in the most widely used text on hazards. Many were not acquainted with it and the type of hazard it represented. Candidates stressed the hazard associated with the eruption of a volcano and not with the escape of gas.

In Part (b), many were able to list indicators that could assist in prediction of short-term volcanic eruptions, but could not explain their use. Some mentioned the instruments used.

UNIT 2

PAPER 1

Module 1: Climate, Vegetation and Soils

Question 1

Figure 1 in Part (a) depicted the Earth's radiation balance and candidates were asked to define the term 'heat balance'. There were long attempts to explain what is meant by the term but few were able to give a concise answer. Many could not move the explanation beyond vertical uplift to encompass heat gain in higher latitudes due to the transfer from lower latitudes.

Part (b) called for a description of the processes by which the earth maintained its energy balance. The information was presented in the diagram and the candidate who interpreted the diagram correctly could have earned full marks. Many did. Others described the greenhouse effect, losses from absorption and conduction, all unnecessary.

Question 2

In Part (a), candidates were asked to draw a diagram to show wind direction in a hurricane. Most could not draw a diagram. Those who had an idea of what was needed were confused about directions – clockwise and anti-clockwise. In Part (b), candidates showed little knowledge about the weather conditions caused by anticyclones and instead, wrote about hurricanes.

Question 3

For Part (a), most candidates drew diagrams of the typical soil profile rather than that of chernozem soils as requested. Similarly in Part (b), rather than describing the processes by which latosols are formed, candidates wrote general descriptions of soil formation.

There were better responses for Part (c) which focused on the modification of soils by ploughing and manuring. Most obtained full marks.

Question 4

There were quite good responses to this question. Candidates were asked to assign activities to the appropriate economic sector (a), to indicate on a map, the area best suited for the growth of sugar cane in Part (b) (i) and to give reasons for the choice of the area in Part (b) (ii).

Question 5

In this question, candidates were asked to describe three factors hindering industrial development in a named Caribbean country.

Size imposes limitations. It restricts the range of resources and the size of the market. It is along these lines that candidates were expected to develop an argument. By far, the majority saw size in terms of physical space. Islands did not have room for industrial enterprises. This is not acceptable at this level. There were, however, some excellent responses and a few candidates earned full marks.

Question 6

For Part (a), a table with tourist arrivals in three regions was presented and candidates were asked to identify a pattern in Part (i) and suggest a reason for the pattern in Part (ii). The responses to these two sections were fair. However, the same cannot be said for Part (iii). Here, candidates were asked to name the region which made the shortest recovery and, it appears that the candidates were influenced by numbers rather than the percentage increase. The two techniques designed by Weber to measure and map differences were isotims and isodapanes. The majority failed to identify these.

Module 3: Development and Disparity in the Caribbean

Question 7

Candidates exhibited very little success at defining terms and most failed to give an adequate definition of 'economic development'. Answers were very vague. The diagram, showing two stages by Friedman's model could have assisted those who were familiar with the theory to describe the changes that had occurred between the two. The fact that most candidates could not describe the changes, showed that there was a knowledge gap. Some attempted to interpret the diagrams, but in an obvious vacuum and so could not earn full marks. Part (c) based on Myrdal was also poorly done.

Question 8

Parts (a) (i) and (ii) were based on a diagram showing the relationships between the Human Development Index and Technology Achievement Index. Most candidates were able to interpret the relationship in Part (a)(i) as well as the position of three countries on the graph in Part (a)(ii). Part (b) required reasons why indicators of development were useful tools. It was also fairly well done.
Part (c) focused on disadvantages of using the death rate as an indicator of development. Both parts were well done with some of the responses to Part (c) being quite inventive.

Question 9

It appears that when this Module is covered in class, candidates perform exceptionally well. Some of the best responses in both Papers 01 and 02 came from this Module. However, "when the responses were bad, they were horrid". One way to address this problem is to devote more attention (time and planning) to this Module. The effects of colonialism on economic development had many good and many extremely poor responses in Part (b). The attempts to explain why spatial equality was desirable were less successful. In general, candidates did not come to grips with the spatial aspects which is important in Geography.

UNIT 2

PAPER 2

Question 1

This question was based on the map extract of Edgecliff, Barbados, on a scale of 1:10,000. In general, responses were poor, more so than in Unit 1, Paper 02. There is the persistent inability to distinguish between natural and cultivated vegetation in Part (a) (i). For many years the Reports on candidates' work have stressed that candidates ought not to present sugar cane, bananas and other crops as natural vegetation. Shrub should not be confused with scrub. Yet, the majority continues to do so. The reason for the change in land use ought to have been a clearly recognizable change in slope in Part (a) (ii). The interpretation of contours is one of the earliest lessons in map reading. Those candidates, who recognized this could provide no elaboration to earn the full three marks.

Part (b) required candidates to use their knowledge. An area with a sparse population and good transportation system would not need more than a few basic services. Residents could easily obtain higher order services from nearby towns. Few candidates were able to use what they learned in settlement geography to answer this question.

In Part (c), candidates were asked to comment on the suitability of an area for the growth of sugarcane. The "growth of sugarcane" is quite different from the production of sugar. Many candidates correctly referred to the rolling relief. Although they recognized the underlying geology, they did not see the implications that thin soils are best suited to grasses and fertile soils are associated with the depressions.

Few candidates saw credible opportunities for and constraints to development of the area in Parts (d) (i) and (ii). They wrote in general terms ignoring map evidence. They could have been credited for discussing the lack of surface water, the many depressions, the extent of surfaced roads; all apparent on the map extract.

Module 1: Climate, Vegetation and Soils

Question 2

There were many good responses to Parts (i) and (ii) which required the interpretation of a graph showing the relationship between air temperature and water vapour content.

In Part (b), discussion of atmospheric stability and instability does not make sense if there is no indication of vertical movement of small parcels (thermals) of air. A large number of candidates gave no indication of movement. It was not clear that they knew that there was no uplift of large masses of air. There must also be a better appreciation of the relationship between the movements of the thermals and the environmental lapse rate (ELR).

Part (c) was misinterpreted. Almost all the candidates wrote (and not very coherently) about the stages in the development of a depression, sometimes a tropical depression. Yet, the question clearly requested changes in weather conditions **during** the passage of a mid-latitude depression. The two are different and well covered in the texts that are commonly used. The focus should have been on weather conditions at the approach of the depression, the warm front, the warm sector, the cold front and with the passage of the depression. Greater attention needs to be given to this area of the syllabus.

Question 3

This was the most popular question in Module 1 but it was clear that candidates felt that they could address questions about specific soils by giving answers that could apply to any soil. They were not credited for this. Soils develop under different climate regimes which leave their imprint on the characteristics of the soil. Leaching, for example, does not have important effects on soils under all types of climate. Plants are living organisms and the constant dying off of grasses and the action of their roots have a major effect on grasses and the soils which develop under temperate grasslands. It was rare to find scripts in which these issues were discussed. Instead, candidates wrote of the action of earthworms which was more appropriate for a question on the role of earthworms in the development of soil structure.

Agro-forestry and dry farming as soil conservation techniques seemed unfamiliar to the majority of candidates. At this level, candidates are expected to move beyond crop rotation which was the only technique familiar to them. They appeared to have drawn upon work done for CSEC.

Module 2: Economic Activity

Question 4

The syllabus makes it clear that students should be made aware of the changes that are occurring in farming as in industry, or else, the subject would be static. Factory farming is not new, but is becoming more important in more developed countries (MDCs). It is also highly controversial partly because of its presumed environmental and health effects. Almost all the meat entering the market is produced under these conditions. All indications were that candidates were not familiar with these types of farming as demonstrated in their responses to Parts (a), (i) and (ii).

Part (b) tested candidates' knowledge of changes in Caribbean agriculture. Only a few candidates were able to identify a specific change in the market for sugar-cane and bananas in spite of their far-reaching effects and the discussions that have been taking place over the past four years. Those few who could identify a change in market conditions could not go beyond 'a cut in preferential treatment' and were unable to discuss the effects on agriculture such as divestment, closures, contractions, transformation of rural landscapes, and fair trading in the Windward Islands.

Question 5

This was the more popular question in Module 2. Part (a) was based on a graph which showed employment in different sectors in industry in the United Kingdom. Candidates were asked to discuss the changing relationship in employment among the sectors. This was fairly well done. The main problem was that many candidates described the changes in each sector and not the relationship among the sectors. They also attempted to give reasons for the changes and this was not required.

In Part (b), candidates were required to discuss the changes in a named major industrial region. This was very badly done. Candidates are not performing well on questions where specificity is required. Jamaica, Trinidad and Barbados are NOT major industrial regions. The United Kingdom and the USA are not industrial regions. Students are required to study regions such as South Wales, Northeastern USA. Very few candidates wrote specifically about these regions.

Module 3: Development and Disparity in the Caribbean

Question 6

The responses to this question were fair. Most were able to identify the types of regions but had less success in explaining why they were demarcated in Part (a). Part (b) which dealt with the spatial impact of export production in the colonial period was fairly well done – plantation, towns, and mining centres versus the rest.

Question 7

The confusion over the impact of size on development once more emerged in Part (a)(i). The problems posed by size must be properly addressed in classes. There were better responses to the constraints posed by natural hazards and proximity to the USA.

Part (b) asked for three problems that hinder the development of trade among Caribbean countries. Candidates were more inclined to discuss the problems that hinder general development in the Caribbean.

UNIT 1 AND 2

PAPER 03: INTERNAL ASSESSMENT

1. Format or Structure

The format or structure of the project report has deteriorated; there is some misinterpretation especially in using the:

- mark scheme as an outline
- CAPE Caribbean Studies format
- CSEC Geography SBA format

Presentation of data

There were too many instances of (a) a chapter titled 'Presentation' which is simply a collection of illustrations, with little or no text OR (b) 'a collection of illustrations, each followed by a description or analysis of that specific figure, a format used in Caribbean Studies.

Location

Many candidates followed the CSEC SBA format and inserted location maps in the report before the Presentation chapter.

Presentation of data should be a thorough description of data collected, whether quantitative or qualitative, with illustrations integrated into the text.
Location maps should be incorporated into background or description of findings, as part of Presentation of Data.

2. Use of Inappropriate Techniques

Questionnaires

As stated in last year's report, too many studies, especially in Unit 2, are employing questionnaires inappropriately. For example, a questionnaire was used to (a) establish the causes of flooding in a village in Trinidad, (b) to determine the causes and consequences of coral reef degradation in a tourist zone, (c) to determine factors influencing location of a bauxite processing plant, and (d) to analyse the causes of soil erosion. A questionnaire can, in these inquiries, only be used to establish 'perception' of causes.

Secondly, techniques not listed in the syllabus are being employed to gather data. It is essential that the syllabus be studied carefully and students guided accordingly.

Appropriate methodologies should be chosen to ensure that the research questions can be adequately addressed.
The syllabus should be carefully consulted when projects are being planned.

3. Inappropriate Use of Techniques

Use of Questionnaires

In many cases, a questionnaire was described in the methodology chapter as the instrument being employed. However, there is often no evidence that the questionnaire was used to acquire the data eventually presented. In these cases, there is simply reporting of secondary data (from literature,

interviews) with the questionnaires providing only some background of age/sex/occupation, and sometimes not even that.

Methodologies should include not only a description of specific techniques, but also how the data collected will be used.
The data collected as described in the methodology should form the basis of the projects: analyses should be based on the data collected by the student.

4. Poor Use of Maps

There is poor spatial analysis of data collected. There appears to be a trend away from using maps in geographical analysis.

Examples of poor map use:

(a) In studying 'Incidence and impact of tropical storms and hurricanes on an Eastern Caribbean island', changes in storms statistics (speed, pressure, etc) with time and tracking maps were shown, but no synoptic maps employed. What better way to display and analyse map data but with synoptic charts?

(b) In 'Testing on von Thunen agricultural land use model in an agricultural region in Jamaica', a questionnaire was employed to collect data (crops grown, practices, etc) from farmers, but the useful data were then simply described. There was no attempt to map the data. Land-use models are about variation in space. It is expected that they will be tested using maps.

Much of geographic inquiry is still about spatial variation of phenomena, and as such, map interpretation and analysis is still integral to much research.

5. Analysis and Discussion

Again, many of the projects were purely descriptive.

A careful formulated research question will help to guide students in conducting analyses and discussion.

6. Poor Planning and Limited Teacher Involvement

Some project reports raised doubts about the extent to which candidates had adequate guidance in planning and executing the study.

Tip for the Teacher:

A good project is carefully planned and analysed, before broaching the topic to the students. If field based, a reconnaissance field trip is conducted; if based on secondary data, this should be examined beforehand to ensure that the data are adequate and appropriate analyses can be made. A draft outline should be written, or at least conceptualized, to ensure that students can be adequately guided.

7. Marking

Most of the project reports were awarded marks in excess of worth.

Very few projects reached the standard expected at this level. Most of the problems were design issues and this is indicative of the need for better guidance.

CARIBBEAN EXAMINATIONS COUNCIL

REPORT ON CANDIDATES' WORK IN THE CARIBBEAN ADVANCED PROFICIENCY EXAMINATION MAY/JUNE 2009

GEOGRAPHY

GEOGRAPHY

CARIBBEAN ADVANCED PROFICIENCY EXAMINATION

MAY/JUNE 2009

INTRODUCTION

This year, 2 175 candidates wrote the CAPE examination in Geography. The number writing Unit 1 was 1 264 while 911 wrote Unit 2. For the first time, the format of Paper 01 was multiple-choice.

There were some improvements in map-reading skills. It would appear that there was greater success in completing the syllabus since most candidates attempted the questions in Module 3 and there was an improvement in the performance on this Module over previous years. Improvement was noted also in the physical section of Unit 1, Module 2.

DETAILED COMMENTS

Paper 01

Paper 01 comprised 45 multiple-choice items with 15 items assessing each Module across the three cognitive levels, Knowledge and Comprehension, Application of Knowledge and Practical Skills.

For Unit 1, the mean percentage score earned was 61.4 with a standard deviation of 5.3.

For Unit 2, the mean percentage score was 57.5 and the standard deviation was 4.9.

UNIT 1

Paper 02

Section A

Question 1

This was the compulsory map work question and was based on a map extract of Dominica on a scale of 1:25 000.

In Part (a) (i), the candidates were asked to describe the settlement pattern on the map extract. Candidates do not have a very clear idea of what is expected of a question such as this. One expects a consideration of the areal distribution, identification of the largest town, extent, size, the settlement type that is dominant, other types. Candidates tended to limit their descriptions to the types of settlement on that extract. Some used terms such as ‘nuclear’ instead of ‘nucleated’. A larger number of candidates than in previous examinations could not read grid references and gave northings before eastings.

In Part (a) (ii), candidates were required to suggest three reasons for the location of the settlements on the map extract. Many correctly identified the importance of relief, vegetation, and transport, but had difficulty explaining why these factors influenced settlement. So there was a tendency to list rather than to provide reasons.

A grid was provided for Part (b) and candidates were asked to draw the coastline and insert a number of features.

The outline of the coast was well done and most of the marks on Part (b) were earned on this aspect. However, candidates must remember that sketch maps are incomplete without a key and title.

In Part (c), candidates were to describe the main features of the coastlines. Many listed rather than described. Some explained the formation of the features. The grid references proved to be a problem in this part as well.

Part (d) examined the ability of candidates to identify potentially hazardous situations on the map. The approach to this question was extremely simplistic. Candidates felt that they could select any settlement along the coast and write that they were at risk of destruction by tsunami. Candidates could have, for example, identified the braided course of the Melville Hall River and in view of the large, steep catchments, propose that some flooding could occur.

Section B

Module 1

Question 2

Approximately 45 per cent of the candidates attempted this question which examined aspects of population geography.

In Part (a) (i), the vast majority of the candidates identified the Lorenz Curve and while they seemed to have grasped the idea that the line labelled 'L' depicted perfectly even distribution, as requested in Part (a) (ii), the manner in which this was expressed was most unsatisfactory. The same could be said of Parts (b) (i) and (ii). Candidates offered definitions which had to be translated.

In Part (c), candidates exhibited the need for more practice in writing essays in geography. They will earn marks for the introduction and conclusion but introduction must not consist of a repetition of the question that was asked. This was the approach adopted by most. A comparison of the views of Malthus and Boserup was requested and several candidates wrote excellent responses, identifying where the two differed. Some, however, simply described the theories of both without drawing attention to the differences. Some attempted diagrams to illustrate the two but many were unsuccessful.

Question 3

This was the more popular of the two questions in Module 1. Few candidates were able to state that there was a positive relationship between the size of settlements and the number of functions they perform as required in Part (a).

In Part (b), candidates were asked to describe three factors that influence the location of rural settlements. Water supply, relief and soil were some of the responses expected and some performed competently. However, some wrote about the factors influencing the location of settlements in general. Some appeared to be responding to a question on urban-rural migration, and dealt with traffic congestion and pollution.

In Part (c), candidates were to account for the trend in urban population growth in More Economically Developed Countries (MEDCs) and Less Economically Developed Countries (LEDCs). They were expected to describe the trend revealed in the diagram and then account for it. In general, the trend was correctly described by the vast majority. However, candidates appeared to believe that they were asked to guess what factors might explain the trend in urbanization. Urbanization in MEDCs and LEDCs is a part of the syllabus. Candidates ought to be able to explain, for example, the rapid growth in LEDCs beginning in the 1980s and the recent stagnation in the MEDCs caused by de-urbanization.

Few candidates treated the 2010 - 2020 figures as projections.

Module 2

Question 4

The stimulus in Part (a) was a storm and/or flood hydrograph and candidates were asked to identify the diagram. The response 'hydrograph' was not credited. The correct term is a 'storm hydrograph'. In addition, terms such as ascending limb, descending limb and recessive limb were unacceptable. Candidates must know and use the precise geographical term, for example, rising limb, falling limb or recessive curve as required in Parts (a) (ii) and (iii).

The definitions for lag time, rising and falling limb and base flow were imprecise. Lag time is the interval between peak of rainfall intensity and peak of channel discharge. Candidates were unsure of exactly which peak was recorded. Base flow was confused with base level and groundwater flow.

In Part (b), candidates were required to explain how the hydrological cycle was affected by dams, urbanization, deforestation and irrigation. Responses to this section revealed how little the candidates understood of what the hydrological cycle is and what was the effect of these features on stores and flows. Some candidates gave excellent responses to the effect of deforestation but paid little attention to the increase in flood levels in rivers. They did not link irrigation to a rise or fall in the water table. In fact, several candidates did not know what irrigation is. The responses to urbanization were good. There were extensive and accurate explanations of the effect of the impermeable surfaces on infiltration.

Question 5

In Part (a), candidates were asked to draw a fully-labelled diagram showing the cross-section of a destructive wave. The diagrams were poor. Candidates did not draw the main features of a destructive wave – the plunging breaker, weak swash, steep gradient and short wavelength. Some did not attempt the diagram.

Part (b) tested the concepts of base level and bifurcation ratio.

Base level was confused with base flow and although it was clear that most candidates knew what the bifurcation ratio was, they could not provide a clear definition of the concept. A problem of language skills was recognized. Some had more success in providing the formula for calculating the ratio.

Part (c) required candidates to discuss the development of six types of landforms in limestone areas. This was fairly well done. However, not all features found in limestone areas are landforms, for example, resurgent streams and stalactites.

Module 3

Question 6

In Part (a), candidates were asked to read a passage which described a tsunami and answer questions based on the passage. Candidates appeared confused by the inclusion of this form of question and the performance was extremely poor. Far too many ignored the passage altogether although the question specified "From the passage above". Only one candidate gained full marks on this section.

In Part (b), candidates were unfamiliar with the tsunami warning system and gave very vague and general responses. This section, too, was poorly answered.

Part (c) required candidates to explain how climate, the characteristics of the river basin, and human activities cause rivers to flood. The responses were fairly good but generally, there were two problems. Firstly, candidates failed to make the link between, for example, climate and flooding, that is, intensity of precipitation, causing infiltration capacity to exceed rapid run off, resulting in an

increase in the levels of water in rivers, and secondly, some confusion in candidates' use of the terms river basin and river channel was noted.

Question 7

Fewer candidates attempted this question but the responses were better than the responses to Question 6. Most were familiar with the internal structure of the earth in Part (a) and there was a fair attempt to describe the recycling of the upper layers of the earth. They described the flow of magma to the surface, the formation of plates, their destruction when they subduct, re-absorption into the mantle and flow to the surface. The main problem with the response was the lack of order, the failure of candidates to organize the material.

Part (c) focused on how volcanoes are classified according to the type of eruption and their shape. This question stipulated shape and many candidates failed to appreciate it. They were requested to explain how the type of lava and eruption accounted for the shape of three types of volcanoes. Candidates did not make the links among viscous lava, high silica content, explosive eruptions and the shape of volcanoes. When lava cannot flow quickly it builds up on the upper slope, resulting in steep upper slopes and steep-sided formations.

UNIT 2

Paper 02

Section A

Question 1

Part (a) (i) of this compulsory question was based on a synoptic chart and candidates were asked to identify three weather systems. Most correctly identified the hurricane but there was less success with the Inter-Tropical Convergence Zone (ITCZ) and tropical storm. Many could not read the weather symbols necessary for answering Part (a) (ii). There were good responses to Part (a) (iii), preparation of a weather bulletin for the approaching hurricane, but more detail was needed.

Part (b) was based on the map extract of Savanna-la-mar, Jamaica. Candidates performed well on Parts (b) (i), (ii) and (iii). They identified types of economic activity, the factors accounting for the distribution of sugar cane, as well as the reasons for the development of the Negril area west of the Great Morass. They were, however, problems with the use of grid references – eastings and northings.

Part (c) was misinterpreted by most candidates. Candidates do not appear to appreciate the difference in use of the words "between" and "within". They described disparities within areas rather than between them.

Section B

Module 1

Question 2

Vegetation and soils were examined in this question and Part (a) focused on processes which took place in the different horizons. Many of the candidates ignored the given diagram and offered responses based on what they knew of A, B and C horizons.

