Oxford Cambridge and RSA Examinations

RECOGNISING ACHIEVEMENT

OCR AS GCE in Geography A (3832)

OCR Advanced GCE in Geography A (7832)

Approved Specifications – Revised Edition

First Advanced Subsidiary GCE certification was 2001 QAN (3811) 100/0607/2
First Advanced GCE certification was 2002 QAN (7811) 100/0435/X

Foreword to Revised Edition

This Revised Edition has been produced to consolidate earlier revisions to these specifications and any changes contained within have previously been detailed in notices to centres. **There is no change to the structure of the specification and most differences are minor content changes or cosmetic**. Sidelining will be used to indicate any significant changes.

The main changes are:

Synoptic Assessment – it is no longer a requirement to take synoptic units at the end of the course**.**

Re-sits of Units - The restrictions on re-sitting units have been removed, enabling candidates to re-take units more than once (see page 19 for details).

Foreword (continued)

This booklet contains OCR's Advanced Subsidiary GCE (AS) and Advanced GCE (A level) Geography A specifications for teaching from September 2005

The AS GCE is assessed at a standard appropriate for candidates who have completed the first year of study of a two year Advanced GCE course, i.e. between GCSE and Advanced GCE. It forms the first half of the Advanced GCE course in terms of teaching time and content. When combined with the second half of the Advanced GCE course, known as 'A2', the AS forms 50% of the assessment of the total Advanced GCE. However, the AS can be taken as a 'stand-alone' qualification. A2 is weighted at 50% of the total assessment of the Advanced GCE.

In these specifications the term **module** is used to describe specific teaching and learning requirements. The term **unit** describes a unit of assessment.

Each teaching and learning module is assessed by its associated unit of assessment.

These specifications meet the requirements of the Common Criteria (Qualifications and Curriculum Authority, 1999), the GCE AS and Advanced Level Qualification-Specific Criteria (QCA, 1999) and the relevant Subject Criteria (QCA, 1999).

Contents

Specification Summary

Outline

These specifications emphasise the unity of geography. In order to achieve an understanding of the complex inter-relationships between people and environment it is first essential to provide a sound knowledge and understanding of physical and human geography. To that end the Advanced Subsidiary GCE specification provides a coherent course in physical and human geography, promotes an investigative approach, and lays a sound foundation for further study at A2. The A2 modules include opportunities for candidates to study selected aspects of physical and human geography in greater depth, and to develop their investigative skills, either by means of producing a personal investigative study, or by taking an examination paper which tests those skills. The People and Environment Options allow candidates to explore complex inter-relationships in a synoptic context, synthesising knowledge, understanding and skills from other modules in the specification with particular attention to real world examples.

Specification Content

Module 2680 consists of four compulsory sections which together provide a foundation in physical geography. In Module 2681, two compulsory sections in population and settlement studies provide the basis for understanding human geography. Module 2682 focuses on geographical investigation, the use of data sources and provides the necessary skills for individual investigative work based on primary sources. The candidate is required to submit a 1000 word report on an investigation.

These three Advanced Subsidiary modules lead on to the A2 modules which cover aspects of geography in the same three fields - physical, human, and investigative work - but in greater depth, together with a synoptic module.

Module 2683 offers five options in physical geography and four options in human geography. The physical options are: Coastal Environments; Fluvial Environments; Glacial and Periglacial Environments; Hot arid and Semi-arid Environments; and Applied Climatology. The human options are: Agriculture and Food; Manufacturing Industry: Location, Change and Environmental Impact; Service Activities: Location, Change and Environmental Impact; and Tourism and Recreation and their Environmental Impacts. Two options must be studied, one physical and one human.

Module 2684 offers four options in synoptic geography from which two must be studied. These require candidates to draw together and apply relevant knowledge, understanding and skills learned in other modules. The options are Geographical Aspects of the European Union (EU); Managing Urban Environments; Managing Rural Environments; and Hazardous Environments.

Modules 2685 and 2686 provide alternative routes for the application of skills of data acquisition, data analysis and data presentation in investigative work based on primary sources. These skills are taken to a level beyond that covered in Module 2682. Module 2685 requires candidates to plan and carry out a geographical study, and submit a 2500 word account of the work. Alternatively, in Module 2686 candidates take a written examination paper, which tests data handling skills.