In Part (b), candidates were asked to describe two types of plant communities other than trees found in tropical rainforests. Candidates ought to have described communities such as epiphytes, climbers, stranglers. Some of the communities described were not characteristic of the tropical rainforests. They confused epiphytes, parasites and climbers.

In Part (c), candidates were asked to explain how climate and vegetation contribute to the formation of tropical latosols. Candidates were able to describe tropical latosols. However, they could not establish its relationship with climate and vegetation.

Question 3

About 46 per cent of the candidates attempted Question 3 and responses were generally poor. In Parts (a) (i) and (a) (ii), they were able to identify the climatic region represented in the graph, but did not see the significance of the extremes in the temperature and the low precipitation.

In Part (b), the definitions of field capacity and capillary action were inadequate. Candidates should take the cue from the marks awarded to each part of the question. For capillary action, they ought to be able to say more than the upward movement of water.

In Part (c), few candidates gave an acceptable account of the formation of rain, snow and hail. This seems to be a neglected area in the syllabus. Responses were limited to air rising and cooling, to condensation and the formation of clouds. Snow was conceptualized as frozen raindrops and hail as ice cubes. The majority ignored the theories of raindrop formation.

Module 2

Question 4

Part (a) tested the candidates knowledge of Von Thunen's agricultural model. They were required to name points on the axes and approximately 90 per cent of the candidates were able to do this. The majority were also able to describe the concept of locational rent although a few did not quite grasp this concept of profit, describing it as the actual rent paid. The majority of candidates were also able to provide at least a basic definition of land degradation as required in Part (b) (i).

In Part (b) (ii), candidates were asked to discuss four practices that can lead to land degradation. A large number of candidates identified the practice of slash and burn and not wasteful practice such as reducing the length of the fallow. In some instances, candidates discussed general environmental pollution such as water contamination. However, the majority were able to discuss fully at least two practices.

Question 5

This was the more popular question in Module 2. In Part (a), candidates were asked to describe factors which accounted for the growth of industries in a large industrial region in a more economically developed country (MEDC). Responses were poor. No region within the Caribbean satisfies this description. Candidates should have named the region and country.

Part (b) was based on two tables showing tourist arrivals and expenditures. The performance was good. Candidates also performed well on Part (c), which dealt with the negative impact of tourism on the physical environment and social environment. Some were not clear on the differences between physical environment and social environment. 'Social' was also confused with 'cultural'.

Module 3

Question 6

The response rate for Question 6 was approximately 17 per cent and the performance on this question was not very good. Candidates had difficulties indentifying regional planning entities in the Caribbean as required in Part (a). The definitions of Gross Domestic Product (GDP) in Part (b) (i) were incomplete – the value is measured over a year – which is unclear or very confused. Some described Gross National Product (GNP).

Part (c) was based on the models of Friedman, Myrdal and Dependency Theory. Candidates were expected to identify common elements of these three, essentially core or periphery models. The three emphasized contrasts between core and peripheral zones and they also stressed the fact that the core drew upon the resources of the periphery. Candidates found the task extremely challenging. Some described the stages in the models. Others critiqued the models but most simply re-stated the observations outlined in the question.

Question 7

Responses to this question were extremely poor. Part (a) required a line graph which posed few problems. A few drew bar graphs and lines of best fit but they comprised a small minority. The majority of candidates performed poorly on Part (b) which focused on consequences of regional disparities. Regional disparities lead to the concentration of resources, and the neglect of peripheral areas which become vulnerable to claims by neighboring countries thus undermining national development. The performance on Part (c) was better although a few were confused by the term 'post-colonial'. Candidates identified strategies that helped to reduce disparities in access to education, but many did not link the strategies to specific countries.

UNITS 1 AND 2

Paper 03/1 - (Internal Assessment)

General

The quality of the Internal Assessments was disappointing, especially those submitted for Unit 2.

Teachers must take responsibility for the supervision of research projects and guide their students in the use of appropriate geographical techniques. Candidates should be made aware of the appropriate research methods/techniques required for different fields. (It must be noted that while Caribbean Studies research projects may use any number of approaches and techniques (historical and sociological), Geography IA's require geographical techniques).

Many studies, especially in Unit 2, showed little evidence of research; there was more reporting than research.

It is recommended that students and teachers use the new CAPE IA guide; it is hoped that with this guide, there will be an improvement in the quality of the IA's.

Purpose and Methodology

Candidates are often unable to justify the research methods and/or skills used or described and explain how the data collected would be presented and/or used and analyzed.

Quality of Data

The quality of the data was poor mainly because of:

- Inappropriate research methods
- Poorly designed questionnaires
- Poor sampling techniques (very few candidates seem to know what random sampling is)
- Small sample sizes.

Inappropriate methods bedeviled the studies. Questionnaires were used in situations where they cannot provide answers to the issues being examined (a study of coastal features, for example). This is a perennial problem.

Presentation and Analysis of Data

Very often, maps and satellite imagery (for example, Google Earth) were used simply to indicate the location of study area. Maps remain key geographical tools and can be an integral part of a geographical investigation. In many instances where spatial variations of some phenomenon were being examined, the variations were described verbally when they would have had a greater impact if mapping techniques had been used. Maps should be used to present data and should be thoroughly analyzed. Satellite imagery (Google Earth) can also be used with overlays or maps to highlight spatial variations in data. The maps should be integrated, physically, in the body of the study. Candidates used web resources to create bar and pie charts of all forms. They should be introduced and encouraged to make use of a wider range of cartographic techniques. A soil textural triangle could accompany a discussion of soil texture. Scatter diagrams could be effective in specific situations. Also, line graphs were used inappropriately. Line graphs should be used to measure continuous change – to connect points that tract changes over time; to measure how items change relative to each other; to measure progress to a goal. They should **not** be used to show completely separate and unconnected (discrete) events. Photographs were also not used advantageously; like maps, they were often included for visual appeal, rather than as presentation of data for analysis.

Illustrations

Generally, the quality of illustrations has declined over the last few years. Very little attention is paid to details – illustrations are untidy, with titles and labels scrawled, sometimes in pencil. Graphs and maps are often difficult to read, with insufficient labelling, poor choice of fonts, and poor handwriting. Where Excel or other software is being used to generate illustrations, attention must be paid to fonts, alignments, scaling and use of colour. Candidates should know the software well before they attempt to create illustrations with it.

Analysis and discussion / Use of knowledge

Few candidates exhibited a strong grasp of geographical concepts and theories. There is not much evidence that candidates have read much in the area. There is a woeful lack of understanding of geographical terms – technical terms are often not used at all, and sometimes misused.

Many of the shortcomings of the IAs are explained by teachers as an indication of problems they encounter with students – tardiness, carelessness, indifference. It would be easier to accept these explanations if students were not so handsomely rewarded. High marks are seen as an indication of approval. The marks awarded to most of the IAs are far too generous.

Paper 03/2 - (Alternative To Internal Assessment)

This paper is intended for private candidates. Candidates were required to respond to three questions assessing skills similar to those required for the IA.

The performance on Unit 1 was better than on Unit 2.

Unit 1

Mean performance 42 per cent; standard deviation 8.7.

Unit 2

Mean performance 32 per cent; standard deviation 9.0.

CARIBBEAN EXAMINATIONS COUNCIL

REPORT ON CANDIDATES' WORK IN THE ADVANCED PROFICIENCY EXAMINATION MAY/JUNE 2010

GEOGRAPHY

GENERAL COMMENTS

This year, 2 110 candidates wrote the CAPE examination in Geography. The number writing Unit 1 was 977 while 433 wrote Unit 2.

There were some improvements in map-reading skills. It would appear that there was greater success in completing the syllabus since most candidates attempted the questions in Module 3 and there was an improvement in the performance on this module over previous years. Improvement was also noted in the physical section of Unit 1, Module 2.

DETAILED COMMENTS

Paper 01 – Multiple Choice

Paper 01 comprised 45 multiple-choice items with 15 items assessing each module across the three cognitive levels, Knowledge and Comprehension, Application of Knowledge and Practical Skills.

For Unit 1, the mean percentage score was 57.7 with a standard deviation of 9.9. For Unit 2, the mean percentage score was 53.0 and the standard deviation was 10.3.

UNIT 1

Paper 02 – Free Response

Section A

Question 1

This was the compulsory question and was based on a map extract of Trinidad as well as two photographs.

In Part (a), candidates were asked to explain the distribution of population shown on the map extract. Candidates were expected to comment on the influence of relief, the road network and the vegetation. Most were able to identify the influences but could not sustain the discussion for 15 marks. They could have drawn attention to the sparsely populated rugged interior and the nucleated settlement in areas of gentle relief and along the coast. The influence of the main east-west road was noticeable and the more discerning student should have been struck by the difference between the settlement pattern on the east-west road and the total absence of a similar class road leading to the northern coast.

In Part (b), candidates were asked to draw a sketch map of the northern coastline and to state six characteristics of the coastline. Some did not draw the entire coastline. Many neglected to include a key and title. Many listed features on the coastline for example, a bay, a headland. To present a list of features is not to state the characteristics. Candidates did not appear to make a distinction between *list* and *state*. Moreover, the statement 'there is a bay' is not acceptable, 'the coastline is embayed' is better. They could also have given the trend and mentioned the fact that it was rugged.

In Part (c), there were two photographs which showed the effects of flooding. The photographs, one in particular, could have been clearer. However, it was obvious that some dwellings were standing in water and that there were objects partly buried in debris. Most candidates had no difficulty identifying flooding as the hazard in (c) (i). However, many candidates did not appear to understand the concept of vulnerability in (e) (ii). In addition, the fact that houses are built on stilts, a strategy used in flood-

prone areas, does not mean that residents are not vulnerable. Poorly constructed houses could be washed away by rising flood waters; in the second photograph, water, obstructed by debris could be diverted into homes; also, there is the problem of water-borne diseases.

In the final section, (c) (iii), candidates were asked to state the negative and positive impacts of the hazard on the physical and human environment. Candidates need to have a clearer understanding of what constitutes the human and physical environment. Severe soil erosion is an effect on the physical, while the destruction of property and the dislocation of families are effects on the human environment. Floods also fertilize the soil and, in the initial stages, may flush out the breeding places of mosquitoes.

Many candidates did not use the cardinal points in describing direction. Instead, they used the word *up* when they meant north and *down* instead of south.

Module 1: Population and Settlement

Question 2

The stimulus in this question was a table showing the estimated population of Barbados by parish and in Part (i), they were asked to calculate the population density of two parishes. This was well done.

In Part (b), candidates were required to define circulation and forced migration. There was more success with the definition of forced migration than with circulation, the latter being the *short term, repetitive, cyclical movement which does not involve a permanent change of address.*

In Part (c), candidates were asked to explain why the distribution of the world's population was uneven. This was just another way of asking for an explanation of the world population distribution. This was fairly well done. Those who produced good responses explained the presence of major clusters such as those in north-western Europe and South Asia as well as sparsely populated regions. The good responses were based on distribution at a global rather than a local scale. One of the texts in use is misleading and candidates must be able to distinguish between factors that may account for the sitting of a settlement from those which account for major concentrations.

The response rate for this question was 64 per cent.

Question 3

Thirty-six per cent of the candidates attempted this question. Candidates had very vague notions of the terms *natural* and *human* resources required in (a) (i) and (ii) and most responses were unsatisfactory. *Natural resources are those that are not created by people but exist in the earth and are used for production and consumption. Human resources, on the other hand, consist of the labour, skills, talents, knowledge and abilities that enable human beings to be productive economically*.

Part (b), based on a table showing the world's largest cities in 1950 and 2000, was well done, in that most of the candidates were able to identify the changes in the status of cities in the 50-year period.

In Part (c), candidates were asked to explain how the process of urbanization differed in less economically developed countries (LDCs) and more economically developed countries (MDCs). They could have outlined *the stronger link with industrialization initially, and mechanization in agriculture in MDCs; the neglect of rural areas in LDCs; the colonial impact and the development of primacy in LDCs contrasting with a greater network of cities in most MDCs; the association with squatter settlements in LDCs and the recent de-urbanization in MDCs*. Candidates were inclined to focus on rural-urban migration and differences in standard of living. In general, this section proved to be challenging.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Performance on this module was extremely weak, far below the standard which obtained in 2009.

Question 4

The questions in Part (a) were based on a diagram of a meandering channel and a cross section of it. While most candidates were able to identify areas of high, medium and low flow required in (a) (i), many could not identify the thalweg, the line of fastest flow in the river.

Part (b) required a description of a barrier beach and a berm. Candidates failed to distinguish between *describe*, that is, to present a word picture and *explain*, or give the cause, the reason, to say why. *A barrier beach is an offshore bar separated from the coast by a lagoon, running parallel to the coast. Berms are low embankments of sand or gravel found on sandy beaches*. These are descriptions. In addition to this weakness, the majority of the candidates did not demonstrate familiarity with these features.

In Part (c), candidates confused depositional and erosional features of rivers. There are many depositional features from which to choose ─ alluvial fans, deltas, levees, flood plains. Many of the features mentioned were not fluvial. There must be a concerted effort to expose students to the language of the subject and to encourage regular use. The quality of the responses, here, as in far too many of the questions, was not what is expected at this level. This was the more popular of the two questions in Module 2 with a 57 per cent response rate.

Question 5

Candidates performed very poorly in Part (a) which focused on the beach profile. It appears that the features of a beach are not recognizable outside a familiar diagram. Candidates need to be encouraged to read widely and consult other creditable sources outside of a prescribed textbook.

Candidates were unable to define the terms *beach* and especially *beach profile* in Part (b). They knew that there was a link between the beach and the coast but few described it as *a depositional feature, an accumulation of sediments deposited by waves*. The profile was a cross section taken perpendicular to the beach contour. It described the slope of the material deposited on the shoreline.

Performance was equally poor on Part (c). Candidates were asked to discuss physical and human factors accounting for changes in the extent and composition of beaches. They were better able to discuss human factors such as various types of coastal barriers and sand removal. But the discussions were weak and they ignored the terms *extent* and *composition.* Physical factors such as changes *in sea level, wave strength,* and *cliff slumping* were mentioned by very few.

Module 3: Natural Events and Hazards

There was an improvement in the performance on this module this year.

Question 6

In Part (a), candidates are expected to know the order in which earthquake waves arrived and the diagram of the waves recorded by the seismograph ought to have been a familiar one. However, very few gave the correct responses to these questions.

Part (b) required candidates to describe the biological and geological evidence to support the theory of continental drift. It would be advantageous to candidates for teachers to clarify the difference between the theory of continental drift, a theory that continents were adrift attributed to Wegener, and plate tectonics, the movement of lithospheric plates on the asthenosphere. Although presented in the texts under one general heading, the concepts are different. Biological, climatological and geological evidence was advanced in support of continental drift. Many candidates performed well on this section. However, some confused biological and geological evidence. *Reptilian fossils on both sides of the Atlantic Ocean and plants which must have been grown under different climatic conditions* were some of the expected responses. *Rocks of similar age and structure* could have been offered as geological evidence.

In Part (c), candidates were asked to describe the formation of landforms at constructive and destructive plate boundaries. Apart from the few who confused the processes and who were more familiar with the terms c*onvergent* and *divergent,* and could not translate the processes in terms of *constructive* and *destructive,* this section was well done. Candidates described the ridges, volcanoes and basaltic plateaux at constructive margins and the trenches, island arcs, folds and volcanoes at destructive margins.

The response rate for this question was 64 per cent.

Question 7

In Part (a), candidates were given a table showing precipitation for the period 1970 ─ 1993 and the formula for calculating the recurrence interval. They were then asked to use the formula to calculate the recurrence interval for events of two magnitudes. Very few candidates were able to perform the task.

The majority of candidates were unable to define *recurrence interval* or *seismic gap. The recurrence interval is the interval between occurrences of a given magnitude while a seismic gap, is a segment in*

an active fault where no movement has taken place for a long time when compared with other sections, and is considered a site for future activity.

In Part (c), candidates were asked for advantages and disadvantages of strategies to mitigate the effect of river flooding. *Mitigate* is a term with which all candidates who studied hazards should be familiar. It was clear that many were unfamiliar with the term. Examiners expect candidates to be able to discuss broad strategies such as land use regulation, levees, channelization, emergency action, dams and reservoirs. Instead, there was an obsession with the clearing of drains blocked by garbage. Some mentioned draining without a strategy for draining. These are not the responses expected of students who have studied geography and are being tested on subject matter for which the materials are accessible. While the performance on this section was better than on Parts (a) and (b), it was nevertheless unacceptable.

UNIT 2

Paper 02 – Free Response

Question 1

This was the compulsory question and was based on the map extract of Savanna-la-Mar, Jamaica. There was a marked improvement in performance over 2009.

In Parts (a) (i) and (ii), candidates were required to identify, describe and account for the distribution of three types of natural vegetation. The majority of candidates were able to identify three of the types from *woodland, mangrove, shrub and trees, marsh and swamp,* and to account for their distribution by indicating the *high water table* and *impeded drainage,* and the *influence of nearby settlements*. Somewhat fewer described the distribution adequately.

A grid was provided for Part (b) and candidates were asked to draw a sketch map, insert different types of land use in (b) (ii) and account for the pattern of the main type of agricultural land use in the area in (b) (iii). The sketch maps were very poorly drawn and here too, candidates ignored basic map reading skills such as the provision of a key and a title. There was better success in the identification of the different types of land use and in accounting for the distribution of sugar cane ─ relief, water and accessibility.

Part (c) tested candidates' ability to recognize differences between two areas on the map. The major problem in this section was the failure to correctly identify the areas delimited by the grid references. In many cases, this was the result of carelessness.

Module 1: Climate, Vegetation and Soils

Question 2

The stimulus for Part (a) was a photograph of the coniferous forest. The photograph could have been clearer, but given that candidates were required to study two types of forests only, and the fact that it was clearly not the tropical rain forest, the responses should have been better. Some candidates named grasslands which is definitely incorrect.

In Part (b), candidates were asked to describe two conditions necessary for the formation of a tropical cyclone. Too many candidates described the characteristics of a hurricane. Most of those who understood the intent of the question were only able to mention one, and in most cases that was the *heating of the ocean*. Few mentioned the *Coriolis force* and the absence of *wind shear*.

Part (c) required candidates to write an essay on the human influence on the characteristics of the soil in a number of specified areas. Many wrote competently on the effect of *waterproofing of urban surfaces, the removal of vegetation, the effect of land pollution resulting from industrial development, intensification, irrigation and poor agricultural practices.* However, their treatment of domestic practices was less convincing. Few discussed the effect of *improper waste disposal* and the *problem of non-biodegradable waste.*

The response rate for this question was 54 per cent.

Question 3

In Part (a) (i), the majority of candidates were familiar with the atmospheric condition displayed in the diagram (instability). The point A in the diagram in (a) (ii) represented dew point and this was all that was needed in response to the question. A few tried to explain what was happening at A. The change in slope at A was caused by the release of latent heat and responses to this question were poor.

Very few candidates encountered difficulties in defining the term *microclimate*, the climate of small areas required in Part (b) (i). However, they had less success in their attempts to define the *heat budget in (b) (ii),* the balance between the incoming heat absorbed by the earth and outgoing radiation.

In Part (c), candidates were asked to explain how the tropical rain forest vegetation was adapted to the climate. Responses to this were fair. Candidates described the main climatic characteristics of the region and the adaptations in terms of structure (layering), species composition, habit and productivity. A minority described the characteristics of the tropical savanna and coniferous forests.

Forty-six per cent of the candidates attempted this question.

Module 2: Economic Activity

Question 4

Table 1 compared the profitability of organic and conventional wheat growing. In Parts (i) and (ii), candidates were asked to name the type of farming which had the greatest cost and showed the greatest profit. They performed well on these parts. However, they performed satisfactorily on Part (ii) which dealt with the percentage difference of yields and market price between the two types of farming. Candidates appear not to have moved beyond the original provisions of the common agricultural policy (CAP). In Part (b), candidates were unaware of the changes made since 1992 regarding the reduction in subsidies, quotas, set aside, and the encouragement of diversification.

Part (c) required an essay to discuss the manner in which land use in the Caribbean is affected by government policy, markets and size of holdings. Performance was extremely poor. Candidates demonstrated very little knowledge of Caribbean issues. Some mentioned policy decisions and problems in the market but very few discussed the manner in which these affected land use, for example, *the reclassification of agricultural land for residential use; the removal of tariffs has effects on local agricultural production; the rulings of the World Trade Organization (WTO) have had a severe impact on government policy in the region and on the fate of sugar and banana cultivation.* Some of these issues have dominated the news in the Caribbean over the past few years and teachers and students need to keep abreast of such developments.

The response rate was quite low ─ just over 29 per cent.

Question 5

Forty-three per cent of the candidates responded to this question. In Part (a), candidates were asked to outline three characteristics of the informal sector. Candidates are reminded that to outline is not to present a list but to provide the main points briefly. *The informal sector is labour intensive employing family members, mainly women and children. Little start-up capital is needed and many of the jobs are done in the home.*

Parts (b) (i) and (ii) were based on a graph showing the relationship between income and air travel and candidates were asked to state the relationship between the number of trips per person and per capita GNP and to make observations about China and India. Candidates appeared to be unfamiliar with the scatter graph and therefore could not read it.

The factors affecting the growth of the tourist industry in the Caribbean should have been known to the majority of candidates but responses were surprisingly poor. They ignored *growth*, that is, the increase in numbers, and discussed the attractions and its contribution to the development of the region. Those who gave satisfactory responses described the *increase in income in developed countries, paid holidays and package tours.*

Module 3: Development and Disparities in Development

Question 6

The stimulus in Part (a) was a graph showing access to safe water. Candidates were asked to compare the trends for urban and rural households. The question called for a trend and therefore stating the percentage increase year by year was not satisfactory. The following is more acceptable:

> *In 1970, all urban households had access to safe water supplies but the percentage declined in subsequent years reaching a low in 1990 before increasing to its highest level in the period 2000 to 2006.*

In Part (b), candidates were required to describe two ways in which aid to developing countries can stimulate economic growth. This was a contentious issue and many candidates said that aid hinders development while others said that aid assisted development. This is a new area in the syllabus and

there was absolutely no indication that candidates were exposed to the debate. Yet, this is the type of issue that could grab the imagination of students. The responses were the type of simplistic statements that one would expect of candidates who were guessing. Aid, they said, was used to build houses. Candidates could have cited specific investment projects in developing countries supported by aid or the expansion of infrastructure on which development depends. New areas in the syllabus must be tackled.