Scheme of Assessment

The Advanced Subsidiary forms 50% of the assessment weighting of the full Advanced GCE. Advanced Subsidiary GCE is assessed at a standard between GCSE and Advanced GCE and can be taken as a stand-alone qualification or as the first part of the full Advanced GCE course.

Assessment is by means of 3 Units of Assessment for Advanced Subsidiary GCE and 6 Units of assessment for Advanced GCE.

Advanced Subsidiary GCE

Candidates take three Units 2680, 2681 and 2682.

Advanced GCE

Candidates take	**either**	Units 2680, 2681, 2682, 2683, 2684 and 2685
	or	Units 2680, 2681, 2682, 2683, 2684 and 2686.

Units of Assessment

Unit	Level	Unit Title	Duration	Mode of Assessment	AS	Advanced GCE
2680	AS	The Physical Environment	1 hour 15 mins	Written Examination	40%	20%
2681	AS	The Human Environment	1 hour	Written Examination	30%	15%
2682	AS	Geographical Investigation	45 mins	Written Examination and Coursework	30%	15%
2683	A2	Options in Physical and Human Geography	1 hour 30 mins	Written Examination	-	15%
2684	A2	Synoptic Geography: People and Environment Options	1 hour 30 mins	Written Examination	-	20%
2685	A2	Personal Investigative Study (Geography A)	-	Coursework		15%
2686	A2	Investigative Skills (Geography A)	1 hour 30 mins	Written Examination	-	15%

Question Paper Requirements

Ordnance Survey maps may be used in question setting. The ability to use and read OS maps at the scale of 1:50 000 or larger and other national maps at similar scales is an important geographical skill.

Advanced Subsidiary

The question papers assessing The Physical Environment and The Human Environment modules (Units 2680 and 2681) have a common format being based on structured questions all of which are compulsory.

The Geographical Investigation question paper (Unit 2682) consists of compulsory questions testing candidates' understanding of the research and planning necessary for geographical investigation and the ability to present and analyse data.

A2

For the Options in Physical and Human Geography question paper (Unit 2683) candidates select any two options, one from the physical group and one from the human group. For the Synoptic Geography People and Environment Options question paper (Unit 2684), candidates choose two options from the four available. In Unit 2683 candidates must answer one essay question from a choice of two for each chosen option. In Unit 2684 candidates must answer one essay question from a choice of three for each chosen option.

The examination in Unit 2686 consists of three questions which require the candidate to demonstrate their skills in handling provided data. Candidates answer two questions.

Quality of language is assessed within those parts of the question papers which require more extended answers.

Coursework Requirements

Advanced Subsidiary

In Unit 2682 candidates must carry out one investigation leading to a report of not more than 1000 words. The report must not be taken into the examination room. The Examinations Officer at the centre is, however, responsible for submitting the report to meet OCR's standard coursework deadlines and it will be possible for candidates retaking Unit 2682 to carry over the marks for the report more than once.

A2

Candidates are required to submit a 2500 word Personal Investigative Study (Unit 2685) externally marked by OCR, or take the alternative written paper Unit 2686.

The Personal Investigative Study, unit 2685, must be submitted to meet OCR's standard coursework deadlines.

Overlap with other qualifications

These specifications offer an opportunity to complement or overlap with other GCE Advanced Subsidiary, Advanced Level and VCE specifications at level 3 in the national framework. Details are given in section 1.3.

1 Introduction

These specifications have been designed for candidates who normally have a prior knowledge of Geography acquired through the successful completion of a GCSE Geography course. However, candidates may enrol for the qualification without any prior learning or attainment in the subject. It is also possible for the specification to be studied by mature candidates, perhaps on a part-time basis and over a number of years.

These OCR Advanced Subsidiary GCE and Advanced GCE Geography A specifications place equal emphasis on the study of physical and human geography, their interactions and their outcomes. They are designed to offer opportunities to employ a range of teaching methods and learning styles. The breadth of knowledge, skill of synthesis and level of critical understanding required by the Advanced GCE specification provide a strong foundation for progression to both higher education and employment. The specifications also encourage the acquisition of all the nationally specified Key Skills.