'Citing specific examples, explain how two types of natural disasters and debt burden are constraints to development in the Caribbean.' Here, too, there was no evidence of information on specific case studies of negative impacts as required by the syllabus. The question called for a description of the disaster, the damage caused, the effort at and cost of reconstruction and the implications for development. There is a wealth of data on the effect of the debt burden on countries such as Jamaica. This is another new area of the syllabus which, judging from the simplistic responses of the overwhelming majority of candidates, appears to have been neglected.

Question 7

Part (a) required a summary of the differences in indicators between male and female in developed and developing countries. Responses were poor, the focus should have been on the *gender differences.*

In Part (b), the mortality rate was not necessarily an indicator of health disparities between more economically developed countries (MDCs) and less economically developed countries (LDCs). Many developed countries have higher mortality rates because of an elderly population, but infant mortality, life expectancy and morbidity rates are indicators.

Part (c) (i) focused on a limitation of the human development index. This produced fair responses, such as the concealment of inequalities.

Part (c) required an essay to explain why measures of development were misleading. Most candidates were familiar with this issue. However, the essays were disorganized. There are social indicators such as the human development index (HDI) and gender development index (GDI) which use averages and do not show class and rural-urban differences. The economic indicators such as gross development product (GDP) and gross national product (GNP) are more reliable for MDCs than LDCs, hide extremes, rely on national statistics, among others.

Thirty-five per cent of the candidates attempted this question.

Candidates are unfamiliar with basic geographical concepts and the accepted language of geography. The majority seemed to have no knowledge of new areas in the syllabus and resorted to guesswork. Responses were not at the level expected of CAPE candidates. In addition, candidates need more practice in essay writing. Organizing the required information and structuring the essay are skills that are best acquired by practice.

Paper 03 - Internal Assessment (IA)

Overall, there were improvements in the performance in certain areas this year – tables and figures were integrated much better, although some candidates still placed all their diagrams at the beginning. There were improvements in the analysis of findings. Conclusions were better and so were bibliographies. But maps and photographs were poorly used, if at all.

The projects presented in Unit 2 were better than those in Unit 1 and those in Physical Geography more competently undertaken than those in Human.

Teachers at a centre or school must bear in mind that the IAs of the school and not the teachers are examined. It is very important that teachers coordinate approaches and especially the marking of projects, and that there is one standard for the marking of the topics. When there is a marked difference in the standards adopted by two teachers, the moderation affects all the candidates and good projects may be unfairly penalized.

Statement of Purpose

Many of the statements were too brief, too vague and too generalized. The style and the topics adopted for Caribbean Studies are not recommended for geographical research. Often, the context of the study was not stated. This was a problem particularly in comparative studies. If the soils or vegetation in two different areas are being compared, there must be a basis for the comparison. Have the soils or vegetation developed under different conditions ─ different parent material, relief, or climate?

Teachers and candidates must ensure that the topics are in keeping with the specific objectives of the syllabus and are taken from the appropriate unit. Central place theory and sphere of influence, for example, are not specified in the syllabus.

Methodology

Questionnaires are not suitable for all types of research and there were many instances in which they were misused. They were used to analyse population distribution and in dubious situations. Questionnaires were administered in communities in an effort to find out why persons left the communities. Often, they were self administered and the response rate was low. The sampling procedure was vague and; there was no explanation as to the manner in which the data collected would be manipulated to achieve the stated objectives.

Appropriate skills were too often ignored. For example, maps were not used in spatial analysis; flowlines were not used in migration studies. Some methods were used inappropriately, for example, soil catena analysis can only be applied under very specific conditions.

Presentation

About one-half of the projects revealed the type of problems that mar the responses to the questions on Paper 2. Diagrams and sketch maps were not properly or neatly drawn and labelled. There was an increasing tendency to use Excel and other software but the construction of diagrams was sloppy and

the output sometimes meaningless. Sometimes the software was used in situations for which it was not designed or which required expert application ─ the production of river channel cross profiles. Although the placement and integration of maps and diagrams have improved, there were still instances in which they were wrongly placed and not fully integrated into the analysis.

The practice of presenting the data collected as a series of pie charts and bar graphs followed by a description of what appears in the diagram is not appropriate for geographical studies, especially at this level. It must be clearly understood that maps and diagrams are means of presenting data and may be seen as alternatives to words. They highlight or illustrate a point made.

Where appropriate, site maps must be presented and utilized for specific purposes in addition to an indication of the locality of the study. A very high percentage of the projects have no maps at all. Where Google imagery was presented, it was not annotated or used.

Analysis and Discussion

The improvements in this area have been noted. However, many projects were weak and comprehensive analysis was lacking. Where questionnaires were the main instruments used, analysis often took the form of the bar graph or pie chart breakdown of percentages referred to in the section above. When methodologies are poor, the analysis suffers. Weak, shallow discussions reflect the tendency to rely on a single textbook such as that by Waugh or by Nagle. Reading outside of these sources would add depth to the discussion, would strengthen the context of the studies and allow candidates to avoid the incorrect explanations given for geographical processes.

Conclusion

Some improvements were seen here also, but overall, a greater effort must be made to link conclusions with the purpose of the project.

Bibliography

Fewer CSEC level texts appeared in the bibliography but there was still a very heavy dependence on Waugh and Nagle. Internet sources were not well referenced.

CARIBBEAN EXAMINATIONS COUNCIL

REPORT ON CANDIDATES' WORK IN THE ADVANCED PROFICIENCY EXAMINATION

MAY/JUNE 2011

GEOGRAPHY

GENERAL COMMENTS

This year, 2,088 candidates wrote the CAPE examinations in Geography. The number writing Unit 1 was 1,349 while 739 wrote Unit 2. The overall performance on Unit 1 was better than Unit 2, particularly in Paper 02.

There were some improvements in map-reading skills. However, the new areas of the revised syllabus presented some challenges in Module 2 (Hydrological, Fluvial, Coastal and Limestone Environments) of Unit 1 and Module 3 (Development and Disparities in Development) of Unit 2. It was evident that candidates had a weak grasp of the material in these two modules.

DETAILED COMMENTS

UNIT 1

Paper 01 – Multiple Choice

Paper 01 comprised 45 multiple-choice items with 15 items assessing each module across the three cognitive levels — Knowledge and Comprehension, Application of Knowledge and Practical Skills.

For Unit 1, the mean percentage score was 54.2 with a standard deviation of 9.6. For Unit 2, the mean percentage score was 55.2 and the standard deviation was 9.8.

Paper 02 – Free Response

Section A

Question 1

This question was compulsory and assessed map-reading skills. The question was based on an extract of St Vincent on a scale of 1:25 000. There was an improvement in performance compared with former years. In fact, the performance here was the best of all the questions with more than 40 per cent of the candidates earning over 25 marks. The marks earned ranged from 1 to 42.

Part (a) — the sketch outline of the coast (i), the locating of the settlements (ii) and the drawing of the road — was very well done but some candidates failed to reduce the scale to 1: 50 000. Some candidates did not follow the instruction to shade and name the settlements and a few of them took the road beyond London.

Part (b) was also generally well done. The majority of the candidates recognized the influence of relief, drainage, transportation or the distribution of settlements. They were less successful in Part (c) (i) and (ii) requiring a description and explanation of the drainage pattern. Most candidates described the main pattern — radial — although a few of them confused it with centripetal. However, they did not identify minor patterns, for example, the annular pattern to the north and east of the crater. They could have mentioned the fact that *eastward flowing streams were longer and more tortuous. The reasons for the pattern were the conical nature of the mountain, the fact that the summit was closer to the west than the east coast and the influence of the shape of the crater on the short subsequent streams*. Some candidates wrote from knowledge rather than from map evidence.

Part (d) was exceptionally well done and many candidates scored between 12 and 15 marks from a maximum of 15. However, a few candidates listed hurricanes and flooding as geological hazards. Acceptable responses were *volcanic eruptions, earthquakes, landslides when resulting from earthquake and emissions of toxic volcanic gases, bombs*. Candidates should note that volcanic eruptions are hazards and not volcanoes.

Part (d) (ii) was also well done. Candidates described areas that could be affected by a hazard as well as policy measures that could mitigate the effects such as *early warning systems, monitoring, building codes, exclusion zones*. In Part (d) (iii), however, a few candidates gave individual measures rather than responses from a disaster management agency. Part (d) (iv) was also well done. Candidates mentioned the benefits of tourism, research and agriculture arising from the nature of the area.

Module 1: Population and Settlement

Question 2

Part (a) (i) was well done. The majority of candidates were able to give a good definition of doubling time. However, they were less successful in trying to explain the effects of doubling time in Part (a) (ii). Instead, they focused on the effects of population growth. They were expected to distinguish between a situation in which the population of a country doubled itself in a short time and one in which doubling time was fairly long. In the former, population growth was rapid and this would slow the pace of economic development. A longer doubling time and slower growth had more favourable effects on development. In Part (b) (i), candidates were asked to calculate doubling time from a graph and the majority of them had no difficulty in interpreting the diagram.

In Part (c) (i), candidates did not understand the term *form* when applied to settlements. The terms 'form', 'pattern' and sometimes 'shape', were used interchangeably. 'Nucleated', 'linear' and 'dispersed' are terms used to describe the form of settlements. Many candidates discussed the hierarchy of rural settlements. As a result, Part (c) (ii) which required an explanation of their formation was poorly done. Even those candidates who correctly identified nucleated settlements discussed them in terms of urban rather than rural settlements as the question demanded. Nucleated rural settlements develop, for example, around mineral resources, in areas of intensive farming and at crossroads. Thirty-nine per cent of the candidates attempted the question. The mean on Question 2 was 10.15 and the range 0–25 marks.

Question 3

In Part (a) (i), a few candidates confused population distribution with density but the majority of them described distribution as the spread of people over the earth's surface. Similarly in Part (a) (ii), the majority identified the dot map as the method of depicting population distribution on a map. However, many candidates had difficulty describing a disadvantage of the method, for example, the difficulty of recalling data, the assumption that there is an even distribution and the choice of the right values.

The figure in Part (b) showed the relationship between GDP and per capita income of a country and candidates were asked to describe the condition of the population at three points on the graph. This

task posed a little difficulty. Similarly, most candidates were able to state at which point Canada would be located on the graph.

In Part (c), candidates were asked to write an essay explaining three causes and two consequences of suburbanization. The responses were poor. Candidates do not have a proper grasp of the term. They discussed rural-urban migration or decentralization, which, in either case, was incorrect. Suburbanization involves the movement of people from the centre towards the edges of the built-up area. There are social (congestion, crime), economic (ability to pay for the cost of travel) and political incentives to move. The movement produces, for example, an aging population in the centre. The mean on Question 3 was 10.03.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Question 4

The stimulus in Question 4 was a table presenting measurements of three rivers and in Part (a) (i), candidates were asked to calculate the hydraulic radius of each. Few candidates appeared to know the formula for the calculation. Since the answer to Part (a) (ii) (hydraulic radius, wetted perimeter, the most efficient stream) depended on the calculation in Part (a) (i), candidates resorted to guesswork. For Part (a) (iii), Stream C with the greatest hydraulic radius was the most efficient since the greater the hydraulic radius the greater the energy of the stream. Most candidates were able to identify ways in which human activity increased run-off.

Part (c) required candidates to outline two reasons why the mean velocity of a stream either remains constant or increases downstream. Most candidates could not describe downstream changes. As a consequence of the decrease in roughness, there were changes in the nature of the load and in the depth of the water.

Part (d) focused on three reasons why the surface of the limestone region is broken. The responses were poor. The reasons include micro features on the surface where rainwater stands in pools – karrens, fluting on the edges of clints — as well as macro features — swallow holes, uvalas.

This was a very popular question attempted by over 80 per cent of the candidates. Approximately four per cent scored 20 marks and more. The mean was 8.3 and the range 0–27.

Question 5

In Part (a), candidates were shown sketches of two drainage basins and asked to draw two storm hydrographs to illustrate the response of each to similar amounts of rainfall. The responses were fair but many candidates found this task difficult. The critical point was a determination of the lag — fairly long in the elongated and short in the circular basin.

In Part (b), candidates were asked to describe two land forms, for example, flood plains. Most of them correctly named the land forms but they explained their formation rather than described their appearance. The responses to Part (c) were extremely poor. The question required an explanation of the development of landforms resulting from the submergence of coastlines. Many candidates did not even attempt this section. When they addressed the question they ignored land forms of submergence — rias, estuaries, fiords, Dalmatian coast — and discussed deltas, spits etc.

Approximately 19 per cent of the candidates attempted this question. The mean at 3.86 was the lowest of all the questions and the range 0–19.

Module 3: Natural Events and Hazards

Question 6

In general, the performance on this question was extremely poor. Very few candidates were able to calculate the flooded area shown on the sketch map in Part (a) although they should have been assisted by the grid. This seems to be a neglected skill. A few candidates who were familiar with the procedure neglected to convert the answer to km^2 as requested.

In Part (b), candidates were asked to identify factors that affected the intensity of an earthquake. Some of them confused the word *intensity* with *effect* and gave as a response the time of day. Examiners expected a discussion of epicentre, focus and rock structure. A large number of candidates confused focus, the point at which pressure is released with epicentre on the surface.

In Part (c), candidates were asked to explain the absence of volcanism at transform margins and collision zones. Most candidates correctly linked the absence of volcanism to the fact that there was no subduction at these locations but too much time was spent discussing plate margins even when they had no relevance to the question.

In the final section, Part (d), candidates were required to give reasons why factors such as unusual animal behaviour, seismic activity and ground deformation were signs of an impending major earthquake. The responses were poor. Most candidates knew that they were signs but did not give reasons. However, there were a few candidates who wrote of the significance of the small shocks known to occur around the epicentre, and the seismic gap, strain energy causing land deformation and the possibility that animals were reacting to high frequency noises and the smell caused by methane leaks.

Slightly more candidates (51 per cent) responded to this question than Question 7. The mean mark earned by candidates was 6.7 and the range 0–22.

Question 7

This was the second of the two questions that were based on hazards. Part (a) tested candidates' knowledge of primary and secondary hazards and the responses were quite good. Lava flows, lahars, nuees ardentes are primary, while landslides, tsunami and fires are secondary effects of volcanic hazards.

In Part (b), candidates were required to briefly describe two methods of flood prediction. Flood hydrographs are constructed after precipitation events and are not predictive. Steam gauging, satellite observations and statistical models are employed. This section was not well done and it was clear that there is a knowledge gap.

In Part (c), candidates were required to outline two reasons to support engineers who argue against the construction of levees. There are several reasons. *Levees give a false sense of security and encourage*

building in potentially dangerous areas; they force floods to rise vertically rather than flow laterally and the higher the levee the higher the level of the river; they often fail. Very few candidates were able to find two convincing arguments against the construction of levees.

In Part (d), candidates performed fairly well. Shield volcanoes, cinder cones, strato/composite volcanoes were the most common constructional landforms described. However, many candidates described intrusive features which had no surface expression.

UNIT 2

Paper 02 – Free Response

Question 1

This was the compulsory map work question which was based on an extract of May Pen, Jamaica on a scale of 1:50 000.

Part (a) (i) required a description of the distribution of vegetation and it was well done. Most candidates correctly identified woodland trees and scrub, marsh/swamp and mangrove. Unfortunately, there were still many candidates who could not give correct grid references. The correct sequence is easting before northing. There were curious references such as 'west of easting' and 'north of northing' which were unacceptable. Just as unacceptable were references to 'above' and 'below' rather than 'north' and 'south'. Some candidates continue to name crops.

The question testing knowledge of quadrant analysis, Part (a) (ii), was very poorly answered. There is limited knowledge of this technique. In addition, candidates identified the wrong grid square.

Parts (b) (i) and (ii) were well done. The descriptions of agricultural land use were good in (b) (i) as were the accounts for the dominance of sugar cane in (b) (ii). However, the problem of grid references surfaced here and, in fact, throughout the question.

The majority of candidates scored no marks for Part (c). They were asked to identify internal disparities in a section of the map extract. They did not appear to understand that a comparison was necessary. For example, the forested, transport poor, eastern section was in marked contrast to the agricultural, industrial western section. Many candidates made no reference to the map. Other candidates who could not read grid references based their answers on the wrong areas.

Part (c) (ii) required policy initiatives to reduce disparities. Many of the responses given were not related to the areas in question. Others were unfeasible. There could have been suggestions for a nature reserve around the marshes and swamps or the possibilities for expansion around Salt River or the expansion of grazing in Harris Savanna.

The mean score was 16.3 and the range 0–38.

Module 1: Climate, Vegetation and Soils

Question 2

Just over 23 per cent of the candidates selected Question 2. In Part (a), candidates were required to draw a cross section of a hurricane. Most of them were unable to do so. They did not appear to understand what a cross section is and there was a failure to focus on wind direction. The majority of candidates was able to define soil texture and structure in Part (b) (i) but some of them confused the two and some examples would have strengthened the discussion.

Texture has far-reaching effects on soil properties but candidates did not fully appreciate the relationship needed in Part (c). Soil texture controls the size of pores and hence aeration and drainage. It affects the availability of nutrients and ease of cultivation. Candidates must be able to develop these relationships.

There were a few good responses to Part (d) (i) and (ii). Many candidates explained the different types of rainfall. They did not make the connection with adiabatic cooling and vertical movements or with orographic rainfall. Candidates mentioned the formation of fogs with lateral movement. The mean mark was 6.84 and the range 0–25 marks.

Question 3

About 78 per cent of the candidates selected this question. Most of them identified latosols as the soil profile represented in the diagram in Part (a) (i). However, although the majority of candidates identified leaching/eluviations as the process represented by the arrow in Part (a) (ii), their descriptions were not specific to the soil type — the removal of silica, leaving behind iron and aluminum and inhibiting the development of a clear boundary between A and B.

In Part (b), many candidates confused the term with heat budget. The majority of candidates understood the concept of the urban heat island in Part (c) and could state differences between the climate in urban and rural areas. They lost marks because they did not develop their responses.

Many candidates confused the vegetation of areas experiencing continental climate, Part (d), with that of the equatorial. Examiners expected a discussion of the variation as one moved from wetter areas near the rainforest through woodland and into dry areas with thorny species. The mean on this question was 9.14 and the range 0–27.

Module 2: Economic Activity

Question 4

Part (a) (i) required a definition for the term ‘biotechnology’. Many candidates defined biotechnology as improvement in technology (machinery). The term refers to *the use of biological agents to produce goods and services using scientific and engineering principles*. Candidates earned low marks in this

section. Performance on Part (a) (ii), the advantages and disadvantages of the use of biotechnology, was better. However, candidates were unable to expand their responses to gain six marks. They could have mentioned the modification of crops such as tomatoes in order to increase the shelf life and the success of efforts to improve the quality and output in plant and animal husbandry. However, there were threats to biodiversity and the threat of transfer of genetic material to weeds making them difficult to control.

The stimulus material in Part (b) (i) comprised three pie charts showing employment by sector in less developed countries (LDCs) and more developed countries (MDCs). Candidates were asked to identify differences in employment. Candidates tended to compare within LDCs and MDCs rather than describe differences with different levels of development. Some of them attempted to give reasons for differences and this was not required.

In the final part, (b) (ii), candidates were asked to explain why the size of the tertiary sector may be seen as an indicator of the stage of economic development. They did not appear to grasp what was needed. Many candidates did not know what the tertiary sector comprised. They failed to discuss the implication of the movement from the production of raw materials to that of services. Seventy-four per cent of the candidates responded to this question. The mean mark was 9.7 and candidates earned from 0 to 26 marks.

Question 5

Twenty-six per cent of the candidates attempted this question. The majority was able to name four of the six stages of Butler's Tourist Resort Life Cycle although the spelling was unacceptable — exploration, involvement, development, consolidation, stagnation, decline. The majority also could name a country at the fourth stage in Part (b) (ii). The table in Part (b) showed shares of world manufacturing production. The majority of candidates could not interpret it. Some of them ignored the table and gave reasons for the changes in the manufacturing industry.

In Part (c), candidates were asked to discuss factors responsible for industrial change in an LDC outside the Caribbean. Several of them selected a Caribbean country. Candidates struggled because it was clear that they were unfamiliar with an actual case study. They could have focused on India where there was a move from chemical and manufacturing industry to high technology industries after the accident at Bhopal. The government enacted policies such as trade liberalization and invested in research and development. They took advantage of their strategic location in Asia; the size and cost of the labour force whose knowledge of English is an asset as well as the development of off-shoring.

The mean mark earned by candidates was 9.69 and the range 0–26 marks.

Module 3: Development and Disparities in Development

Question 6

Approximately seventy-eight per cent of the candidates responded to Question 6. In Part (a), they were asked to describe the trend in Australian aid as depicted in line graphs. The problem was the same as that experienced in previous years. Candidates described the rise and fall of every line in every year and failed to comprehend the implication of the word 'trend'. With the exception of East

Asia, there was little change in the level of aid to the countries shown over the period. Aid to Papua New Guinea and Africa declined slightly while that to the Pacific and South Asia increased marginally.

East Asia showed two periods of decline, 1996–1997 and 2000–2001. This is a trend. The question was allocated a maximum of four marks and there was no need for candidates to write pages. Few candidates were familiar with the Physical Quality of Life Index, a composite of infant mortality, life expectancy and adult literacy. Candidates should not confuse adult literacy with education.

In Part (c), candidates were asked to discuss ways in which aid to developing countries could stimulate and harm development. The performance here was below expectation because the question was very similar to one asked in 2010 — ways in which aid can stimulate growth. The comments on the 2010 performance which appeared in the Report on Candidates' work, 2010 are still relevant: *The responses were the type of simplistic statements that one would expect of candidates who were guessing. Aid, they said, was used to build houses*. (p 9)

The same could be said of responses in 2011. There has been no improvement. Candidates could have pointed to the examples of Korea and Taiwan where aid was targeted and directed to specific problems and where there was success. But aid often comes with conditions and policies not suited to the local environment. There is the example from Jamaica where social services were neglected.

Part (d) which focused on gender disparities was very poorly done and revealed several gaps in candidates' grasp of concepts such as life expectancy at birth and sex ratio at birth. In so far as life expectancy is concerned, women live longer. The mortality gap widens over the life course, for example, risky lifestyles of men and dangerous occupations. Regarding the sex ratio at birth, candidates should discuss the preference for boys in many societies and the technology that allows selective abortions. In education, a higher percentage of women is illiterate and in many countries, fewer girls are enrolled in primary schools. Candidates could discuss the opposition to the education of girls in many countries and the many reasons why girls are kept at home. It should be noted that the question stipulated enrolment and not attendance at school. So the poor attendance of boys in some Caribbean countries is not really relevant.

The mean mark earned by candidates was 8.45 and the range 0–27 marks.

Question 7

Twenty-one per cent of the candidates attempted this question and responses were extremely poor. Candidates were required to draw a line graph in Part (a) and most did so competently. A few of them produced scatter diagrams while some had difficulties with the axes and scale.

In Part (b), most candidates wrote acceptable definitions of external debt — *the proportion of total debt owed to creditors outside the country* — as well as sustainable development — economic growth and *social progress that do not harm the prospects of future generations*.

Candidates failed in their attempt to apply Myrdal's model to an actual case study as required in Part (c). Most candidates described the model. The approach of one candidate was instructive. S/he tried to apply the model to regional disparities in income in Trinidad. S/he described the advantages which Port-of-Spain possessed and which allowed it to develop as the core region. Workers and investment were drawn into the core (backwash) and the core expanded. Incomes expanded in Port-of-Spain and

since migrants and resources were drawn from the south, the south of Trinidad remained, in effect an impoverished agricultural area.

It is clear that the candidate understood how cores develop and the backwash as described by Myrdal. However, s/he did not have a case study and so s/he drew upon popular notions in the capital about the relative backwardness of the south. This is not a true picture of regional development in Trinidad where the south is the centre of the petroleum industry and a hub of industry. The candidate had no difficulty with the model and could have done very well if s/he had information on an actual case. Many candidates did not attempt this section. In fact, many of them wrote just a few lines on this entire question.

In Part (d), candidates were required to discuss two ways in which insularity can be an obstacle to the development of small island states (SIDS). Too many candidates did not know the meaning of insularity — their being islands. They could not discuss, for example, the problems of international transport of goods, the small size of cargo and increased costs.

Candidates and teachers are encouraged to prepare adequately in order to respond to those questions where specific information on areas studied is requested.

The mean mark on this question was the lowest, 6.08, and the range 0–15.

Paper 031 – School-Based Assessment (SBA)

There was an improvement in the quality of the SBAs this year, in the sense that there were fewer poor submissions. However, there were also fewer excellent studies. There was also an improved understanding of the requirements of the SBA by teachers and the differences in the marks awarded by teachers and the moderators were less than in former years. Nevertheless, a few extremely poor studies were highly rewarded by teachers.

In many of the studies, the focus of the methodology was on how the data were collected. Some candidates went into great detail about the journey, the subdivision of the class, the description of the instruments used, the measurements. They said little or nothing about what was done with the data collected.

Many of the studies were descriptive, and the description, especially the analysis, left much to be desired. As in previous years, questionnaires were the most favoured information gathering tool and in many instances, they were inappropriately used. For example, questionnaires were used to collect information on geomorphic changes along a stretch of coastline. In addition, there was a tendency to analyse each question on the questionnaire. Candidates would present a pie chart illustrating the responses to a particular question and then describe what is shown in the pie chart. Each question was treated in this form. This is unacceptable. Each question is part of the larger picture which the candidate is presenting. Moreover, candidates should be reminded that maps and diagrams in geography are tools that replace words. Candidates should use diagrams to underscore the point being made, making reference only to what is important.

In addition, more attention must be paid to the quality of the illustrations. The pie charts and bar graphs that were indiscriminately used were inadequately labelled and the units of measurement were often missing. Sketch maps were few. There should have been more river cross profiles, beach

profiles and transects. There was too much reliance on graphs created by Excel and other software. Site maps were missing from many of the studies, were poorly constructed or not integrated and actually used in the body of the study.

Fluvial processes and coastal features/processes were very popular topics and some were very good. However, in general, the coastal studies were too descriptive. There was an increase in the use of statistical tests to measure relationships and this should be commended.

More attention must be paid to citations. Many were incomplete. Some were irrelevant. A study of rivers ought to include at least one text which deals with rivers.

Teachers and candidates *must* ensure that the topics chosen are relevant to the syllabus. Several studies were not relevant to the particular unit and in a few cases, not in the syllabus. Inconsistent marking could work against the interest of high achieving students. Adjustment to the marks of weaker studies could pull down the marks of the more deserving. For the same reason there *must* be consultation between teachers when two in one school present studies for moderation. Teachers must ensure that the standard adopted is the same.

CARIBBEAN EXAMINATIONS COUNCIL

REPORT ON CANDIDATES' WORK IN THE CARRIBEAN ADVANCED PROFICIENCY EXAMINATION®

MAY/JUNE 2012

GEOGRAPHY

GENERAL COMMENTS

This year, 2065 candidates wrote the examinations in Geography. The number writing Unit 1 was 1025 while 1040 wrote Unit 2. The overall performance on Unit 1 was better than Unit 2, particularly in Paper 02.

The improvements noted in map-reading skills in 2011 were not sustained in 2012 in Unit 2. The new areas of the revised syllabus for Unit 2 continue to present some challenges in Module 2 (Hydrological, Fluvial, Coastal and Limestone Environments) and Module 3 (Development and Disparities in Development). It was evident that candidates continue to struggle with the material in these two modules.

DETAILED COMMENTS

UNIT 1

Paper 01 – Multiple Choice

Paper 01 comprised 45 multiple-choice items with 15 items assessing each module across the three cognitive levels — Knowledge and Comprehension, Application of Knowledge and Practical Skills.

For Unit 1, the mean percentage score was 56.6 with a standard deviation of 11.53. For Unit 2, the mean percentage score was 52.9 and the standard deviation was 11.01.

Paper 02 – Free Response

Section A

Question 1

Specific Objectives: Module 1–13; Module 2–7; Module 3–9

Candidates were given a map extract of Basseterre, St Christopher on a scale of 1:25 000 and in Part (a) (i), they were asked to describe the form and function of Basseterre. There was a similar question on the 2011 paper and in the Report on Candidates' Work, it was stated that candidates did not appear to understand what was meant by the form of the town. The same observation applies this year. Some candidates described the site; others the situation. The form is the pattern, for example, whether the town is a rectangular grid or elongated in east-west direction.

Candidates were better able to describe the function of the city. However, candidates should be encouraged to give broad classifications with examples. Factory is not the function of Basseterre, neither is school nor church. The functions are industrial or service. It may be residential, commercial or administrative. These categories should be supported by the relevant example(s) from the map.

In Part (a) (ii), candidates were asked to describe the influence of relief on the distribution of villages. Many described the relief without linking it to the distribution. Others were unclear of the definition of relief, confusing it with land use or lines of communication. There was also marked failure on the part of candidates to link relief with patterns — isolated houses in upland areas and pockets of level land.

In Part (b), candidates were required to compare the two coastlines using a well-labelled sketch map. In general, the maps were not well labelled. Many candidates did not compare the coast—orientation, extent shape, relief, landforms. For example, the eastern coastal area is oriented in a north-north-west to south-south-east direction. The southern coastal area is oriented primarily east to west. Beaches are found on both, but they are more extensive in the east. The characteristics of the two coasts may have been the result of different depositional history — subsidence of the south coast and emergence in the east. The responses were poor.

In Part (c), two photographs were provided — one showing conditions before a tsunami and the other, after the tsunami. In Part (c) (i), candidates were required to describe the effect. This was well done. In Part (c) (ii), candidates were asked to define the term *tsunami*. Candidates need to be more precise in their definitions. A big wave is not acceptable. A more precise response is, *it is a big wave generated mainly by underwater earthquakes but also by volcanoes and landslides.* The expected response for Part (iii) is that *the causes of tsunamis are earthquakes, volcanic eruptions and landslides.*

Part (d) was exceptionally well done and many candidates scored between 12 and 15 marks from a maximum of 15. However, a few candidates listed hurricanes and flooding as geological hazards. Acceptable responses are *volcanic eruptions, earthquakes, landslides when resulting from earthquake and emissions of toxic volcanic gases, bombs*. Candidates should note that volcanic eruptions are hazards but volcanoes of themselves are not hazards.

In Part (d) (i), candidates were able to name and locate an area where a tsunami could pose a hazard. Most candidates identified the southern coastline.

Most candidates responded to Part (d) (ii) and were able to outline strategies to mitigate the effects of a tsunami — *increased awareness, evacuation plans, simulation exercises, warnings and zoning*.

Section B

Module 1: Population and Settlement

Question 2

Specific Objectives: Module 1–3, 4, 12

The stimuli in Parts (a) (i) a) and b) were two population pyramids showing the structure of Japan in 1950 and 2008. Candidates were asked to state the terms that best describe the two pyramids.

About 90 per cent of the candidates could not identify the structure using accepted conventional terms such as *youthful* or *ageing*. Instead, they used terms such as ‘high’ and ‘fluctuating’ to describe the stages of the demographic transition.

In Part (a) (ii), candidates were asked to suggest reasons for the changes between 1950 and 2008. Many candidates correctly described changes in the structure of the Japanese population. However, they did not make the connection with the changing shape — *fewer children narrowing the base; high life expectancy expanding the elderly population.*

Part (b) (i) required candidates to describe a policy implemented by a country to deal with its rapidly growing population. The majority of candidates was able to do so, outlining some benefits and problems resulting from the policy in Part (b) (ii).

In Part (c), candidates were expected to discuss three causes and three consequences of gentrification in more developed countries. The responses were extremely poor. It was clear that candidates did not understand the term and process. *Gentrification describes a process in which the young, affluent middle class moved into formerly depressed inner city neighbourhoods*. They did so to be near to the services and amenities of the central city and to minimize the journey to work. Some of the consequences of this development were the displacement of the former population and an increase in property values. Candidates focused on the conditions existing in inner-city areas before gentrification. Gentrification was not caused by crime; the upwardly mobile did not move into these areas because of crime. This was a fundamental error and the misunderstanding was widespread.

Question 3

Specific Objectives: Module 1–5, 6, 12

The stimulus in Part (a) was a map showing the population density of Brazil and in Part (a) (i), candidates were asked to name the method used to depict density. The majority of candidates correctly identified the method as *choropleth* although the spelling was often incorrect. The responses to Part (a) (ii) were also good — the advantages and disadvantages of the method. Candidates mentioned the visual impact and it was possible to see dense and sparse areas as advantages, and the suggestion of uniform values and sudden changes at boundaries as disadvantages.

Rank size rule and urban primacy are new areas in the syllabus and very few candidates understood the concepts. *The rank size rule is an attempt to find a numerical relationship between the population size of settlements within a country* — size is inversely proportional to the rank. The city ranked second will have a population that is half of the size of the city that is ranked first, and the third ranked will have one third of the population of the city ranked first.

In urban primacy, the largest city is more than twice the size of the second largest.

In Part (c), candidates were asked to write an essay to assess the economic and social impact of international migration in the area of origin and destination. Although a few responses were excellent, some general weaknesses were identified:

- Candidates did not know the difference between *social* and *economic* (remittances — economic; skewed population structure — social).
- Several candidates had an inadequate grasp of the types of migration (rural—urban is not international).
- The question did not call for push and pull factors in international migration.
- Essays require an introduction and conclusion.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Question 4

Specific Objectives: Module 2 – 1, 2

In Part (a), candidates were given a diagram of a beach profile and breaking waves and asked to identify a number of features. In general, the question was well done with the majority of candidates identifying constructive waves, backwash and swash. There was less success with the identification of the longshore bar.

Part (b) was based on the hydrological cycle and candidates were asked to describe a number of related terms. The responses were unacceptable. The responses expected are as follows:

(i) Infiltration capacity refers to a rate.
(ii) Interception storage refers to the precipitation retained on the plants.
(iii) Potential evapotranspiration refers to the water that could be lost if the supply is unlimited.
(iv) The water table is the upper surface of the zone of saturation.

When responses were not completely wrong, they were convoluted and candidates did not understand what was needed in a definition.

In Part (c), candidates were to explain three ways in which the channel shape affects the efficiency of the stream. Too many candidates described changes in the long profile of rivers. Some discussed the factors associated with efficiency without relating it to channel shape. Candidates were expected to make the link between hydraulic radius (efficiency), friction and loss of energy. Generally, the marks were unsatisfactory.

Question 5

Specific Objectives: Module 2 – 2, 3

In Part (a), candidates were given a diagram illustrating Darwin's theory of coral reef formation. They were asked to identify two features — a volcanic island (A) and an atoll (B) and two processes — sea level rise (C) and subsidence (D). The responses to this part of the question, especially the processes, were poor.

In Part (b), candidates were asked to explain how limestone landscapes were influenced by climate, joints and bedding planes. Generally, candidates were able to describe the chemical process of carbonation. However, many of them failed to link, for example, high rainfall and solution, high temperatures, the production of organic acid and solution or carbon dioxide and solution. Some candidates concentrated on rainfall to the exclusion of temperature. The responses to Part (b) (ii) were also weak. Jointing allows a greater surface area to be exposed to weathering. The widening of bedding planes results in features such as caves. In far too many responses, weathering and carbonation were confused.

In Part (c), candidates were required to explain how climate change, the extraction of reef fish and nearby build developments were threats to coral reefs. The responses were fair. However, the majority of candidates concentrated on the effect of changing temperatures but with little understanding of the mechanism of coral bleaching and the symbiotic relationship which kept the corals alive. Changes in the composition of the reef and the effect of a lowering of salinity were also neglected.

The emphasis of the responses to Part (ii), extraction of reef fish, was on the effect on biodiversity. Little was said of the effect of changes in species dominance — removal of parrot fish causes algae to dominate and cover the corals thus killing them. Unsustainable, fishing practices was another area that could have been better developed.

The final section was generally well done. Candidates described the effect of the enrichment of coastal waters by tourist-related activities and other land-based developments.

Module 3: Natural Events and Hazards

Question 6

Specific Objectives: Module 3 – 3, 4, 5

Candidates submitted very good responses to Part (a), very good descriptions of the types of flooding — riverine, flash, coastal and estuarine. Some candidates, however, put too much emphasis on causes such as deforestation and little on characteristics, such as the intensity and short duration of flash flooding and the confinement of water in estuarine flooding.

Part (b) focused on the concept of a seismic gap. The responses were poor. Candidates described the various types of gaps that could be formed by an earthquake. Some candidates also conceived a gap as the interval between earthquakes. Few described a gap as the segment of an active fault where there had been no earthquakes for an unusually long time.

In Part (c), candidates were required to explain the formation of three types of landforms that are associated with the convergence of two oceanic plates. Generally, the responses were poor. Many candidates described landforms produced by the convergence of continental and oceanic plates. Some identified the landforms — island arcs, trenches, accretionary prisms, marginal basins, volcanoes — but could not describe their formation. The diagrams underscored the misconceptions. Many candidates conceptualized the convergence of plates in terms of the convergence of winds at the Inter-tropical Convergence Zone. They explained, **incorrectly**, that the two plates are of the same density and cannot subduct. On meeting, they are forced upwards, forming either volcanoes or mountains.

Question 7

Specific Objectives: Module 3 – 4, 7

Responses to this question were better than those provided for Question 6. The stimulus for Part (a) was a diagram of the Disaster Management Cycle and in Part (a) (i), candidates were asked to name two phases, and in Part (ii), to list two activities that would be undertaken in one of them. Most candidates correctly identified the preparedness and recovery phases. However, the activities that

they associated with the recovery phases were more relevant to the response. In the recovery phase, attention would be paid to emergency relief, provision of shelter, restoration of infrastructure and emotional support.

In Part (b), candidates were required to describe two secondary effects of volcanic eruptions, citing specific examples. The effects of a hazard may be classified as primary and secondary. A volcano may spew ash which may fall and cause damage. This is a primary effect. However, the ash may reflect solar radiation which will result in cooling. This is a secondary effect. Or, the eruption my melt ice which triggers a lahar, a secondary effect. The responses showed a poor grasp of the subject.

Part (c) required candidates to write an essay explaining how the eruptive style of volcanoes is affected by the characteristics of the magma. Many of the responses were extremely good. Candidates described the types of volcanic rocks focusing on their different composition, viscosity, temperature and the manner in which these affected eruptive style. Few candidates, however, described the effect of water content. Candidates must pay more attention to introductions and conclusions. Candidates cannot earn full marks if the introduction is merely a repeat of the question. Much improvement is also needed in the construction and presentation of diagrams.

Paper 031 – School-Based Assessment (SBA)

In most studies, the cover pages were correctly presented. In general, the statement of purpose was done satisfactorily in that purpose and skills were identified. However, the contents were not always well developed, and research questions or problems were not well explained.

The design of many studies did not allow for in-depth analysis. Figures, graphs and charts were generally well drawn but lacked proper titles and labels. Generally, photographs were not well labelled or annotated. Increasingly, maps are relegated to simply displaying the location and the study area. Maps can provide valuable geographical data and often can be used effectively as part of the analyses. Well-labelled aerial photographs and satellite imagery (including from Google Earth) could be used more frequently in description and analysis.

Although improvements are evident in the use of maps and diagrams, students are still failing to integrate and use their illustrations effectively. Maps and diagrams must be regarded as an integral part of the written description and analysis. Generally, *Description of Findings* was satisfactorily done by those using primary data, although they sometimes did not make effective use of maps and diagrams. The description of secondary data was often not thorough enough; sometimes this section is simply a transfer of information from the expert/resource person to the assignment.

On the whole, Analyses and Discussions were poorly done. Students failed to make inferences, show connections, give reasons for the patterns formed or for any changes or deviations in an expected phenomenon from the data gathered.

Although some improvement was noted in grammar, there was still little use of relevant geographical terms, which is often reflected in poor bibliographies.

The conclusions should be framed with reference to the purpose of the study. The conclusions were generally fair. The recommendations were generally satisfactory. Sometimes limitations were given instead of recommendations. The bibliographies were generally poor. Many of the texts cited were at the CSEC level. There was little evidence of in-depth reading by students.

Teachers and students should be careful in their choice of research topics. These should be framed within the specific objectives of the syllabus, geared to the Advanced/CAPE level, and allow for the collection of reliable data and scientific analyses. Hazard responses, preparedness and perception studies were very popular; however, most were often very poorly treated.

Paper 032 – Alternative to School-Based Assessment (SBA)

This paper is written by private candidates in lieu of the SBA. Candidates were required to respond to three structured questions which parallel the skills required in the SBA. The candidates performed unsatisfactorily. The mean score was 25 per cent.

Several candidates could not state or apply the rank size rule required in Question 1. They were expected to explain that a hierarchy according to size of the population is noticed in some countries. The population in each city is inversely proportional to its rank. The more able candidates stated that the n^{th}–ranked city will be 1/n the size of the largest city. Additionally, candidates had challenges locating countries, for example, most of them could not locate Jamaica or the United Kingdom.

For Question 2, the majority of candidates failed to recognize the landforms in the photograph. They lost marks when they focused on the river rather than on the alluvial fan.

Generally, candidates knew many of the activities to be undertaken for a disaster management plan as required in Question 3 but were unable to place them in relevant categories.

UNIT 2

Paper 02 – Free Response

Section A

Question 1

Specific Objectives: Module 1 – 8, 9; Module 2 – 1, 10; Modules 3–9

This question was compulsory and assessed practical and map-reading skills. Based on the general performance, the majority of candidates writing this unit have not mastered map-work skills. Candidates used descriptions such as ‘mountainous’ and ‘flat’ very loosely. There was no appreciation for *hilly, rugged, undulating, low lying.*

In Part (a) (i), the definition of a soil profile was imprecise. Candidates were expected to state that a soil profile is a vertical section through the soil and shows several horizons and layers. In Parts (a) (ii) and (iii), candidates were required to complete the drawing of two soil profiles on a slope. Again, the responses were inadequate. Candidates should have explored the effects of relief on soil

formation. So the horizon on the upper slope should have had a thin A horizon, the absence of a B and C should have been dominant. The lower profile should have had a better development of horizons — deeper A, distinct B.

Part (b) (i) required the name and location of three different economic activities on the map. A name and grid reference would have satisfied the requirements, for example, port services at Charlottesville (674527). The activities were not properly located. Candidates confused social services and economic activities.

In Part (b) (ii), candidates were to suggest three reasons for the dominance effect of Roxborough. The majority of candidates had no difficulty locating Roxborough (the reference provided was inaccurate) and scored full marks, identifying, for example, access to the sea, flat coastal plain, road network. Similarly, candidates performed well on Part (b) (iii) which asked them for a factor which could limit the expansion of the town, for example, relief, forests, competing growth poles.

In Part (c) (i), candidates were to identify three types of economic activity around Speyside that could be expanded. Many candidates identified economic activities that were not present and so expansion was out of the question. Farming was a possibility on areas currently dedicated to coconuts, for example.

In Part (c) (ii), candidates simply did not understand what was needed as a response to this question. The statement referred to *internal* economic and social disparities that could constrain development. Candidates were supposed to identify the disparities within the area east of Easting 65. A comparison was necessary. There was good accessibility in the south and east but the absence of roads in the north and central area could constrain development. Services were not well distributed. Charlottesville dominated, while other centres lacked essential services. Candidates did not come to grips with the concept of disparity and the need for internal comparison.