Whilst conforming to the requirements of the Subject Criteria for Geography, the specifications have a number of distinctive features in terms of their content, assessment and the support offered by OCR. These features include:

- a balanced foundation, at both Advanced Subsidiary GCE and Advanced GCE, of knowledge and understanding of physical and human processes and systems and their interaction with environments at a variety of scales and in different locations;
- progression from the foundation established at Advanced Subsidiary by means of the study in greater depth at A2 of options in physical, human and environmental geography and of the complex interrelationships between them;
- alternative routes at A2 for the assessment of candidates` investigative skills;
- a variety of assessment instruments in both Advanced Subsidiary and A2, ranging from short structured and stimulus questions to essay questions and longer reports.

1.1 Certification Title

These specifications will be shown on a certificate as:

- OCR Advanced Subsidiary GCE in Geography.
- OCR Advanced GCE in Geography.

1.2 Language

These specifications and associated assessment materials are available in English only.

1.3 Overlap with other qualifications

These specifications offer an opportunity to complement or overlap with other Advanced Subsidiary GCE, Advanced GCE and VCE specifications.

Advanced Subsidiary GCE/Advanced GCE in Science

- Module 2841: Science and the Natural Environment
- Module 2842: Science and Human Activity
- Module 2844: Science and Environmental Management
- Module 2846: Science and Global Processes

Advanced Subsidiary GCE/Advanced GCE in Geology

- Module 2831: Global Tectonics and Geological Structures
- Module 2832: The Rock Cycle - Processes and Products
- Module 2833: Economic and Environmental Geology

VCE in Travel and Tourism

- Unit 7465: Investigating travel and tourism
- Unit 7466: Tourism development
- Unit 7467: World-wide travel destinations
- Unit 7468: Marketing travel and tourism
- Unit 7475: Tourist and visitor attractions
- Unit 7485: Countryside recreation
- Unit 7486: Outdoor adventure activities

1.4 Exclusions

Candidates who enter for this Advanced Subsidiary GCE specification may not also enter for any other Advanced Subsidiary GCE specification with the certification title Geography in the same examination series.

Candidates who enter for this Advanced GCE specification may not also enter for any other Advanced GCE specification with the certification title Geography in the same examination series.

Every specification is assigned to a national classification code indicating the subject area to which it belongs.

Centres should be aware that candidates who enter for more than one GCE qualification with the same classification code will have only one grade (the highest) counted for the purpose of the School and College Performance Tables.

The classification code for these specifications is 3910.

1.5 Code of Practice requirements

These specifications will comply in all respects with the revised Code of Practice requirements for courses starting from September 2000.

2 Specification Aims

These specifications aim to offer candidates a challenging and relevant course of study, whether as a foundation for further study in geography in higher education or as a contribution to their knowledge and understanding of the world in which they live. They address the stages and processes which are specific to geography and their relevance to contemporary problems and issues. Reference is made to examples of specific modules which address the aims.

Thus, the aims of these specifications are to encourage candidates to:

- acquire and apply knowledge and understanding of physical and human geographical processes, their interactions and outcomes over space and time, through the study of places and environments (for example Module 2680);
- acquire and apply the skills necessary for the pursuit of the discipline (for example Module 2682: Geographical Investigation);
- develop an understanding of the inter-relationships between people and their environments, and of the opportunities, challenges and constraints that face people in different places and environments (for example Rural and Urban settlement; pattern, process and change in Module 2681);
- appreciate the dynamic nature of geography; how places, environments and issues change, and how people respond to these changes (for example Rural and Urban settlement; pattern, process and change in Module 2681);
- understand how decisions are made about the use and management of resources and environments, and understand the significance and effects of people's values and attitudes in geographical issues (for example Module 2680 and Population; pattern, process and change in Module 2681);
- clarify and develop their own values and attitudes in relation to contemporary geographical issues and questions (for example Module 2680 and Rural and Urban settlement; pattern, process and change in Module 2681).

In addition the Advanced Subsidiary and Advanced GCE the specifications encourage candidates to:

- acquire a deeper understanding of the connections between different aspects of geography (for example Module 2684: Synoptic Geography);
- understand and respond sensitively to the values, needs and concerns of different communities, and to inequalities, including those influenced by cultural and ethnic differences (for example Tourism, Recreation and their Environmental Impacts in Module 2683);
- become aware of recent ideas, methods and approaches in different aspects of geography by offering study in depth at A2 (for example the Applied Climatology option in Module 2683);
- appreciate that geographical interpretations may be tentative and partial, and can change over time (for example Modules 2685 and 2686);
- develop the Key Skills particularly in Communication, Application of Number and Information Technology (all modules);
- benefit from opportunities to acquire the wider Key Skills of Working with Others, Improving Own Learning and Performance and Problem Solving.

2.1 Spiritual, Moral and Cultural Issues

The specifications (for example Module 2681) provide opportunities for candidates to develop their spiritual, moral, ethical, social and cultural understanding by:

- having their imagination and creativity stimulated by experience of studying the built and natural environment of the real world, real communities and a diverse range of cultures;
- discussing the variety of moral and ethical values and attitudes across various parts of the world. (Many geographical issues have a moral dimension);
- making more informed judgements on issues with a geographical dimension and reflecting upon their own standpoint.

2.2 Environmental Education

The content of these specifications, through the focus on physical geography, relationships between people and environments, and the encouragement of individual investigative work, supports the development of Environmental Education. Candidates can be given opportunities to develop their knowledge and understanding of relevant concepts and issues and explore attitudes and values, in particular those related to sustainable development.

2.3 European Dimension

There are opportunities within the specifications to study geographical problems and issues through reference to examples drawn from individual member states within the European Union (EU). There is a particular opportunity to study geographical aspects of the European Union in depth in one of the options in Module 2684. This is intended to give support to the European Dimension in Education.

2.4 Health and Safety Issues

Investigative work, particularly in Geographical Investigation (Module 2682), provides opportunities to raise awareness of health and safety issues in urban and rural environments through risk assessment. The Personal Investigative Study (Module 2685) and Investigative Skills (Module 2686) also present opportunities for the consideration of risk assessment.

2.5 Economic and Industrial Understanding

Aspects of economic and industrial understanding can be developed through study of the impact of human activities on physical and human environments and their costs and benefits, particularly in Modules 2681, 2683 and 2684.

2.6 Citizenship

The content of these specifications, particularly in Modules 2681, 2683 and 2684, offers significant opportunities for the development of the concept of citizenship through an understanding of the interdependence of people and environments. The process of investigation is integral to the course and has the potential to contribute to the understanding, skills and confidence that will assist candidates to become informed citizens through the study of environmental, social, economic and political issues and the way decisions are made about them.

2.7 Avoidance of Bias

OCR has taken great care in the preparation of these specifications and assessment materials to avoid bias of any kind.

3 Assessment Objectives

The assessment objectives of Advanced Subsidiary GCE and Advanced GCE are the same. Knowledge, understanding and skills are closely linked. The specifications require that candidates should be able to demonstrate the following assessment objectives in the context of the content and skills prescribed:

AO1 show knowledge of the specified content

Candidates should demonstrate, with respect to the specified content, knowledge of

- relevant geographical terminology, ideas, concepts, principles and theories;
- sources of geographical information;
- the location and geographical characteristics of selected places and environments, their external relationships and how they are changing;
- the physical and human processes responsible for the development of the characteristics of the selected places and environments, the interaction and relative importance of these processes;
- the interaction of people and their environments in space and over time.

AO2 show critical understanding of the specified content

Candidates should demonstrate, with respect to the specified content, a critical understanding of

- the nature of, and interactions between, different physical and human processes;
- how physical and human processes bring about changes in spatial systems, distributions, places and environments;
- the distinctiveness and interdependence of the selected places and environments;
- the significance of both spatial and temporal scales;
- the role of values and attitudes in the use and management of resources and environments;
- the role of decision making processes in geographical issues and in decision-making about the use and management of resources and environments;
- the potential and limitations of evidence, approaches, concepts, principles and theories used by geographers;
- how geographical concepts, principles and theories can be applied to new contexts and issues;

and for candidates following the A2 section of the specification

- the connections between the different aspects and stages of geography.

AO3 apply knowledge and critical understanding to unfamiliar contexts

Candidates should demonstrate the ability to apply the knowledge and understanding of the specified content outlined in the previous two sections to new and unfamiliar contexts.