Section B

Module 1: Climate, Vegetation and Soils

Question 2

Specific Objectives: Module l – 1, 5, 7

The stimulus for Part (a) was a map of the Caribbean showing weather conditions on 3 April 2010.

In Part (a), candidates were required to identify a country that is under a low pressure system. The responses to this section would have been better if candidates were able to identify countries in the Caribbean. Columbia and Venezuela were under a low pressure system. Other questions based on the map drew better responses.

Responses to Part (b) were unsatisfactory. Candidates were asked to describe the role in the global heat budget of shortwave radiation in Part (b) (i) and longwave radiation in Part (b) (ii). It was clear that they did not understand the concepts — shortwave radiation from the sun, losing heat as it passes through the atmosphere, heating the earth and longwave radiation from the earth, heating the atmosphere.

In Part (c), candidates were asked to describe three problems and three opportunities presented by the development of tropical rain forests. A surprisingly large number of candidates thought, incorrectly that one way to develop the tropical rainforest was to replace it by different activity. It was an opportunity, they said to develop agricultural enterprise. Candidates were expected to indicate that species loss is a problem. Forest removal is associated with global warming as it destroys the livelihood and culture of indigenous peoples. There are opportunities to market natural products, for research and development of ecotourism, carbon trading and debt-for-nature swaps.

Question 3

Specific Objectives: Module 1 – 8, 9

Given a triangular graph, candidates were asked to state the percentage of sand, silt and clay. Candidates failed to read the graph correctly and the answers were generally wrong. However, they were more successful in stating the maximum amount of clay loam as 40 per cent.

In Part (b), candidates were asked to describe three processes — salinization, calcification and gleying. The descriptions were fair with most candidates managing to identify a few characteristics of each: salinization — the deposition of a salt crust after water is drawn upwards by capillary action and evaporation; calcification — the accumulation of calcium deposits in the B horizon as a result of capillary action; and gleying — the result of waterlogging.

In Part (c) (i), candidates were required to explain the ways in which the vegetation of tropical grasslands are influenced by climate and in Part (c) (ii), by human activities. The majority of candidates stated the features of the climate, essential to an answer in very general terms. Several discussed the effects of soil.

In Part (e) (ii), many candidates made generalizations about the effect of industrialization, urbanization and global warming, giving the impression that they were prepared to discuss what they had studied rather than what the question required — the effect of, for example, fires, agriculture, nomadism. Generally, the responses were inadequate.

Module 2: Economic Activity

Question 4

Specific Objectives: Module 2 – 6, 7

Part (a) (i) required a definition of organic farming. The majority of candidates submitted imprecise definitions and could not be credited with the maximum four marks. An acceptable response would be *that organic farming is farming without factory-made chemicals either in the form of fertilizers, pesticides, herbicides or yield-enhancing drugs for animals. The aim is to produce a high quality product with minimum damage to the environment.*

Most candidates were able to state two benefits and problems of organic farming in Part (a) (ii) — *less likely to harm the environment, less loss of wildlife, water retentive soils*. The problems of farming were *lower yields than conventional farming, more weeds, greater loss from pests* and

disease, and *more expensive*. Too many candidates focused on the end result than on the farming process.

The stimulus in Part (b) was a table showing tourist arrivals from a number of countries. The majority of candidates gave accurate answers to four of the five questions that were based on the table. In the fifth, they were asked to suggest reasons why few markets accounted for such a large share of tourist arrivals. Many understood the question and suggested reasons for the growth in tourism. The main source areas evident from the table were the USA and Europe, all temperate regions attracting warmth-seeking visitors. The USA, the largest market, is closest, airfares are lower and travel times are shorter. A large diaspora is involved and European travel can often be explained by colonial ties.

Part (c) proved challenging to the majority of the candidates. They were asked to discuss two ways in which multi-national corporations (MNCs) have influenced change in major industrial regions in more developed countries. Several candidates did not attempt this section (Unit 2, Module 2 SO6, Content 3 (ii)). Those who attempted it wrote at length about the characteristics of MNCs and the impact of MNCs on developing countries. There was no discussion of changes occasioned by offshoring, outsourcing or specialization.

Question 5

Specific Objectives: Module 2 – 1, 4, 6

In the diagram in Part (a) (i), P represented evaporation and Q capillary action. Candidates were more likely to identify P than Q. Consequently, many candidates were unable to answer Part (a) (ii) which asked for the effects of the processes on agriculture.

Part (b) required candidates to distinguish between the terms *tertiary economic activity* and *quaternary economic activity*. The term *distinguish between* implies that a comparison is needed. Candidates simply described the characteristics of the two. They could have said that *tertiary activities are concerned with providing a service to customers unlike quaternary which delivers information and skills.*

In Part (c), candidates were asked to write an essay to support the statement *Governments in the Caribbean encourage the development of manufacturing industries*. They were also asked to include three benefits and three challenges associated with this encouragement. The few candidates who had the information on which to base an essay, wrote excellent essays. About 90 per cent of the candidates ignored the key component of the question — *Write an essay* — but rather focused on the benefits and challenges. What they were supposed to include as a part of the essay became the focus of the essay. There was no discussion of the strategies used by Caribbean governments, such as import substitution and free zones. In addition, the intention of the question was to have a discussion of the benefits and problems of the policies, such as high prices and low quality for locally produced goods and the flight of industry once they had lost their tax exempt status. Overall, the marks earned on this question were satisfactory.

Module 3: Development and Disparities in Development

Question 6

Specific Objectives: Module 3 – 4, 7

The performance on this question was weak. The majority of candidates scored fewer than five marks. The evidence suggests that candidates were completely unfamiliar with the topics and the responses were the result of guesswork. The table in Part 2 showed aid to developing countries in the form of total value and as a percentage of gross domestic product (GDP). Candidates were asked to describe what was an inverse relationship. Few candidates gave the correct response.

In Part (b), candidates were asked to describe the concepts of underdevelopment in Part (b) (i) and gender in Part (ii). The responses to underdevelopment were better than to gender. For Part (i), the majority of candidates described (in very convoluted language) a situation in which the resources of a country were not fully harnessed and not reflected in the standard of living. In view of the recent changes in the concept of gender, candidates were credited if they described it in terms of socially assigned roles and behaviour as well as a biologically determined concept — sex. Despite this, candidates performed very badly.

On the final section — an essay on the consequences of global disparities in development — candidates lost their way. They discussed the causes of global disparities. In some cases, they ignored *global* and discussed *local* disparities while in other cases, they did not appear to understand the term disparity (See comments on Question 1 (c) (ii), page 9).

Question 7

Specific Objectives: Module 3 – 6, 7

The responses to this question suggested that candidates were completely unfamiliar with the subject matter and several resorted to guesswork. The calculations of debt relief based on Table 3 were incorrect in Part (a) (i), (ii), (iii). The syllabus (Unit 2, Module 3, Content (3) (ii)) specifies the application of Myrdal's model to an understanding of regional disparities in income, poverty or health in a specific country. Candidates were required to have knowledge of a specific case study. The nature of the disparity required by Part (b) (i) was supposed to be based on one of the three areas mentioned in the question. For health, a disparity such as low infant mortality or high or higher infant mortality could be used specifying the actual rates. For income, differences in GDP would suffice.

The initial comparative advantage of the core may have been the presence of a natural resource as *port facilities*. That advantage had to be a characteristic of the core. So, if Port-of-Spain was the core region, the initial advantage could not have been the deposits of petroleum in South Trinidad. If Port-of-Spain was the core, then the answer to Part (b) (i) should have focused on the disparity between Port-of-Spain and the rest. There is a fundamental misunderstanding of the concepts and issues which must be addressed in a systematic way. These two questions barely nibbled around the edges of the cumulative model and candidates were unable to grasp the essentials.

In Part (c), candidates were required to write an essay outlining four reasons why appropriate technology is one of the keys to sustainable development. The definitive word is *appropriate*. It is not technology. Too many candidates wrote about the application of technology to development. Appropriate technology utilizes local skills, reduces the import of expensive, sophisticated machinery,

can be repaired locally, and causes little harm to the environment. Those candidates who grasped this difference performed extremely well.

Paper 031 – School-Based Assessment (SBA)

In most studies, the cover pages were correctly presented. In general, the statement of purpose was done satisfactorily in that purpose and skills were identified. However, the contents were not always well developed, and research questions or problems were not well explained.

The studies often lacked focus especially evident where experts or resource persons were assisting students. The methodology was done fairly well in most cases. Those for coasts and rivers were among the better ones. The methodology for questionnaires was generally unsatisfactory — the sample sizes were often inadequate, sampling methods were not outlined, and the purpose of the questionnaire and information being sought were often not included. The majority of questionnaires were created in a vacuum — there was an absence of a theoretical framework on which the questionnaires or studies were based.

The design of many studies did not allow for in-depth analysis. Figures, graphs and charts were generally well drawn but lacked proper titles and labels. Generally, photographs were not well labelled or annotated. Increasingly, maps are relegated to simply displaying the location and the study area. Maps can provide valuable geographical data and often can be used effectively as part of the analyses. Well-labelled aerial photographs and satellite imagery (including from Google Earth) could be used more frequently in description and analysis. Many studies had no maps so there was no spatial context. In vegetation studies, students generated graphs using excel, but failed to construct transects.

Although improvements are evident in the use of maps and diagrams, students are still failing to integrate and use their illustrations effectively. Maps and diagrams must be regarded as an integral part of the written description and analysis. Generally, *Description of Findings* was satisfactorily done by those using primary data, although they sometimes did not make effective use of maps and diagrams. The description of secondary data was often not thorough enough; sometimes this section is simply a transfer of information from the expert/resource person to the assignment.

The descriptions were fairly well done but in many physical studies (soils, vegetation), the study areas were not adequately described.

On the whole, Analyses and Discussions were poorly done. Students failed to make inferences, show connections, give reasons for the patterns formed or for any changes or deviations in an expected phenomenon from the data gathered.

Although some improvement was noted in grammar, there was still little use of relevant geographical terms, which is often reflected in poor bibliographies.

The conclusions should be framed with reference to the purpose of the study. The conclusions were generally fair. The recommendations were generally satisfactory. Sometimes limitations were given instead of recommendations. The bibliographies were generally poor. Many of the texts cited were at the CSEC level. There was little evidence of in-depth reading by students.

Teachers and students should be careful in their choice of research topics. These should be framed within the specific objectives of the syllabus, geared to the Advanced/CAPE level, allow for the collection of reliable data and scientific analyses. Global warming and climate change are becoming more popular topics. Teachers should ensure that students understand the concepts and have grasped the facts before they attempt any study. Studies on perception of global warming should be avoided.

Paper 032 – Alternative to School-Based Assessment (SBA)

This paper is written by private candidates in lieu of the SBA. Candidates were required to respond to three structured questions which parallel the skills required in the SBA. The candidates performed unsatisfactorily. The mean score was 37 per cent.

Candidates knew little about transects and quadrants and consequently, they earned very little marks on Question 1.

Question 2 had the best responses. The candidates did the calculations correctly and drew the graph. However, regarding the section focusing on tourism, – most thought *leakages* related to tourists going somewhere other than their country.

The responses to Question 3 were also satisfactory. The majority of candidates was able to identify differences and made a satisfactory effort at explaining the factors.

CARIBBEAN EXAMINATIONS COUNCIL

REPORT ON CANDIDATES' WORK IN THE CARRIBEAN ADVANCED PROFICIENCY EXAMINATION®

MAY/JUNE 2014

GEOGRAPHY

GENERAL COMMENTS

There were 2134 candidates writing the May/June CAPE Geography examination is 2014. The number writing Unit 1 was 1126 while 1008 wrote Unit 2. Overall, performance on Unit 1 was better than Unit 2, particularly in Paper 02.

Performance in the compulsory map reading section improved in 2014. Also this year there were considerable improvements in the responses given in the modules on Hydrological, Fluvial, Coastal and Limestone Environments as well as on the Development and Disparities in Development. There was also a small but noticeable increase in the marks earned in the analytical parts of the questions. However some candidates, who were less well-prepared, persisted in writing descriptions where explanations were required or they did not supply adequate elaborations after correctly identifying the factors required in the response.

DETAILED COMMENTS

UNIT 1

Paper 01 – Multiple Choice

Paper 01 comprised 45 multiple-choice items with 15 items assessing each module across the three cognitive levels — Knowledge and Comprehension, Application of Knowledge and Practical Skills.

For Unit 1, the mean percentage score was 60 with a standard deviation of 6.6. For Unit 2, the mean percentage score was 60 and the standard deviation was 6.1.

Paper 02 – Free Response

Section A

Question 1

Specific Objectives: Module 1 – 13; Module 2 – 7; Module 3 - 8 - 9

Candidates were presented with a map extract of the island of Nevis on a scale of 1:25 000. In Parts (a) (i) and (ii), they were required to describe the distribution of population on the island and to outline reasons for the distribution. Most candidates earned marks for describing the uneven distribution. The main town of Charleston had the densest concentration of population while other linear settlements were arranged along the roads connecting outlying villages such as Cotton Ground (3398) in the north and Market Shop (3993) in the east. The south of the island was sparsely settled. Candidates also earned marks for describing the sparsely populated interior and giving examples of the isolated farmsteads. Responses could have been better formulated if candidates had reflected on the fact that describing the distribution of the populations (even, uneven, sparse, clustered) is not exactly the same as describing settlement patterns (linear, nucleated or dispersed).

The reasons for the population distribution were varied and included relief, accessibility, transport, economic activity, administrative function and the presence of the volcanic hazard in the central

highlands. Candidates were to outline any three of these reasons. There is concern that too much time was spent in long descriptions rather than stating and giving one elaboration on each of the three reasons. The command word *outline* suggests that not many details should be provided. Candidates are advised to read the entire question before attempting a response. They must use the mark scheme as a guide to how much is required for an adequate response.

Part (b) required candidates to draw a sketch map of the area indicated by the values on the grid provided. Highest marks were awarded to candidates paying attention to details such as using the grid to estimate the position of the coastline and the course of the Camp River. Additional points were awarded for including a key and title. Inserting the stream order for the tributaries in the Camp River proved to be challenging as a few candidates were unfamiliar with the concept of stream ordering. Most of the successful candidates ordered the stream utilizing the more familiar Strahler model and points were also awarded to the few candidates who accurately utilized the Shreve model. A major concern arising from this assessment is that some candidates were not able to accurately orient the sketch of the river as they indicated that the Camp River was flowing south rather than north to the sea. They erroneously explained that the river was flowing south from the sea into the mountains into an internal drainage system in the island. This was clearly a failed concept as no river flows from the sea to the mountains.

Part (c) required candidates to describe the drainage pattern evident on the entire island of Nevis. They earned high marks on this question as the overall radial pattern was most evident on this island where outward flowing rivers flow down the steep slopes of Nevis Peak which is located in the central mountainous region. This answer could have been enhanced by naming specific rivers and giving their directions of flow. More discerning candidates described the incised upper reaches and correctly described these simple narrow valleys as examples of parallel drainage. There were also manifestations of dendritic drainage in some lower river valleys such as Camp River, Kitt Ghut and Grandee Ghut where the tributaries joined at acute angles. Candidates obtained no marks when they identified and described river patterns that were not present on the map.

In Part (d), candidates were required to prepare a hazard assessment for a proposed housing development in the flat coastal area south of Charleston. Part (d) (i) asked candidates to identify three hazards that could possibly affect this low coastal area. *Flooding, storm surges, tsunamis and volcanic hazards* were all acceptable answers. Part (d) (ii) required the description of effects of any one of the hazards identified in Part (d) (i). These effects included health and environmental problems affecting the proposed housing development. Candidates lost marks for not elaborating on the effects of the hazard. Part (d) (iii) required candidates to suggest strategies for hazard preparedness and mitigation for the area. This was done successfully by candidates who cited strategies such as *geophysical surveys, building codes, sea-wall, regular maintenance of drainage channels, educating residents, and developing evacuation routes,* as well as *maintaining regulatory oversight of the area*. Better responses elaborated by including an explanation of how the strategies prepared the future residents for or mitigated against the hazard.

Section B

Module 1: Population and Settlement

Question 2

Specific Objectives: Module 1– 5, 8

Part (a) (i) required candidates to respond to questions relating the Demographic Transition Model (DTM) to components of population change, namely the birth and death rates of selected countries. Most were able to read the axes on the graph and correctly identify the demographic stage for the countries listed.

Part (b), which required candidates to distinguish between the terms *non-renewable* and *renewable* resources using appropriate examples, was well done by most candidates. However, less prepared candidates seemed unfamiliar with the definition of the terms.

Part (c) required candidates to critically assess the usefulness of applying the DTM to less developed countries (LDCs). The examiners expected candidates to provide a balanced debate on the positive and negative aspects of applying the model when attempting to describe changes in population in developing countries. Better prepared candidates stated that *the underlying assumptions of this and other models have changed*, namely, *there is the change in world economic conditions, the New International Division of Labour and the influence of globalization which create pressures on the population within developing countries causing differences compared to the eurocentric DTM model*. *Improvements in medicine and hygiene* as well as *urbanization* were also cited as possible reasons why the underlying assumptions of the model no longer apply and it is therefore less useful for predicting population change. Several responses only indicated the uses of the DTM to developing countries. Still other candidates simply described in detail the characteristic of the model and did not relate it to the question. They therefore scored low marks.

Part (d) proved to be very challenging. Many candidates were not able to make the link between population and resources based on the quotation given. The quotation was a reference to Ester Boserup's optimistic view that innovation would allow for increased food production for a growing population.

Question 3

Specific Objectives: Module 1– 4, 11

Parts (a) (i) and (ii) asked candidates to show working as they calculated the percentage of the population in the economically active age group (45.2 per cent) and the youthful age group (51.8 per cent). A few candidates did not add the required age groups presented in the table to create the overall percentage for these groups. Otherwise, the response to this question was good.

Part (b) required candidates to describe two ways in which the patterns of land use in the cities of LDCs do not usually conform to Burgess' Concentric Model. Better constructed answers first gave an outline of the Burgess Model as one that describes a city growing outwards in a series of concentric rings with the innermost part representing the oldest, heritage and poorly developed segments while

the outer edges represent the newest suburbs and outlying developments. Candidates were then expected to compare this pattern with what obtains in cities in the developing world including that the underlying assumption of a featureless plain may be absent; the wealthy prefer to live in the mountains while in some countries these spaces are captured by the poor; the distorting influence of transportation corridors; as well as the fact that many cities are multifunctional resulting in specialized zones favouring the multiple nuclei theory. Some candidates were able to compare the South American city model with the Burgess model.

In Part (c), candidates were asked to analyse factors that account for the greying population in Japan. They correctly described changes in the structure of the population of Japan because of the low and declining birth rates, the low death rate and the high life expectancy. However, they did not always provide reasons such as: improvements in health care causing the ageing population and growth in dependency ratios; greater education and career opportunities for women as well as access to birth control; the expense of raising children in cities; and the cultural shift away from the agrarian to urban households which require less labour and fewer children. Some responses strayed from the question which lowered the overall marks earned.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Question 4

Specific Objectives: Module 2 – 1, 3, 5, 6

This was the more popular question in Module 2; 75 per cent of the candidates attempted a response.

In Part (a), candidates were presented with a compound line graph of the average water budget for a location in South America. They were asked to (i) identify one month with a negative water balance, that is, where evapotranspiration exceeds precipitation; any of June, July, August or September would have sufficed. In Part (a) (ii), candidates correctly stated that *recharge occurs in October or November*. Part (a) (iii) required a description of the water budget during January to May. Candidates were expected to state that storage or runoff increased as precipitation exceeds evapotranspiration from January to May.

In Part (b) (i), candidates were asked to outline ways in which a fall in sea level would affect rivers in their (i) longitudinal and (ii) cross-sectional profiles. Most of the responses were unacceptable. Expected responses for the change in the longitudinal profile were as follows:

> *rejuvenation would occur and cause disruption of the equilibrium state of the graded profile resulting in steeper gradient causing greater vertical erosion and deposition in lakes;*
>
> *the development of knickpoints marked by waterfalls with gorges and canyons; and*
>
> *the possibility of deltas with the increased sediments from erosion, existing deltas could be extended. The changes to the cross-profile were expected to include deeper channel beds in the lower course, steeper banks, removal of deposited bedload, incised meanders and the development of river terraces in the flood plain.*

In Part (c), candidates were expected to discuss the factors that affect the volume of river discharge. These factors included variations in climate, shape and size of the basin, geology of the basin and human land use. This was relatively well answered. Candidates were also rewarded for including well annotated diagrams.

In Parts (d) (i) and (ii), candidates were asked to explain the changes to coastal landforms by wave action and weathering. The processes of wave erosion were well addressed with change to the cliff resulting in the development of bevel notches, caves, arches and stacks. Well-labelled diagrams added clarity to the responses. There appeared to be some hesitance with the idea that weathering occurs on the coast. Sub-aerial weathering on the coast include: salt crystallization as haloclasts develop in the cracks, adding stresses to the rocks; carbonation in limestone cliffs; and soil forming process on the top of the cliff weathering its surface and making it prone to further action by the waves and mass wasting such as rockfalls and landslides, which would lower the surface.

Question 5

Specific Objectives: Module 2 – 2, 5, 6

In Part (a) candidates were asked to respond to the sketch of a geological map which showed coastal landforms along an irregular coastline. They were asked to (i) name the features formed on resistant rocks and (ii) state the names of less resistant rocks. The expected responses were the stack and headland/point which were projecting out to sea. The rocks in the bays were less resistant and included shale, millstone grit and alluvium.

Part (b) required a discussion on how the rise and fall of sea level influences the formation of submergent coastlines and emergent coastal features. Candidates explained the formation of the dalmatian (Pacific or concordant), the Atlantic (transverse), fjords and fjards, estuaries and rias. Raised or fossil beaches, abandoned cliffs and sand dunes, raised reefs and wave cut platforms, mud and tidal flats were features found on emergent coastlines. The performance was poor as this part of the syllabus appears to be little known or understood.

Candidates were required to describe surface features found in limestone regions for Part (c) (i), (ii) and (iii). These were well described with commendable diagrams included. The better responses described rather than explained the formation of the features, as required in the question. Limestone pavements are flat and sometimes devoid of vegetation but the presence of micro features such as runnels and larger features such as clints and grikes makes this a treacherous landscape. The gorges were narrow steep sided valleys marking the sites of deep incisions in the landscape. The floor of the gorge could retain evidence of roof collapse and the presence of a river or dry valley. Resurgent streams appear where underground rivers reappear on the surface. They could mark the limestone boundary with less permeable rocks.

Part (d) required candidates to fully explain why swallow holes develop in limestone regions. First the candidate were to define swallow holes as vertical or near vertical shafts which appear to be sites where joints were widened allowing the surface water to flow underground. Chemical solution, limestone structure, fluvial activity and subsidence are all responsible for the formation of this feature. A few candidates cited the lowering of the water table due to prolonged drought, fall in sea level or rise of the land as other possible explanations. Adequately labelled diagrams were credited.

Module 3: Natural Events and Hazards

Question 6

Specific Objectives: Module 3 – 3, 4, 5, 6

Part (a) (i), (ii) and (iii). Generally the better prepared candidates identified the earthquake waves as Primary waves (Y) and Secondary waves (X). However many could not identify the waves as there appeared to be a lack of understanding of the diagram provided. Candidates were to interpret the diagram rather than rely on previous knowledge to figure this practical segment of the question. The expected response was that the Primary waves (Y) would arrive first because the particles move in the same direction as the movement of the wave.

Part (b). Candidates were to describe the processes responsible for the formation of oceanic crust. They could have written about the fracture of existing crust due to divergent tensions above the ascending limb of mantle convection currents or of a hot spot in the mantle. The crust is spread apart at divergent zones such as mid-ocean ridges and new semi-molten rock material from the mantle – magma - ascends, cools and solidifies to form new ocean crust.

Part (c) asked candidates to explain why some tectonic plates subduct and others do not. Better responses began with a definition of tectonic plates as segments of the earth's crust which move relative to each other. The response then addressed the chemical composition of the plates and their direction of movement. The plates are classified as oceanic or continental based on their chemical composition with continental plates having greater silica content (sial). Oceanic plates have less silica and contain denser minerals from the mantle, such as magnesium. One of these denser plates will always sink when convergence occurs between oceanic plates or between ocean and continental plates. When convergence occurs between continental plates there is no subduction instead the less dense silica -aluminium compounds (sial) will be distorted and folded upwards to create fold mountains. No subduction occurs at divergent and transform zones because the plates are moving along or away from each other.

In Part (d) the candidates were asked to write on the value of fold mountains. Expected responses were that these are regions of high relief that are usually the sources of large rivers providing fresh water and HEP. Their mountain passes would shorten journeys facilitating transport networks. The cooler, wetter climate and steeper slopes in these regions have been developed for tourism as well as farming in cooler temperatures because of altitudinal zoning of the climate. Minerals such as gold and silver ores and semi-precious stones are usually found in the interior of these mountains. They usually demarcate important international boundaries which mark the limit of the natural and physical resources of a country. Most candidates were able to score well on this question.

Question 7

Specific Objectives: Module 3 – 2, 3, 5, 6, 7

Responses to this question were not as good as those provided for Question 6. The stimulus for Part (a) was a flow diagram illustrating the cycle of waste resulting from the distribution and consumption of manufactured products. Some waste is generated during production and go directly to final disposal. Along the chain of product distribution and consumption more waste is generated but some

of these materials are re-used, recycled, or re-purposed which may return the materials to the distribution and consumption chain. Finally all materials used in the manufacture and consumption of products will be taken to final disposal.

In Part (b), the candidates described causes of global sea level rise. The expected responses were the melting of glaciers and polar ice caps as well as the thermal expansion of warmer sea water. While the first factor was well known the second was not. Candidates did not elaborate in their answers. Poorer and ill-informed answers related isostatic changes which are localized and not global sea level changes.

In Part (c) candidates were required to assess measures than occurred before and after a major disaster such as flood, earthquake or volcanic eruption in a named country with reference to the five stages in the disaster management cycle. Only few candidates appear to have prepared case studies on this topic, as required in the syllabus. They were able to describe the disaster and then relate the case to the stages in the hazard management cycle before and after the occurrence. They earned full marks. Marks were not awarded to those ignoring the request to write on floods, earthquake or volcanic eruptions and instead presented cases on hurricanes which is not a hazard listed in the Unit 1 syllabus.

Part (d) required the candidates to suggest possible reasons why there is a critical period of 48 to 72 hours after a severe earthquake event. The majority of candidates were able to give reasons but did not provide elaboration to earn maximum points.

Paper 031 – School-Based Assessment (SBA)

Overall, candidates made more informed choices of research topics. Most studies were rightly selected from among the specific objectives in the CAPE Geography syllabus of 2010. However a few studies strayed off the syllabus, for example, a study on the causes, impacts and solution to flooding is much too broad a study and in particular, the section on the solution to flooding is not on the syllabus, as are studies on the impact of hurricanes, oil spills as hazards and measures for coastal management practices. Please read the syllabus for the specific objectives, content areas and the recommended activities on a topic of interest before finalizing the study.

There was an improvement as most studies prevented the unnecessary loss of points through presenting cover pages that contained the name of candidate, candidate number, date and title of the study. Only a few candidates lost points for not presenting a cover page. The pages were generally well stapled together.

Of concern is that some titles of the studies are still written as only a phrase that lists the topic rather than writing the entire name of the study. Take the time to write a coherent title which includes a specific study, the name of the territory and the chief method used in the analysis of the study. The best titles of studies were written in the form of a question and included the name of the specific town, river or beach, etc., and the country/ territory where the study was conducted. For example - An investigation of how the population structure in the village of Belair, Trinidad has changed during 2000 to 2011, using population pyramids.

The Statement of Purpose was done satisfactorily when it included the specific skills from among those listed on Page 37 of the syllabus. The purpose sets the frame for all further work on the study

and care must be taken to develop these paragraphs adequately. An introduction that states the background for the study such as a significant event or an interesting feature on the topic that occupies national attention such as residential flooding or problems of urbanization or migration are all topical issues. A reference to the geographical treatment of the topic such as a theory or model should follow with guidance from CAPE level text and methods books. Finally determine the research questions that this study will try to find out.

It is not sufficient to write data collection as the Purpose of the study. For example, some candidates stated that the purpose of the study is to conduct a questionnaire survey of the population in a village. This is not a purpose but a method employed to answer a research question. The candidate is studying a research question such as, 'Were there changes to the population structure between 2000 and 2011 in Town A in Country Y using survey and census data' or 'Why has the population structure changed during 2000 to 2011 in Town A in Country Y'? They may relate this research question to the Demographic Transition Model which analyses the impact of such changes on birth rates and dependency ratios. In order to answer the research question and achieve the purpose of the study candidates will collect data that includes collecting primary data in a questionnaire survey and secondary data from the Statistical Offices or the World Population Bureau database. They may then display the resulting data on population pyramids to compare the time periods, or changes within sections of Town A or apply statistical techniques to calculate for example, dependency ratios or correlate variables on scattergrams. They may even present information on triangular graphs or proportional circles divided into pie charts that are placed on base maps. The possibilities are endless.

Selecting the methods for the study is crucial for achieving maximum marks. For each of these research questions consider what type of primary and secondary data should be collected. Include a picture of the candidate in the field using equipment to collect the data. If using a questionnaire, it must be well designed and a copy placed in the Appendix. Sections of the Questionnaire should reflect specific aspects of the study. About 5 questions could help to establish information for each of the three or four research questions. For example, perception of flooding should include sections on personal, community or government responses to the hazard based on the hazard management cycle, that is, what was done before and after the flooding. Too many studies on perception are not using rating scales or not cross referencing the perceptions with facts. For example, the perception of the survey population may be that flooding occurs four times for the year but compared to secondary data in the form of official records at the Regional Corporations there may have been only 2 serious flooding events in the last five years.

Some successful candidates write the specific methods used to assess each of the research questions. They may even include a reason why these methods were chosen. They might also state why the sample locations were chosen.

Limitations of the study should best be placed at the end of the methods section.

Illustrations were neatly drawn but too many lacked complete titles, labels or appropriate scales on the Y-axis. Also include the source of data or of the illustration under the graphic. While there was a noticeable improvement in the choice of graphs there were still candidates who inappropriately used line graphs to illustrate discontinuous data that were better presented on bar graphs. More of the photographs were labelled or annotated but most maps were still included only to display location of the study area. Remember that maps may also be used to identify sample locations in the Methods section and to present the results of the study such as bar graphs, divided circles or proportional

circles on the sites of the data collection which would facilitate spatial analysis of the findings. Aerial photographs and satellite imagery (including from Google Earth) could be used in description and analysis especially when the relevant parts are labelled to illustrate study information. Please note that photocopied maps and charts are not given credit. Vary the techniques used to present data such as table, chart, graph or picture. Many of the topics at CAPE level include specialized graphs or charts and these should be included. Remember to include the basic conventions of title, scale, key and arrow to orient the directions on maps.

Many candidates rightfully made the effort to integrate the maps and diagrams within the text and referred to them before and after they appeared in the text. Generally, Description of Findings was satisfactorily done by those using primary data. The description of secondary data was often not thorough and at times there appeared to be a lack of understanding of the concepts being presented.

Analyses and Discussions remain the weakest parts of most studies or were absent entirely from the reports. As with former years, when Data Presentation was combined with Analyses and Discussion there was a tendency for the weaker candidate to describe the data only and not provide analysis and discussion. Superior candidates were able to combine these sections but for other candidates it is considered wise to separate these sections or provide clear subheadings and to give equal treatment to these sections as they carry the most marks.

When analysing the data several candidates did not make inferences, show connections, give reasons for the patterns formed or for any changes or deviations in an expected phenomenon described in the textbooks, theories or models. This section could be improved if they related the specific research questions and objectives presented in the Purpose of the study section to the findings and the literature that they had read on the topic.

There were fewer candidates who were not making use of relevant geographical terms. Their performance in this regard reflects an absence of reading on the topic and was shown in the scant bibliographies that contained only newspaper articles, wikis or CSEC level textbooks.

Candidates are required to read Advanced level textbooks, journal articles, and consult authorized websites for example, CDEMA, the Meteorological Office, Statistical Office or the World Population Bureau for information in support of a study of flooding or population change. CSEC level textbooks do not provide the theories, models, illustrations or discussions that would help to inform a CAPE study and should not be used. Consult the bibliographies in the CAPE Geography syllabus for lists of relevant reading material. The bibliography should include reference to at least three CAPE level textbooks, a geographical methods book, authorized websites and other specialized information.

The CAPE syllabus contains reading lists that are written in the accepted format for the bibliography. Candidates are also advised to review the APA and MLA websites for information on acceptable bibliography formats, and further information on how to list maps, atlases and internet sources. Note that the bibliography lists are presented in alphabetical order and are not bulleted or numbered. They contain specific author information by last name and first initial only. Also provided are year of publication, title and publisher information. The titles of books, newspapers and magazines are underlined or written in italics. The entries in the bibliography must follow a consistent format.

The conclusions were generally fair with the best making reference to the Purpose of the study to determine if each research questions was answered satisfactorily. Remember that this is a small scale

study so do not generalize the findings to conclude that national level changes are evident or that a theory was disproved when there may well be extenuating circumstances that would have produced the results obtained. The conclusions should not be generalized beyond what was found for that particular area and time of the study.

Too many recommendations were unsatisfactory. Recommendations should be based on the conclusions of the study and suggest improvements on the methods used to collect and present data.

Paper 032 – Alternative to School-Based Assessment (SBA)

Private candidates write this paper instead of submitting an SBA. They are required to respond to three structured questions which parallel the skills required in the SBA. Six of the ten registered candidates wrote the examination. They performed better this year as the mean score was 30 per cent in 2014 compared to 20 per cent in 2013. There is room for improvement.

Question 1 required the candidates to prepare a table showing the calculation of cumulative income over quintiles of a population and use the information to construct a Lorenz curve. This was not done. In Part 1 the candidates seemed not to know that the income must be added to create the cumulative distribution of income needed for construction a Lorenz curve. In Part (ii) the candidates could not construct a Lorenz curve because of the incorrect response generated in the previous Part (a) (i). Finally in (a) (iii) the candidates were asked that state that the term used to describe the distribution used in constructing the Lorenz curve for the quintile incomes as a cumulative distribution.

Part (b) required the candidates to calculate the year in which the world's population would double assuming the growth rate remains the same. This is calculated by dividing 70 by the growth rate (1.3) and then adding to the date (2011) = 3.8 years + 2011 = 2065.

Part (c). Candidates were expected to state that the largest age group in the Afro-Caribbean population in Britain in 2007 was the 35 - 49 group of males and females. There is a relatively narrow base indicating few children and small numbers are found in the 60 – 74 age groups. While the population is balanced between males and females there is a tendency towards an ageing population with a high proportion in the 65+ age group. This was well described as the candidates seemed very familiar with population pyramids.

Candidates generally scored lowest on Question 2. Part (a) required them to describe measurements they would take along a stretch of the coastline. Describing measurements such as wave period, wave frequency and wave height were acceptable.

Part (b) (i), (ii) and (iii) required a definition of the term stream discharge, stating the formula for measuring stream discharge and identifying two measurements used in calculating the hydraulic radius.
Candidates did not earn marks in this question. Clearly there was under preparation of this topic.

In Part (c), candidates were asked to identify the karst landscape with evidence such as the swallow hole depicted with the adjacent jointing in the rocks, the clearly defined bedding planes, the sparse vegetation and the small cave in the background. Most of the candidates were not able to identify this landscape.

Question 3 focused on hazards. Candidates were expected to classify and then calculate the disasters occurring as a result of tectonic and atmospheric conditions. They were then to describe the steps taken in preparing a flood hazard map. Most candidates only descried the first step of collecting data and did not supply other information such as hazard mapping, vulnerability assessment and risk assessment to assign values to the risk map. In Part (c) the strategies that government should adopt to mitigate the effects of river flooding in high risk areas was a better attempt.

UNIT 2

Paper 02 – Free Response

Section A

Question 1

Specific Objectives: Module 1 – 4, 11 Module 2 – 9; Module 3 –9

This question was compulsory and assessed practical and map-reading skills. Generally the performance of the majority of candidates writing this unit was fair.

Part (a) was set on a map extract of Sauters, Grenada at 1: 25,000. It was well done. Many candidates could state types of economic activity and locate these activities utilizing grid references. They were also able to suggest reasons for the development occurring at Sauters and outline ways that the water from the Antoine river may be used. The area seems to support farming at 3945 and 4045 as well as industry with the rum distillery at 4542 and the Nutmeg station at 3945. Limited economic development in the southwest area results from the rugged nature of the land making the steep slopes and dissected terrain difficult for construction and for laying a road. This region is difficult to access and its isolation means that there are few services to support a population.

Sauters is developed in a wide sheltered bay that could be used to promote external trade. Little St Patrick and St Patrick rivers could have provided fresh water and the high promontory could have provided a defensible position led to the development of a road network and for construction of homes.

The water from the Antoine River could be used for domestic purposes`, irrigation and agro-processing. Full marks were earned for including map evidence such as naming a specific area of use in the river basin.

Part (b) provided candidates with an incomplete map and asked them to use an appropriate technique for displaying variation in temperatures. Candidates performed poorly on the part of the question. They seemed not know what to do. The data were to be interpolated to produce isotherms – lines joining places of equal temperature. This interpolation introduces some inaccuracy to the finished map as patterns may vary somewhat. Isolines can be used to show other elements of weather including rainfall, pressure, sunshine and cloud cover. The isopleths map of the temperature can be used to infer reasons why the temperatures of Settlements A and B are different. Possible factors include: urban heat island effect around Settlement A as heat retention from concrete, smoke and heat

from households and industry may generate higher temperatures compared to Settlement B which appears to be relatively cooler and located in a wind corridor, open plain or rural settlement.

In Part (c) (i) candidates were to insert the values on the axes of a triangular diagram illustrating the position of LEDCs, EU and MEDCs. Part (c) (ii) asked the candidates to read the diagram and insert the values for these regions in a Table. There was much success as candidates were able to read the graph accurately. Part (iii) was less successful. Some candidates seemed unfamiliar with the use of triangular graphs. There were commendable efforts with the more successful candidates stating that these graphs can illustrate data for three sets of variables. These variables are easily recognized and dominant characteristics are easy to discern but it is sometimes difficult to read the three sets of information and there is the possibility of confusion.

Teachers should note that Question 1 is a practical question and not strictly a mapwork question, therefore candidates may be tested on any practical exercise included in the syllabus.

Section B

Module 1: Climate, Vegetation and Soils

Question 2

Specific Objectives: Module l – 1, 4, 5, 9.

The stimulus for Part (a) was a schematic model of a Mid Latitude Low Pressure Depression weather system. There were three fronts present: the cold front – X, the warm front – Y and the occluded/ quasi stationary front at Z. Many candidates were not able to identify the weather symbols in this schematic.

Candidates were required to describe the global heat budget in Part (b). They were expected to state that insolation from the sun and re-radiation from the earth changes on a daily basis because of the rotation of the earth and the seasons however there is a general global average of energy that does not vary significantly from one year to the next. There is a surplus of energy at the equator as the insolation is intense whilst at the poles there is a deficit because the insolation is seasonal and dispersed. The high albedo of white ice caps also reflects much of the insolation. Better prepared candidates included that the uneven receipt of the insolation sets up the conditions for the vertical and horizontal transfer of heat energy from the equator to the poles creating the planetary winds and ocean currents.

In Part (c) (i) candidates explained ways in which climate change may be caused. While they were able to explain the impact of human activity causing the release of greenhouse gases, they were less able to explain the variation in receipt of insolation because of the changing solar constant as well as the influence of plate tectonics and mountain building which may obstruct the flow of the planetary winds and ocean currents causing prolonged changes similar to the El Nino and La Nina effects. The plate tectonics could also cause super volcanoes to erupt which would release copious amounts of greenhouse gases to trap more heat or volcanic dust that could cool the planet by blocking out insolation.

In Part (c) (ii) candidates were expected to explain ways in which forest may be used to reduce the effects of global warming. Better candidates stated the importance of afforestation for carbon sinks, development of reserves and national parks as well as the trading of carbon credits. Some difficulty arose as candidates focused their responses only on the function of trees in removing carbon dioxide from the atmosphere.

Question 3

Specific Objectives: Module 1 – 9.

Candidates were presented with a model of the nutrient cycle for a tropical rainforest. They were asked to identify the nutrient store labelled X which represents trees in rainforests, the largest store, the processes indicated by Arrows 1 and 2 were leaching and weathering. The nutrients were lost from the system at Arrow 1 and 6.

In Part (b) many candidates accurately defined soil structure as the way in which soil particles of sand, silt and clay are bonded together to from peds which are then arranged into platey, blocky, prism-like or granular structures. They described one of the sandy, clayey or silty textured soils as one in which that component dominated to affect the movement of water, and hence the amount of leaching of nutrients. Clayey soils are sticky and heavy because of the water retention. The sandy soils feel gritty and are usually dry because of the high porosity. Silty soils feel smooth with intermediate water retention.

In Part (c) (i), candidates were to write an essay explaining ways in which vegetation in temperate grasslands contributes to the characteristics of their soils. The expected answers included that the dominant prairie grasses are perennials which contribute humus to the soil annually. They decay and add nutrients which are stored in the soil as moll. The high organic content gives the soil its black colour, and crumb structure and prevents over drying because of the mulching effect of the humus. The organic content also provides a source of food for soil organisms which aerate, drain and pulverise the soil resulting in ill- defined horizons. Note that an essay must include an introduction and a conclusion.

In Part (d) the candidates described the characteristics of the trees in coniferous forests but were not always able to explain how they were adapted to the harsh environmental conditions in this biome. The conical shape is influenced by the heavy snows and strong breezes. The shallow spreading roots use meltwater on the surface as ground water may be frozen. Evergreen leaves trap sunlight whenever it becomes available in the early growing season and needle-shaped leaves reduce extreme transpiration.

Module 2: Economic Activity

Question 4

Specific Objectives: Module 2 – 1. 7. 8

Overall candidates scored high marks on this question. Part (a) (i) and (ii) required candidates to define the term locational rent and use information provided to calculate the locational rents for two farms. The better candidates stated that location rents were the net profits received from the sale of crops from a unit of land after the costs of production and transport were subtracted. They would have found that farm Z, located at the market, realized a locational rent of $80 while Farm Z located 30 km from the market received a locational rent of $20. Less well prepared candidates seem never to have read or calculated the location rent.

Part (b) focused on industrial development from 1800 to 2000. Better prepared candidates suggested reasons for the changes depicted by the primary and tertiary sectors present in a compound line graph. The tertiary sector began the period with only 10% of the workers and this gradually increased but has stabilized in the post-industrial era. The opposite was the case for the primary sector which accounted for 70% of workers but declined to approximately 10% by the post-industrial period. The two curves seem to exhibit an inverse relationship with any displacement being accounted for by the secondary sector.

In Part (c) the candidates were required to define the carrying capacity of a tourist resort and of sustainable tourism while in Part (d) they were asked to examine the effects of tourism in the built and physical environment. This was well done.

Question 5

Specific Objectives: Module 2 – 1, 5.

Question 5 (a), (b) and (c) required candidates to define the terms outsourcing and offshoring. They were asked to complete a flow chart of an industrial system and to explain why manufacturing industries may contribute to pollution of the environment. While there were few who could define the terms adequately, most candidates earned the marks for completing the flow chart and explaining why manufacturing contributes to pollution of the air, land and sea.