AO4 select and use a variety of skills and techniques, including communication skills appropriate to geographical studies

Candidates, in the context of the specification content, should demonstrate the ability to

- identify geographical questions and issues, select appropriate methods, and establish effective sequences of enquiry in their geographical studies;
- identify, select, collect and record a variety of quantitative and qualitative evidence through field work and from other primary and secondary sources, including maps at a variety of scales, photographs, statistical data, geographical literature, remote sensing imagery, and geographical information systems;
- organise, present and communicate evidence in a variety of forms including maps and diagrams, making use of information and communication technology where appropriate;
- describe, analyse, interpret, evaluate and draw conclusions from evidence;
- critically evaluate the methods and techniques of enquiry, the limitations of evidence and the conclusions drawn;

and for candidates following the A2 section of the specification

- synthesise geographical information from various sources and in various forms.

The assessment objectives are weighted as follows:

	Advanced Subsidiary GCE	A2	Advanced GCE
AO1	26%	17%	21.5%
AO2	26%	25%	25.5%
AO3	21%	29%	25%
AO4	27%	29%	28%

3.1 Specification Grid

The relationship between the assessment objectives and the units of assessment is shown in the specification grid below.

Unit	Level	Percentage of Advanced GCE				Total
		AO1	AO2	AO3	AO4	
2680	AS	6.0	6.0	5.0	3.0	20.0
2681	AS	4.5	4.5	3.5	2.5	15.0
2682	AS	2.5	2.5	2.0	8.0	15.0
2683	A2	3.5	3.5	4.0	4.0	15.0
2684	A2	3.0	7.0	7.0	3.0	20.0
2685 or 2686	A2	2.0	2.0	3.5	7.5	15.0
Total		21.5	25.5	25.0	28.0	100

Unit 2686 is an alternative to Unit 2685.

3.2 Quality of Written Communication

Where candidates are required to answer in continuous prose in written examinations, the marks awarded take into account the quality of written communication used by the candidates. The quality of written communication includes:

- selecting and using a form and style of writing appropriate to purpose and complex subject matter;
- organising relevant information clearly and coherently, using specialist vocabulary when appropriate;

and

- ensuring text is legible, and spelling, grammar and punctuation are accurate.

The rubric of all question papers indicates where continuous prose answers are required and reminds the candidates that marking takes into account the quality of written communication used in answers.

Quality of written communication is also assessed in Unit 2685, the Personal Investigative Study.

4 Scheme of Assessment

Candidates take three units of assessment for Advanced Subsidiary GCE, followed by three further units at A2 if they are seeking an Advanced GCE.

Units of Assessment

Unit	Level	Name	Duration	Mode of Assessment	Weighting	
					AS	Advanced GCE
2680	AS	The Physical Environment	1 hour 15 mins	Written Examination	40%	20%
2681	AS	The Human Environment	1 hour	Written Examination	30%	15%
2682	AS	Geographical Investigation	45 mins	Written Examination and Coursework	30%	15%
2683	A2	Options in Physical and Human Geography	1 hour 30 mins	Written Examination	-	15%
2684	A2	Synoptic Geography: People and Environment Options	1 hour 30 mins	Written Examination	-	20%
2685	A2	Personal Investigative Study (Geography A)	-	Coursework	-	15%
2686	A2	Investigative Skills (Geography A)	1 hour 30 mins	Written Examination	-	15%

Rules of Combination

Candidates must take the following combination of assessment units:

Advanced Subsidiary GCE Units 2680, 2681 and 2682

Advanced GCE **either** Units 2680, 2681, 2682, 2683, 2684 and 2685

or Units 2680, 2681, 2682, 2683, 2684 and 2686.

Unit Availability

There are two sessions for assessment each year, in January and June.

The availability of units is shown below.

Unit	Unit title	Jan	June
2680	The Physical Environment	✓	✓
2681	The Human Environment	✓	✓
2682	Geographical Investigation	✓	✓
2683	Options in Physical and Human Geography	✓	✓
2684	People and Environments Options	✓	✓
2685	Personal Investigative Study (Geography A)		✓
2686	Investigative Skills (Geography A)		✓

Sequence of Units

The normal sequence in which the assessment units could be taken is Units 2680, 2681 and 2682 leading to an Advanced Subsidiary GCE award, then Units 2683, 2684 and either 2685 or 2686 together leading to an Advanced GCE award. However, units may be taken in other sequences.

Alternatively, candidates may take all units at the end of their Advanced Subsidiary GCE or Advanced GCE course in a 'linear' manner, if desired.

Synoptic Assessment

Synoptic Assessment

Synoptic assessment tests candidates' understanding of the connections between the different elements of the subject. It accounts for at least 20% of the total Advanced GCE marks.

All Advanced GCE Geography specifications have to include a minimum of 20% synoptic assessment. The QCA subject criteria for synoptic assessment in Geography require the 'assessment of candidates' ability to draw on their understanding of the connections between different aspects of the subject represented in the specification'. Synoptic assessment contributes to AO2 (critical understanding) and AO3 (application of knowledge and critical understanding).

The synopticity in the A2 specification is located in Unit 2684. In this unit candidates are required to answer two essay questions designed to explore links between the different parts of the specification content. Candidates are required to synthesise relevant knowledge,

understanding and skills learned in Modules 2680, 2681, 2682 and 2683 in the context of the interrelationships between physical, human and environmental geography.

As synoptic units contain assessment that expects candidates to draw on other units in the course, it is not advisable that they take these units until they have covered all the units. However, this is not a requirement.

Aggregation

Candidates may enter for:

- Advanced Subsidiary GCE aggregation;
- Advanced Subsidiary GCE aggregation, bank the result, and complete the A2 assessment at a later date;
- Advanced GCE aggregation.

Candidates must enter the appropriate Advanced Subsidiary and A2 units to qualify for the full Advanced GCE award.

Individual unit results, prior to certification of the qualification, have a shelf-life limited only by the shelf life of the qualification.

Re-sits of Units

The restrictions on re-sitting have been removed, enabling candidates to re-take units more than once. Upon making an entry for certification, the best attempt will be counted towards the final award. This change applies to all candidates, including those who have already been entered for any units or full qualifications.

Re-sits of Advanced Subsidiary and Advanced GCE

Candidates may retake the whole qualification more than once.

4.1 Question Papers

4.1.1 Advanced Subsidiary

Unit 2680 - The Physical Environment (1 hour 15 minutes)

The question paper assessing The Physical Environment module has four compulsory structured questions which test candidates' knowledge and understanding. Assessment may make use of maps (including OS maps and other national maps), satellite images and photographs.

Unit 2681 - The Human Environment (1 hour)

The question paper assessing The Human Environment module has three compulsory structured questions which test candidates' knowledge and understanding. Assessment may make use of maps (including OS maps and other national maps), satellite images and photographs.

Unit 2682 - Geographical Investigation (45 minutes)

Within Module 2682, each candidate must undertake one piece of fieldwork and complete a written report of not more than 1000 words. The writing of this report, and the fieldwork on which it is based, is intended to provide candidates with the background for formulating investigative questions at the local level. In addition candidates gain experience of first hand data collection, data analysis and data presentation, which are assessed in the Unit 2682 examination. The report itself must not be taken into the examination room and must be submitted to meet OCR's standard coursework deadlines.

The question paper consists of compulsory questions testing candidates' understanding of the research and planning necessary for geographical investigation and the ability to present, interpret and analyse data. Assessment may make use of maps (including OS maps and other national maps), satellite images and photographs.

4.1.2 A2

Unit 2683 - Options in Physical and Human Geography (1 hours 30 minutes)

In this unit there are two essay questions each comprising two parts for each option. The options are in two groups: Group A: Physical options and Group B: Human options. Candidates produce one essay for each of two options, one from Group A and one from Group B. Assessment may make use of maps (including OS maps and other national maps), satellite images and photographs.

Unit 2684 – Synoptic Geography: People and Environments Options (1 hours 30 minutes)

In this unit there are three essay questions for each option. Candidates produce one essay for each of any two options.

Unit 2686 - Investigative Skills Paper (1 hour 30 minutes)

This is an alternative to the Personal Investigative Study (see section 4.2.2). Candidates take a written examination paper.