In Part (d) candidates earned full marks for correctly explaining why quaternary industries do not cause major industrial pollution. They do not engage in the production and distribution of goods.

Part (e) required candidates to describe the relationship between the functional linkages and agglomeration economies. Marks were lost for not elaborating on these points.

Module 3: Development and Disparities in Development

Question 6

Specific Objectives: Module 3 – 2, 4.

As in previous years the performance on this question was weak. The majority of candidates scored fewer than 30 per cent of the maximum marks. They were not sufficiently prepared for responding to this topic. The concepts appeared unread and therefore unfamiliar. Where they had prepared by reading on this module they were rewarded with very good marks.

Most candidates earned full marks for constructing the compound line graph to represent the data provided in the stimulus material in Figure 6, Part (a).

In Part (b), candidates were asked to classify economic and non-economic indicators. Many were able to identify these accurately.

In Part (c) the candidates wrote an essay to explain why LEDCs are not usually located beyond the second stage of Rostow's model of economic development. Many of the candidates earned low marks because they appeared unfamiliar with the model.

Part (d) was similarly affected as several candidates were unable to adequately discuss the likely impacts of backwash effects on industrial development in the absence of government intervention.

Question 7

Specific Objectives: Module 3 – 4.

The response to this question was unsatisfactory as most candidates earned less than 30 per cent of the available marks.

Candidates were required to compare the amounts of remittances and overseas development assistance as presented in a compound line graph illustrating trends in external financing in less developed countries.

In Part (b) candidates were asked to describe environmental factors that challenge the sustainable development of small island developing states. Many ignored stating the factors and wrote only the challenges of small island states.

Part (c) required the candidates to explain why many LEDCs are slow to adopt appropriate technologies. They seemed unaware of the concept of appropriate technology.

In Part (d) the candidates wrote an essay discussing the merits and demerits of debt relief to Highly Indebted Poor countries (HIPCs). The responses were weak as candidates appeared to be short on time. Only the last few paragraphs were relevant suggesting that little time was taken to think through the response before writing.

Paper 031 – School-Based Assessment (SBA)

See the comments made in the section on SBAs under Unit 1 above.

Paper 032 – Alternative to School-Based Assessment (SBA)

This paper is taken by private candidates instead of Paper 031 (SBA). They are required to respond to three structured questions which parallel the skills required in the SBA. There were four candidates registered but only 2 wrote the examination. A candidate scored 40 per cent of the available marks which was an improvement over the previous year but still unsatisfactory. Most of the marks earned related to preparing graphs and charts to present data and in interpreting the charts. However the sections on field and laboratory work continue to elude the best efforts of the candidates. Future candidates can best prepare for this paper by reviewing the textbooks on fieldwork, starting with those listed in the syllabus.

Question 1 focused on the techniques used in planning and recording a soil study as well as the definitions of measurements taken in a vegetation study. Part (a) (i) required candidates to outline the steps for conducting a study of the relationship between soil moisture content and soil texture. Part (a) (ii) required the candidates to prepare a booking sheet for recording the data obtained in the field and laboratory. The candidates either seemed not to know about data recording sheets or gave vague references to any vegetation study, completely overlooking the requirement for a soil study for (a) (i) and (ii). In Part (b) candidates could not adequately define the terms species density, frequency and cover.

The responses to Question 2 were better. In Part (a) the candidates successfully utilized the information provided to draw a line graph of all visitor arrivals in Barbados from July to December in 2010 and 2011. They were able to devise an appropriate scale for the Y- axis and plot the points accurately. In Part (b) the candidates were asked to calculate von Thunen's Locational Rent for three farms given farm data. This was not done satisfactorily and reflects inadequate preparation. Part (c) asked the candidates to name two indicators used to measure gender disparities in education. This could have been related to the percentage enrolment in primary, secondary or tertiary institutions. In Part (d) the better candidate was able to relate pictorial information to the concept of appropriate technology while explaining the use of solar cookers in rural tropical regions. Expected responses included that this is appropriate technology as it is relatively cheap, does not rely on imported fuel oils, avoids the use of charcoal which would further degrade the environment and that it does not pollute the homes with heat and smoke.

The responses to Question 3 (a) were the best of the three questions as the candidates scored over 50 percent. In Part (a) (i) one of the candidates had difficulty working with the key on the map to calculate the average income per capita for Saint Lucia. The other added the range provided which indicated the highest to the lowest per capita and divided by two. In Part (a) (ii) candidates were asked to convert the visual data into tabular format by stating which Parishes were above or below two of the categories. This was not done satisfactorily by one of the candidates. For Part (c) the candidates were asked to describe characteristics of the distribution of income shown in the choropleth map. Expected answers included: the uneven distribution (state where more and where less), highest income around the capital region (state the amounts there and elsewhere), and the lowest income was in the south (below the national average).

CARIBBEAN EXAMINATIONS COUNCIL

REPORT ON CANDIDATES' WORK IN THE CARRIBEAN ADVANCED PROFICIENCY EXAMINATION®

MAY/JUNE 2015

GEOGRAPHY

GENERAL COMMENTS

There were 1815 candidates writing the required papers for the May/June CAPE Geography examination in 2015. The number writing Unit 1 was 951 while 864 wrote Unit 2. The overall performance on Unit 2 was better than Unit 1, particularly in Paper 02.

Performance in the compulsory map reading section improved in 2015 and there were sustained gains in the module on Development and Disparities in Development. Also, the marks earned in the analytical parts of the questions showed improvement over 2014. Better prepared candidates showed evidence of reading advanced level geographical materials as they referred to geographical theories and utilized geographical skills and vocabulary in their responses. Weaker candidates continue to write descriptions where explanations were required. Several candidates lost points for not supplying supporting details after correctly identifying the factors required in the response.

DETAILED COMMENTS

UNIT 1

Paper 01 – Multiple Choice

Paper 01 comprised 45 multiple-choice items with 15 items assessing each module across the three cognitive levels — Knowledge and Comprehension, Application of Knowledge and Practical Skills.

For Unit 1, the mean percentage score was 57 with a standard deviation of 6.1. For Unit 2, the mean percentage score was 60 and the standard deviation was 5.9.

Paper 02 – Free Response

Section A

Question 1

Specific Objectives: Module 1 – 9; Module 2 – 2; Module 3 – 1

All candidates wrote this compulsory question and it was the best answered of the four that they were required to complete. Some candidates may have spent too much time on this question resulting in less time spent on the remaining questions. Good time management is recommended for candidates to attain maximum marks in the entire examination.

For this question candidates were presented with a map extract of Kingston and its environs on a scale of 1:50 000.

Module 1 was examined in Part (i) (a), (b) and (c). Candidates were required to describe the distribution of two types of settlement patterns and explain how they were influenced by relief. *The largest nucleated settlements occurred at Kingston and Portmore in the west. Other smaller nucleated settlements occurred on the south coast while linear settlements were found primarily along roads, in valleys and on ridges in the eastern district of St David. There were dispersed settlements mainly east of Dallas Mountains while isolated settlements were found on the western side of Kingston Harbour*. Better candidates included the names and grid references for the settlements being cited as examples and they elaborated on both the location and size of these settlements. Some candidates lost marks when they wrote about population distribution rather than the distribution of settlement patterns.

The influence of relief on the settlement type was well described for the dispersed settlements in the interior but many candidates did not mention that low relief also influenced the development of settlements, such as the nucleated settlements on the coastal plains.

In Part (a) (i) (c), most candidates identified the gentle relief, water supply and soil provided by the river as well as accessibility on the coast as the key reasons for the development of the settlement of Bull Bay.

Module 2 was examined in Part (a) (ii). Candidates were required to complete a sketch map of a segment of the map using the grid provided. Most were successful at including the linear features such as the coastline and the rivers. However, inserting the relief was problematic on two counts. Firstly, candidates only focused on the high relief of the mountains with no reference to the low relief of the coastal plain and river valley. Secondly, they depicted high relief by drawing many contours in a laborious and painstaking manner. They could have drawn one contour, such as the 200 m contour, and shaded the areas above this as high relief, even naming the chief mountain ranges. The low relief could have been labelled as plains or left unshaded and indicated in the key as the lowlands. Candidates are reminded that a key and some labelling are necessary for their sketch map to be easily interpreted.

Part (a) (iii) (a) proved to be a popular section of the question. Candidates most often identified the Palisadoes tombolo/ spit but many did not explain the cause of the spit as the transport of the alluvium brought down to the sea by the Cane and Hope Rivers and deposited at a bend in the coastline by longshore drift. Other identifiable features included the salt ponds, the delta at the mouth of the Yallahs river, the fringing reefs in the west, the cliffs and the beach from Bull Bay to Grants Pen.

In Part (a) (iii) (b), candidates easily identified braiding, meanders and the river islands as features found in the river channel. However, the explanation of how these features were formed was not well developed.

Module 3 was assessed by Parts (a) (iv) and (b). In Part (a) (iv), candidates were to suggest three natural and technological hazards that were likely to affect the area covered in the map extract. Expected answers include *threats from tsunami and coastal and riverine flooding on the flatter segments of the coastlands; chemical spill at the Newport West industrial area; fire at the oil refinery; and the possibility of a plane crash at the airport*.

Part (b) was based on a map showing the epicentres of major earthquakes and the location of volcanoes in Saint Lucia and required responses on why Castries is a larger settlement than Soufriere. The numerous and closer volcanoes and earthquakes made Soufriere an unattractive alternative. Also, it is located in the Qualibou depression which may have been a caldera and might be prone to flooding and landslides. In both instances, candidates were able to identify the hazards but the explanations given were poorly developed.

Section B

Module 1: Population and Settlement

Question 2

Specific Objectives: Module 1 – 2, 3, 4

Seventy per cent of the candidates selected this question which was based largely on population studies.

In Part (a) (i), candidates were given the age structure of a population and asked to calculate the dependency ratio. Most candidates knew the method of adding the dependent populations for the under 15 and 65 and over age groups and dividing by the number in the economically active population, but many did not multiply by 100, therefore obtaining an incorrect answer.

Most candidates correctly stated that a developed country would have a dependency ratio of 54 per cent.

In Part (b), most candidates stated correctly that a dot map is used to depict population distribution. However, the less well prepared were unable to describe the factors to be considered when constructing a dot map. These would include reference to the dot value, dot size and dot placement. Only a few candidates identified the Lorenz curve as an alternative technique for depicting population distribution.

In Part (c), candidates were asked to write an essay to explain differences in the population structure of a developed and a developing country. The more discerning candidates who earned most marks simply compared characteristics of the under 15, the economically active and the 65 and over age groups. Other less successful candidates wrote about changes in the population pyramids and experienced difficulties in elaborating on their points.

In Part (d), explanations of the expected changes in the population pyramids for LDCs or MDCs were adequately addressed by the more prepared candidates who wrote that changes in the birth and death rates, fertility, advances in medical care, education of women and increasing urbanization were causing the LDCs to expect a slow down in fertility, reduced birth rates and increasing life expectancy which would cause the pyramid to change to a columnar shape as the population stabilized. On the other hand, the columnar age–sex graphs for the developed countries are expected to become inverted triangles or barrel–shaped as fertility continues to decline, life expectancy increases, and the population ages and then contracts.

Question 3

Specific Objectives: Module 1 – 7, 9

This question was based largely on settlement. Thirty per cent of the candidates attempted it.

Parts (a) (i) and (ii) asked candidates to identify the curves and compare the trends in the population (line Q) and food supply (line P) displayed on the graph provided. This graph was based on Malthus's theory on the relationship between population and food. Most candidates were successful in answering this segment of the question.

In Part (b), candidates were to state factors that contribute to declining population in rural areas and elaborate on each. The expected responses included *migration of the younger, fertile population to the towns in search of employment and better amenities, to the bright lights in the towns, mechanization of agriculture resulting in unemployment and landlessness, overexploitation of the rural resource base, and increasing death rates among the aging rural population*. A few well–prepared candidates explained that *more areas were becoming urbanized so that there were fewer rural areas or a smaller percentage of the population being classified as rural*. While many candidates were able to identify reasons for declining rural populations, they lost marks because they failed to elaborate on these reasons.

For Part (c), many candidates did not respond correctly to this section of the question. They stated the usual services observed including education, health, and administrative services. However, the expected answer should have stated that *rural settlements were agricultural or market towns but with improved communication and transport, rural settlements now have added cultural and social functions, as well as employment and support services for the tertiary and quaternary sectors*. Candidates lost points when they confused multifunctional settlements with multipurpose community buildings within settlements.

Finally in Part (d), candidates were asked to write an essay to explain why the carrying capacity of an area seldom remains static. Better prepared candidates defined carrying capacity and stated that *changes to the size of the population, resources and technology in a region could alter the carrying capacity from one time period to the next*. Their answers demonstrated an ability to select important information

and to organize that information in a logical order. Less prepared candidates did not define carrying capacity, did not relate this term to the maximum population that could be supported by the resources or they incorrectly discussed why carrying capacity was static.

Module 2: Hydrological, Fluvial, Coastal and Limestone Environments

Question 4

Specific Objectives: Module 2 – 2, 3

Forty-four per cent of candidates selected this question on fluvial valley processes and climate.

This question tested the ability of candidates to calculate river measurements, analyse the impact of rock type and structure on drainage basins and discuss the impact of climate on rates and types of physical weathering.

In Part (a), candidates answered questions based on the stream measurements and stream ordering of a dendritic drainage pattern. They were asked to (i) identify the ten first order tributaries, the highest stream order on this third order stream network and to calculate the bifurcation ratio of 3.16. At least 50 per cent of the candidates were successful in their responses on stream order, but many were unable to recall the formula for the bifurcation ratio. They were able to divide the number of streams in one order by the next level, however, they erroneously divided by the three levels of stream order present, rather than add the two fractions that were created by dividing the first by the second and the second by the third stream orders and then dividing by 2.

In Part (b), most candidates did not attempt a response for the water balance equation. Neither were they able to accurately state that the drainage density is calculated by dividing total stream length by total area of the basin. Candidates can best prepare with practical exercises to better understand stream measurements and knowledge of the related definitions.

In Part (c), candidates were able to recall the drainage patterns and describe their characteristics. However, they were unable to relate these to the rock type and structure. Candidates are reminded that they are expected to search out and explain the factors contributing to the formation and development of geographic phenomena when studying topics at the CAPE level. For example, in explaining the formation of the trellis drainage pattern, it was best to describe the alternating bands of hard and soft rocks resulting in a main consequent stream that follows the general slope in folded and metamorphosed regions. The tributaries flow in the secondary valleys and join the main stream at right angles. The most popular drainage pattern with the candidates was the radial drainage which develops on domed structures such as volcanoes. However, candidates did not explain that the igneous rocks were impermeable resulting in a high drainage density with the water flowing down the slopes in several deeply entrenched parallel streams.

Part (d) was based on Specific Objective 3 and Content 2:7 of the syllabus. Candidates knew the types of physical weathering but the less prepared were unable to relate climate to the types and rates of physical weathering. *Most physical weathering is achieved either in hot and wet regions that support the growth of plants and animals for high rates of biological weathering by physical means; in hot arid regions where extreme changes in temperature cause processes such as exfoliation; or in mountainous or cold regions where the temperature fluctuates daily or seasonally above and below the freezing point of water causing processes such as frost action*. All of these weathering processes are summarized in the Peltier diagram. This appears to be an area of the syllabus that is not well developed, nevertheless, there were some well prepared candidates who earned full marks in their responses on this section of the question.

It is important to reinforce the idea that physical geography revolves around the processes in the rock cycle including rock genesis, change and denudation. By its very definition, weathering relates to the

breakdown of rocks exposed to the weather, as such the types and rates of weathering processes must be studied in relation to climate types. Even if chemical weathering is emphasized for rock types such as limestone and igneous rocks, it is essential to explain that all weathering is influenced by the availability of water and by temperature change.

Question 5

Specific Objectives: Module 2 – 2, 4, 6

This question, based largely on changes in sea level and surface features in limestone regions, was the more popular of the two Module 2 questions with 56 per cent of candidates selecting it.

In Part (a) (i), candidates were asked to use the map scale to measure the length of the coastal structure. They were then asked to (ii) identify the deposition that occurs and (iii) identify the longshore drift occurring by the direction of movement of the coastal current in front of the (iv) jetty or groyne. Most were able to complete this task successfully.

Part (b) (i) required candidates to state causes of sea level change. They could have included changes such as *isostatic uplift* and storm surge as well as *eustatic changes such as thermal expansion of water and melting and freezing of ice sheets.*

Part (ii) required a description of coastal features resulting from a rise in sea level. These include features such as *estuaries, rias, fjords, fjards,* and *Dalmatian coastlines*.The impact of sea level change remains a topic that is not well prepared by candidates as they did not provide successful responses.

Part (c) was not well addressed as candidates could name features but many did not explain how they were formed. Better prepared candidates stated that chemical composition and the structure of limestone rocks cause depressions such as dolines, uvulas, poljes; residual features such as cone and tower karst; and seemingly relic features such as limestone pavements, dry valleys, and gorges. A few candidates did not distinguish between surface and underground features.

Candidates were very successful in Part (d). This was a well prepared topic. However, candidates must be careful when selecting activities to describe as sometimes they related one activity and later related another aspect of the same activity as a separate point.

Module 3: Natural Events and Hazards

Question 6

Specific Objectives: Module 3 – 1, 7

Seventy-one percent of candidates selected this question over Question 7 in Module 3. It was based on the knowledge and analysis of hazards.

For Parts (a) (i), (ii) and (iii), candidates correctly identified the landslide in the photograph or referred to it as a geomorphological hazard that was probably caused by destabilizing the slope with the road cutting, heavy rainfall or an earthquake. The loss of land, vegetation, damage to the road, disruption of communication and further destabilization of the slope were possible impacts of the landslide. Marks were lost when candidates misinterpreted the photograph stating that the emergency vehicles were in a vehicular accident.

Part (b), outlining measures taken at the national level to reduce the negative effects of hazards, was generally well done. The candidates lost marks when they did not elaborate on the points made or referred to individual responses to the hazard rather than provide national level responses such as *government land settlement policy* and *preparing emergency evacuation routes*.

Only the better prepared candidates answered Part (c) successfully. They included points such as *earthquake swarms, animal behaviour, release of rare natural gases, dilation, geomagnetic and electric activity* as *well as ground water changes*. Other candidates confused forecasting, which is an assessment of the probability of an earthquake recurring in a given location, with prediction, which is precise and specific to a time and location.

Question 7

Specific Objectives: Module 3 – 3, 4, 7

While this was a low response question (with a 29 per cent response rate) compared with Question 6, the responses were more successful which suggests that better candidates were well read on the content for plate tectonics and flooding.

The stimulus for Part (a) was a photograph illustrating parallel faults and a downthrow indicating normal faulting by tension which had caused the central block to be displaced downward. The responses were poor as candidates demonstrated very little understanding of the concepts related to faulting. They ignored the scale of the photograph by naming the feature present as extensive rift valleys and escarpments rather than was a downthrow.

Explanation of the processes at collision zones was tested in Part (b). Candidates earned more than 50 per cent of the marks in this section. They were able to describe the collision and named the common example of the Eurasian and Indo-Australian collision of continental plates. However, they were unable to include relevant details such as the fact that *the ocean floor between the plates is subducted until the continental plates meet and no more subduction takes place. A weld or suture zone develops. Fold mountains such as the Himalayas develop as well as the thrust faults that created the Alps between the African and the Eurasian plate. There is regional metamorphism*. Several candidates incorrectly gave the example of the Andes fold mountains which results from the convergence of oceanic and continental plates.

In Part (c), candidates were required to identify drainage basin characteristics but inaccurately focused on speed of the discharge and length of the lag time as opposed to the magnitude of the flood. They were expected to discuss how magnitude of the flood (that is, how much water is present to create high flood conditions) is influenced by area or size of the drainage basin, shape, relief or slope, presence of vegetation, geology and soil, and the drainage density.

Similarly, while there was the basic knowledge of drainage patterns, candidates did not relate these to the magnitude of the flooding. *The large number of tributaries in dendritic patterns contribute to the main consequent stream resulting in high magnitude floods. This is also the case in the synclines of trellis drainage and the low lands at the base of the domed structures in radial drainage regions, or in the centre of centripetal drainage regions*.

Paper 031 – School-Based Assessment (SBA)

Improved quality was observed in most of the SBA's presented in 2015 compared with previous years. It is gratifying to see that the workshops and the detailed comments provided in the 2014 Subject Report were heeded.

Students followed the advice to improve the cover page by clearly stating their name, candidate number, date and a complete title of the study in the form of a question. They also included the place and territory where the study was conducted. Better candidates also included the key skill used to collect the data for the study from among the list provided on page 34 of the CAPE Geography syllabus. Only a few students lost points for not presenting an adequate cover page as they wrote only a phrase that listed the topic.

There were fewer incorrectly stated Statements of Purpose this year. It cannot be overemphasized that the Statement of Purpose sets the frame for all further work on the study. Students must carefully develop these paragraphs and provide a brief introduction that states the background for the study such as a significant recent event or an interesting feature on the topic. This should be followed by a reference to the geographical treatment of the topic such as a theory or model found in CAPE level textbooks and methods books. Finally, the students should write the research questions, hypotheses or objectives that the study aims to find out.

Students wrote better descriptions of the methods used to collect data. However, while the physical studies were well described, there remains some lack of detail in the human geography studies that utilized questionnaires. Some students did not always explain the nature of the questions or relate the questions to the study objectives. They did not state how many questionnaires were distributed or how the participants were selected. A copy of the questionnaire should be placed in the Appendix and not in the body of the report. Good studies included a cover letter explaining the purpose as well as the confidentiality of the study to the participant. Most credited the secondary sources and explained why the information was necessary for completing the study.

Some successful students wrote the specific methods used to assess each of the research questions. They included a reason why these methods were chosen but they might also have stated why the sample locations were chosen. Also, they should include a statement on how the collected data would be analysed.

Limitations of the study should be placed at the end of the methods section.