The examination tests candidates' understanding of fieldwork and their ability to handle primary data. Candidates answer two from a choice of three questions assessing their skills in handling some provided data. Assessment may make use of maps (including OS maps and other national maps), satellite images and photographs.

4.2 Coursework

4.2.1 Advanced Subsidiary

Unit 2682 - Geographical Investigation

In Unit 2682, candidates must carry out one investigation leading to a report of not more than 1000 words. The report must not be taken into the examination room.

The report must be submitted to meet OCR's standard coursework deadlines and it will be possible for candidates retaking Unit 2682 to carry over the marks for the report. Examinations Officers are responsible for checking that the signed OCR cover sheets are attached to the reports and that all sections have been completed before despatch to the examiner. It may be helpful for the teacher responsible for teaching the specification to discuss procedures with the Examinations Officer. Authentication is mandatory, as is the requirement to not exceed 1,000 words.

The investigation should be a complete study offering the opportunity to put into practice methods of geographical investigation appropriate to studies in physical and human geography. The Report may be hand-written or word-processed. It should be presented in continuous prose and divided into sections. Five appropriate headings are listed in Section 5.3. The report is written to demonstrate that the candidate knows how to do an investigation. The report should outline procedures and methods.

A4 paper should be used for the report. Only essential illustrations should be included. If larger sheets are desirable for illustrations these should be no larger than A3 folded to A4.

The sheets comprising the report must not be enclosed in plastic pockets or put into any type of folder. They should instead be held together by means of a single hole (punched in the top left hand corner of the sheets) and a treasury tag.

The reports form part of the external assessment for the course and are therefore not returned automatically. If the candidate is likely to need their report at a later stage they should be advised to take a photocopy. Candidates who wish their reports to be returned should apply under the standard procedure for the return of scripts following the publication of results for a session. Examination Officers will have details of the procedures for the return of examination scripts.

4.2.2 A2

Unit 2685 - Personal Investigative Study

Candidates are required to prepare and submit a research assignment in the form of a 2500 word Personal Investigative Study which must be the product of the candidate's **individual work**. It may be based either on data collected in the field or other primary data obtained by the candidate from another source (such as unprocessed census data) or a combination of the two. It should be submitted to meet OCR's standard coursework deadline in May.

A4 paper should be used for the Personal Investigative Study. Only essential illustrations should be included. If larger sheets are desirable for illustrations these should be no larger than A3 folded to A4.

The study must be submitted in an A4 flat manila folder (not a ring binder) with the pages fastened together (a treasury tag is sufficient). Individual pages must not be enclosed in plastic pockets. A completed OCR cover sheet, authenticated by the teacher, must be attached to the front of each study. This authentication is mandatory and refers to both the number of words and the personal nature of the study. Group work is not acceptable.

The studies form part of the external assessment for the course and are therefore not returned automatically. Candidates who wish their studies to be returned should apply under the standard procedure for the return of scripts following the publication of results for a session. Examination Officers will have details of the procedures for the return of examination scripts.

Unit 2686 - Investigative Skills

This is an alternative to the Personal Investigative Study (Unit 2685). A coursework report is not required.

4.2.3 Assessment

In Unit 2685 the 2500 word Personal Investigative Study is externally marked by OCR as are the 1000 word reports submitted as part of Unit 2682 and as part of Unit 2686. This examined coursework is not automatically returned to centres, as is the case with work marked by centre staff and moderated by the Awarding body.

4.2.4 Minimum Coursework Requirements

If a candidate submits no work for Unit 2685, then the candidate should be indicated as being absent on the documentation submitted to OCR.

4.2.5 Authentication

As with all coursework, the teacher must be able to verify that the work submitted for assessment is the candidate's own and does not exceed the word limit. Sufficient work must be carried out under direct supervision to allow the teacher to authenticate the work with confidence.

OCR reserves the right to withhold the grades of candidates where the cover sheet is missing or incomplete. Centre staff are strongly advised to develop their own internal procedures to establish that there has been no plagiarism, or malpractice of any kind, before authenticating the work of candidates.

4.3 Special Arrangements

For candidates who are unable to complete the full assessment or whose performance may be adversely affected through no fault of their own, teachers should consult the Inter-Board Regulations and Guidance Booklet for Special Arrangements and Special Consideration. In such cases advice should be sought from OCR as early as possible during the course.