The illustrations showed a considerable improvement over the previous years. Aerial photographs and satellite imagery (including from Google Earth) as well as clearly labelled photographs were used to good effect in the description and analysis sections especially when the relevant parts were labelled to illustrate study information. A few students submitted photocopied maps and charts which received no marks. Students are reminded that many of the topics at CAPE level include specialized graphs or charts and these should be included where possible, to illustrate results of the study. This year there were more studies employing scattergrams and statistical techniques. Most marks were awarded for illustrations that included the basic conventions of title, scale, key, arrow to orient the directions on maps and those that were embedded into the text.

Many candidates wrote adequate descriptions of their findings.

Analyses and Discussions remained the weakest parts of most studies or were absent entirely from the work submitted by weaker studentss. As with former years, when Data Presentation was combined with Analyses and Discussion, there was a tendency for the weaker students to describe the data only and not provide analysis and discussion. Better students were able to combine these sections for maximum marks.

Only the weaker studies did not make inferences, show connections, give reasons for the patterns formed or for any changes or deviations in an expected phenomenon described in the textbooks, theories or models when analysing the data. This section could have been improved if students related the specific research questions and objectives presented in the Purpose of the Study to the findings and the literature that they had researched on the topic.

The conclusions were generally fair with the best studentsmaking reference to the Purpose of the Study to determine if each research question was answered satisfactorily. Students should remember that the studies are small-scale so the findings should not be generalized to conclude that national level changes are evident or that a theory was disproved when there may well have been extenuating circumstances that would have produced the results obtained. The conclusions should not be generalized beyond what was found for that particular area and time of the study.

Too many recommendations were unsatisfactory. Recommendations should be based on the conclusions of the study and include suggested improvements on the methods used to collect and present data.

There were fewer students who were not making use of relevant geographical terms. Their performance in this regard reflects more reading on the topic and was seen in the better bibliographies.

Students are required to read advanced level textbooks, journal articles, and consult authorized websites for example, CDEMA, the Meteorological Office, Statistical Office or the World Population Bureau for information in support of their studies. CSEC level textbooks do not provide the theories, models, illustrations or discussions that would help to inform a CAPE study and should not be used. These textbooks are not given credit in the Bibliography. Students should consult the bibliographies in the CAPE Geography syllabus for lists of relevant reading material. The bibliography should include reference to at least three CAPE level textbooks, a geographical methods book, authorized websites and other specialized information.

The bibliography section has improved as students earned maximum marks where they followed the CAPE syllabus reading lists that are written in the accepted format or the APA and MLA formats.

Weaker students should note that bibliography lists are presented in alphabetical order and are not bulleted or numbered. They contain specific author information by last name and first initial only. Also provided are year of publication, title and publisher information. The titles of books, newspapers and magazines are underlined or written in italics.

Paper 032 – Alternative to School-Based Assessment (SBA)

Private candidates write this paper instead of submitting an SBA. They are required to respond to the three compulsory structured questions which parallel the skills required in the SBA. Eight of twelve registered candidates wrote the examination in 2015. They performed better this year as the mean score was 36 per cent in 2015 compared with 30 per cent in 2014. There is still room for improvement.

Question 1

Candidates generally scored highest on this Question which examined Module 1. This question required candidates to study the information provided on birth rate and GNP per capita in selected countries and prepare a scattergraph on the graph paper provided. The main challenge was to devise a suitable vertical scale to adequately represent the range of values given. Only four of the candidates were able to construct the scattergraph using a title, adequate intervals on the axes, and labels for the axes. Some candidates elected to draw a bar graph instead of the required scattergraph.

Question 2

In Part (b), candidates were asked to describe the activities and zonation of land use in a central business district (CBD). Their responses suggest that many had not studied this part of the syllabus. Instead, candidates described the range of activities usually found on a map of a town. They also wrote about the arrangement of land use as described by von Thunen, explaining the arrangement of agricultural land use. Very few wrote about retailing, finance, transport and administrative services and that there appears to be clear vertical and horizontal zonation of the land use in the CBD.

As with the previous year, candidates scored the lowest in physical geography which was examined in this question . In Part 2 (a), candidates were asked to identify four drainage patterns depicted in the block diagrams presented. Most correctly identified the dendritic and radial patterns but not the rectangular and trellis patterns. They were not able to describe the faulted landscapes over which the rectangular drainage pattern develops. Neither were they able to provide accurate responses to Part (b). They were expected to describe how fine sediments create gentle gradient beaches because they become

compact when wet. This restricts percolation and maintains a gentler gradient than beaches comprised of coarse sediments where the backwash winnows out the finer sediments leaving rocks and pebbles to produce steeper gradient beaches. Instead, candidates wrote about constructive and destructive waves.

Question 3

Most candidates identified the chemical composition of the rock and the presence of bedding planes and joints as important characteristics of limestone rocks that affect the rate of weathering in Part (c). These characteristics increased the porosity and hence the permeability of this rock which in turn increased the surface area exposed to weathering.

This question 3 focused on Module 3 of the syllabus. Candidates were expected to describe three major types of magma based on the viscosity and gas content referred to in Part (a). Only 50 per cent of the candidates were able to complete the table with the understanding that basic magma had low gas content and low viscosity while andesite magma was intermediate, and the acidic magma had high gas content and viscosity. In Part (b), many candidates were not able to explain how temperature and gas content influenced the viscosity of magma. Although the information was already given in the table, some candidates attempted to find other factors that would explain the viscosity of magma. In Part (c), candidates were asked to write a letter giving three reasons why a flood risk map should be prepared for their town. Many were able to correctly identify three benefits of hazard mapping.

UNIT 2

Paper 02 – Free Response

Section A

Question 1

Specific Objectives: Module 1 – 8, 9,10, 11; Module 2 – 2, 3, 9, 10; Module 3 – 2, 6, 8, 9

This compulsory question tested Modules 1, 2 and 3. It was designed to assess map-reading and other practical skills included in the syllabus. Generally, the performance of the majority of candidates writing this question was fair.

Parts (a) (i) (a) and (b) were set on a map extract of Point-a-Pierre, Trinidad at 1: 25,000. Candidates were asked to identify two sites for a study of the soil types in the region and to give reasons why those sites were chosen. They could identify sites using grid references and place names and cite reasons such as *differences to be found on hillside or flat land, presence or absence of vegetation, soil moisture content, or soils under land use such as agriculture or urban areas and those under natural vegetation.*

Candidates were asked to identify soil characteristics based on the sites selected, such as depth, *texture, acidity, horizons, colour and soil moisture*. They lost marks when they did not elaborate on the expected difference in the characteristics of the soil samples chosen for the study. For example, they were expected to write that soil horizons might be present under natural vegetation but absent under cultivated land.

Part (a) (ii) (a) and (b) required candidates to focus on the types and distribution of natural vegetation on the map extract. The options on the map were mangrove, savannah and scrub. While forest was in the key it was not in the extract and candidates were not credited for this point. *The mangrove was located at the coast, near the mouth of the Guaracara river; savannah was located north of the Guaracara river on hilly slopes above 300 m high; scrub was found mainly in the northwest on slopes and low ridges in Plaisance Estate and on lands below 250 m.*

In Part (a) (iii), candidates were required to identify non-agricultural economic activities and describe a factor which would influence its location and development. There were many of these activities to choose from including: *transport and communications, oil refining, quarrying, sports/entertainment, electricity generation and commerce*. For example, the port facilities on the coast and the geological laboratory support the location and development of oil refining. While candidates were able to identify the non-agricultural economic activity, less well prepared candidates did not provide the necessary elaboration.

In Part (a) (iv), candidates suggested reasons for the location of agricultural activities in the map extract. For example, *the flat gently undulating lands allowing for use of machinery, building of agricultural access roads, and the nearby settlements provided labour which facilitated the planting of sugar cane.*

Part (b) required that candidates calculate the Spearman's rank correlation for the relationship between employment in agriculture and the contribution of agriculture to GDP. Most candidates were able to state a null hypothesis for the relationship and calculate the coefficient. Weaker candidates did not state the null hypothesis that there was no statistical relationship between the variables, and did not make a table to determine the ranks of the two variables. They lost marks for not deciding on how to treat with the ties in the data for the contribution of agriculture to GDP. *There was a strong positive correlation between the variables as greater employment in agriculture was equal to greater contribution to the GDP. Canada had the same low percentage employment in agriculture and contribution to GDP, Jamaica had 17 per cent employed in agriculture with a 6 per cent contribution to the GDP while Ethiopia had over 75 per cent of the workforce engaged in agriculture contributing 44 per cent of GDP.*

Section B

Module 1: Climate, Vegetation and Soils

Question 2

Specific Objectives: Module l – 3, 5

Sixty per cent of the candidates selected this question compared with Question 3.

Part (a) presented a compound line graph illustrating changes in temperature and the concentration levels of carbon dioxide from 160 000 years ago to the present day. The world average temperature was the same as 1990 about ~130 000 years ago. The lowest concentration of carbon dioxide levels prior to 1990 was 185 ppm while the temperature was 7 to 9 degrees cooler 20 000 years prior to 1990. Better prepared candidates easily read the graph and stated that a perfect positive correlation existed between the two variables.

In Part (b), candidates were expected to highlight differences between the concepts of absolute and relative humidity. *While absolute humidity refers to the actual amount of water vapour in the atmosphere that is expressed in grams per cubic unit, relative humidity refers to the percentage of water vapour present in the atmosphere compared to how much it is capable of holding at that specific temperature*. Less well prepared candidates seemed oblivious of these definitions and did not attempt this section.

Part (c) was another of the areas that illustrated differences between well prepared candidates and the less prepared. Many were not aware of the Bergeron–Findeisen (ice-crystal) process and the collision-coalescence process of raindrop formation. Instead of explaining the formation of raindrops, some candidates described the development of different types of rainfall or what causes condensation and evaporation.

Part (d) was not attempted by many candidates. The better prepared earned full marks as they discussed variations in atmospheric pressure because of latitude, altitude, distance from the sea, hemispheric

distribution of land and sea, and seasonal changes due to the tilt and rotation of the earth. Basically the factors affecting temperature would cause cold air to sink creating high pressure and the rising warm air would cause low pressure.

Question 3

Specific Objectives: Module 1 – 6, 7, 8, 9

This was the less popular of the two Module 2 questions with only 40 per cent of candidates opting to prepare a response.

Candidates were presented with a model of cold air descending from A on a high plateau to B in the valley below in Part (a). They accurately stated that Site A experienced high pressure (as it was colder) and the source of the wind, while Site B experienced low pressure (as the cold air was moving towards it). The air descends to the valley as mountain winds or katabatic winds which have the effect of cooling the temperature of Site B.

In Part (b), many candidates accurately defined the soil processes of podsolization and calcification.

In Part (c), candidates seemed unable to select from the myriad of characteristics to compare the tropical rain and coniferous forests that they were to have studied and instead wrote about one forest and then the other. Candidates earned most marks when they compared each of the highlighted characteristics of the vegetation in the forests.

In Part (d), some candidates again ignored the command words and simply wrote all they knew on tropical grasslands whereas better prepared candidates earned full marks for a well organized and thoughtfully crafted response to the task. They included at least one human or natural factor that promotes the development of grasslands including *setting fires, overgrazing, deforestation and over pumping of water as well as the annual drought*. The resulting vegetation included pyrophytic features such as fast regrowth after fires because the growing parts are underground, tap roots to reach the underground water and water storage in few specialized (zerophytic) trees.

Module 2: Economic Activity

Question 4

Specific Objectives: Module 2 – 1. 2, 7

Question 4, which was based on tourism, was the more popular of the two Module 2 questions with 76 per cent of candidates selecting it.

Part (a) (i) and (ii) required candidates to interpret two divided bars displaying information on money earned from tourism in different parts of the world in 1970 and 2010. Many candidates were able to produce answers supported by statistics from the graph and earned high scores.

In Part (b), while candidates were able to describe the characteristics of economic activity in the secondary sector, they were less prepared to do so for the quaternary sector.

There was a better overall response for Part (c) in which candidates adequately explained how hotels and tourism authorities have increased the number of off-season tourists. They included points such as *diversification of the tourism product at the hotels, diversification of the source markets, provision of special packages, promotion of festivals and sport tourism, creation of niche markets and offers made in special discount marketing.*

In Part (d), the government policies commonly cited for supporting agriculture included *trade liberalization, quotas on imports, subsidies, trade agreements, land use planning, tax concessions and educational programmes*. Candidates earned full marks when they elaborated on their points.

Question 5

Specific Objectives: Module 2 – 2, 3

This question was less popular than Question 4 and was attempted by 24 per cent of the candidates. It was based on agriculture and changing factors in industrial location. Parts (a) and (b) required candidates to respond to content on agriculture while Parts (c) and (d) required understanding of the factors influencing industrial location.

In Part (a), candidates could accurately read the trends in the acreage of land placed under organic farming. The better candidates included specific quantities and years of change when describing sharp increases, fluctuations and gradual declines in the extent of organic farming.

Part (b) required candidates to suggest reasons for the loss of harvested food in less developed countries (LDCs). The better prepared candidates cited *loss of the produce due to inadequate storage, exposure to vermin, inefficient and expensive transport and praedial larceny.* The less prepared candidates lost marks when they included reasons why the crops were lost in the fields, before harvest or did not elaborate on the reasons cited.

In Part (c), the successful candidates explained that raw materials, comparative advantage, government policy or communication and reliable technologies would influence industrial location. Marks were lost for not elaborating on these points.

Part (d) required the candidates to write an essay on factors that are no longer relevant for industrial location in a major industrial location. They should have included a specific location as well as an introduction and a conclusion to earn maximum points. The three reasons given included depletion of raw materials, multinational corporations (MNCs) and their global organization overriding comparative advantage, changes in government policy and improvements in communication and technology.

Module 3: Development and Disparities in Development

Question 6

Specific Objectives: Module 3 – 4, 9

This was the more popular of the two questions in Module 3 with 68 per cent of candidates selecting this question over Question 7. It was based on the global distribution of poverty and on the development of Small Island Developing States (SIDS).

In Part (a), candidates were to identify the line of best fit, the scattergraph and the numerical result of the statistical test as methods of reporting the relationship between the two factors depicted in the illustration. Some candidates instead tried to describe the relationship between the variables. They stated that there was a positive relationship between the variables. Denmark had the highest personal wellbeing score.

In Part (b), candidates were able to describe the global distribution of poverty and state how the current pattern had changed over the last 40 years. This was largely successful but less prepared candidates did not provide examples of countries nor did they state whether there were increases or decreases in the amount and type of poverty experienced.

In Part (c), candidates successfully discussed the development potential and limitations of SIDS. However, some chose to explain the factors that they were instructed to exclude.

Question 7

Specific Objectives: Module 3 – 5, 6

This question was attempted by 32 per cent of the candidates. The response to this question was unsatisfactory as most candidates earned less than 30 per cent of the available marks. Candidates were required to respond to this question based on development aid and local as well as regional development models.

While they earned marks on the information in the table, the majority of the candidates was not as successful on the models of development. Many confused Friedman's model with either Weber's or the Dependency model. The explanation on cumulative causation was largely unknown and so was the application of the concept with reference to a specific country. Generally, this question was poorly done.

Paper 031 – School-Based Assessment (SBA)

Improved quality was observed in most of the SBA's presented in 2015 compared with previous years. It is gratifying to see that the workshops and the detailed comments provided in the 2014 Subject Report were heeded.

Students followed the advice to improve the cover page by clearly stating their name, candidate number, date and a complete title of the study in the form of a question. They also included the place and territory where the study was conducted. Better students also included the key skill used to collect the data for the study from among the list provided on page 34 of the CAPE Geography syllabus. Only a few students lost points for not presenting an adequate cover page as they wrote only a phrase that listed the topic.

There were fewer incorrectly stated Statements of Purpose this year. It cannot be overemphasized that the Statement of Purpose sets the frame for all further work on the study. Sudents must carefully develop these paragraphs and provide a brief introduction that states the background or the study such as a

significant recent event or an interesting feature on the topic. This should be followed by a reference to the geographical treatment of the topic such as a theory or model found in CAPE level textbooks and methods books. Finally, students should write the research questions, hypotheses or objectives that the study aims to find out.

Strudents wrote better descriptions of the methods used to collect data. However, while the physical studies are well described, there remains some lack of detail in the human geography studies that utilized questionnaires. Some students did not always explain the nature of the questions or relate the questions to the study objectives. They did not state how many questionnaires were distributed nor how the participants were selected. A copy of the questionnaire should be placed in the Appendix and not in the body of the report. Good studies included a cover letter explaining the purpose as well as the confidentiality of the study to the participant. Most credited the secondary sources and explained why the information was necessary for completing the study.

Some successful students wrote the specific methods used to assess each of the research questions. They included a reason why these methods were chosen but they might also have stated why the sample locations were chosen. Also, they should include a statement on how the collected data would be analysed.

Limitations of the study should be placed at the end of the methods section.

The illustrations showed a considerable improvement over the previous years. Aerial photographs and satellite imagery (including from Google Earth) as well as clearly labelled photographs were used to good effect in the description and analysis sections especially when the relevant parts were labelled to illustrate study information. A few students submitted photocopied maps and charts which received no marks. Students are reminded that many of the topics at the CAPE level include specialized graphs or charts and these should be included where possible, to illustrate results of the study. This year there were more studies employing scattergrams and statistical techniques. Most marks were awarded for illustrations that included the basic conventions of title, scale, key, arrow to orient the directions on maps and those that were embedded into the text.

Many students wrote adequate descriptions of their findings.

Analyses and Discussions remained the weakest parts of most studies or were absent entirely from the work submitted by weaker students. As with former years, when Data Presentation was combined with Analyses and Discussion, there was a tendency for weaker students to describe the data only and not provide analysis and discussion. Better students were able to combine these sections for maximum marks.

Only the weaker studies did not make inferences, show connections, give reasons for the patterns formed or for any changes or deviations in an expected phenomenon described in the textbooks, theories or models when analysing the data. This section could have been improved if students related the specific research questions and objectives presented in the Purpose of the study to the findings and the literature that they had researched on the topic.

The conclusions were generally fair with the best students making reference to the Purpose of the Study to determine if each research question was answered satisfactorily. Students are reminded that the studies are small scale study so the findings should not be generalized to conclude that national level changes are evident or that a theory was disproved when there may well have been extenuating circumstances that would have produced the results obtained. The conclusions should not be generalized beyond what was found for that particular area and time of the study.

Too many recommendations were unsatisfactory. Recommendations should be based on the conclusions of the study and include suggested improvements on the methods used to collect and present data.

There were fewer students who were not making use of relevant geographical terms. Their performance in this regard reflects more reading on the topic and was seen in the better bibliographies.

Students are required to read advanced level textbooks, journal articles, and consult authorized websites for example, CDEMA, the Meteorological Office, Statistical Office or the World Population Bureau for information in support of their studies. CSEC level textbooks do not provide the theories, models, illustrations or discussions that would help to inform a CAPE study and should not be used. These textbooks are not given credit in the Bibliography. Students should consult the bibliographies in the CAPE Geography syllabus for lists of relevant reading material. The bibliography should include reference to at least three CAPE level textbooks, a geographical methods book, authorized websites and other specialized information.

The bibliography section has improved as students earned maximum marks where they followed the CAPE syllabus reading lists that are written in the accepted format or the APA and MLA formats.

Weaker students should note that bibliography lists are presented in alphabetical order and are not bulleted or numbered. They contain specific author information by last name and first initial only. Also provided are year of publication, title and publisher information. The titles of books, newspapers and magazines are underlined or written in italics.

Paper 032 – Alternative to School-Based Assessment (SBA)

This paper is taken by private candidates instead of Paper 031 (SBA). They are required to respond to three structured questions which parallel the skills required in the SBA. There were more candidates registered for this examination than in previous years. Eleven of the 18 registered candidates wrote the examination. There was an average score of 38 per cent of the available marks which was an improvement over 2014 but still unsatisfactory. There were specific areas that were less well known than others. In particular, candidates did not perform well on the physical geography questions focusing on the climate and soils as well as on the questions on sampling techniques.

Question 1

While there were some improvements over previous years, the sections on field and laboratory work continue to elude the best efforts of most of the candidates. Future candidates can best prepare for this paper by reviewing the textbooks on fieldwork prescribed in the syllabus.

In Part (a), candidates could not identify the cold front at C and the warm front at D. This showed inadequate preparation on the characteristics of midlatitude depressions. Cold fronts produce a sharper frontal boundary with more intense showers occurring over a smaller area than warm fronts where the rain is more widespread and less intense and there is a gentler frontal gradient. Many candidates did not read the arrow indicating direction of movement of the weather system and were therefore unable to describe the expected changes in the weather over Site B as the warm front, warm sector and then the cold front approached.

Part (b) required candidates to describe the process of separating the sand component in a soil sample using shake sieves. There was much confusion as to what substrate would remain in the first and last sieves. Many expected that sand would be found in Sieve 3. This was not the case as the finest particles, comprising silt and clay would sieve through to Chamber 3 while the sand would be retained in the larger sieves of Chambers 1 and 2. The silt and clay remaining in Chamber 3 could easily be separated by adding water, shaking and allowing to settle. The fraction that is silt or clay could then easily be calculated.

Question 2

The responses to this question were more accurate. In Part (a), candidates successfully drew either the rings representing the change in land use from the central market or they drew a graph illustrating economic rent changing for successive agricultural land use. The reasons for the change in land use were well known.

In Part (b), candidates successfully interpreted the photograph and accurately indicated the types of pollution resulting from heavy industrial manufacturing.

Question 3

The candidates were less successful in responding to Part (a). Many were not able to indicate that the reasons for sampling included *reducing cost, time and lack of availability of all the individuals in the population under study.*

The sampling techniques such as random, stratified, convenience and systematic were not well known or explained. However, many candidates were able to write two questions that would be useful and give reasons why these questions should be included in a questionnaire.

Gender equity and reasons for it being used as an indicator of development were well addressed.