4.4 Differentiation

In the question papers, differentiation is achieved by setting questions which are designed to assess candidates at their appropriate levels of ability and which are intended to allow all candidates to demonstrate what they know, understand and can do.

In coursework, differentiation is by task and by outcome. Candidates undertake work which enables them to display positive achievement.

4.5 Awarding of Grades

The Advanced Subsidiary has a weighting of 50% when used in an Advanced GCE award. An Advanced GCE award is based on the aggregation of the weighted Advanced Subsidiary (50%) and A2 (50%) marks.

Both Advanced Subsidiary GCE and Advanced GCE qualifications are awarded on the scale A-E, or U (unclassified).

4.6 Grade Descriptions

GRADE A

The following grade descriptions indicate the level of attainment characteristic of the given grade at Advanced GCE. They give a general indication of the required learning outcomes at each specified grade. The descriptions should be interpreted in relation to the content specified by the specification; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Candidates show a comprehensive, in-depth knowledge of places, themes and environments required by the specification and of the physical and human processes which affect their

development. They have a sound knowledge of the concepts, principles and theories relevant to the understanding and analysis of the specification content, and show a knowledge of a wide range of geographical terms.

They show their understanding by appropriately applying their knowledge of specification content to both familiar and unfamiliar geographical contexts at a range of scales. They evaluate the potential and limitations of concepts and theories and their relevance to particular contexts. They show a well developed understanding of the connections between the different aspects of geography represented in the specification.

Candidates display skill in interpreting a range of sources of geographical information including spatial and temporal data at different scales. They show the ability to identify appropriate geographical questions in a range of contexts and to formulate and adopt effective approaches to enquiry. They collect evidence using an appropriate range of skills and techniques, including those used in fieldwork, from both primary and secondary sources. They use a variety of appropriate techniques to present and analyse evidence. They draw selectively on their knowledge of specification content to reach well reasoned conclusions and evaluate both the effectiveness of their methodology and the validity of the outcomes, recognising the limitations of both.

They communicate their findings fluently in different formats, synthesising geographical information from a variety of sources, and presenting them within a logical and coherent structure which addresses closely the nature of the task. They use standard conventions of spelling, punctuation and grammar with a high level of accuracy and use geographical terminology with confidence.

GRADE C

Candidates show a sound knowledge of places, themes and environments required by the specification and of some of the main physical and human processes which affect their development. They have a knowledge of the main concepts, principles and theories relevant to the understanding and analysis of the specified content, and show a knowledge of a range of geographical terms.

They show their understanding by applying their knowledge of specification content to both familiar and unfamiliar geographical contexts at different scales. They comment on the usefulness of concepts and theories and their relevance to particular contexts. They show some understanding of the connections between the different aspects of geography represented in the specification.

Candidates display skill in interpreting selected sources of geographical information including spatial and temporal data at different scales. They identify appropriate geographical questions, and formulate and adopt effective approaches to enquiry. They collect evidence, using appropriate skills and techniques, including those used in fieldwork, from both primary and secondary sources. They use appropriate techniques to present and analyse evidence. They apply their knowledge of the specification content to reach some valid conclusions and comment upon both the effectiveness of their methodology and the validity of the outcomes.

They communicate clearly their knowledge and understanding, and the outcomes of their enquiries in different formats, showing some ability to synthesise geographical information from different sources and presenting findings in a structured manner appropriate to the task.

They employ standard conventions of spelling, punctuation and grammar with reasonable accuracy, and use a range of geographical terms.

GRADE E

Candidates show knowledge of some of the places, themes and environments required by the specification and of some of the main processes which affect their development. They are aware of the contribution that concepts, principles and theories can make to the interpretation of geographical contexts. They have a knowledge of some geographical terminology.

They explain familiar contexts using basic ideas and concepts, and show some understanding of the connections between the different aspects of geography represented in the specification.

Candidates display skill in interpreting commonly encountered sources of geographical information. They can identify relevant geographical questions when presented with familiar contexts and can suggest and adopt approaches to enquiry. They use basic techniques, including those used in fieldwork, for data collection from primary and secondary sources. They use a limited range of methods to present and analyse evidence. They use their knowledge of the specification content to reach simple conclusions, and identify the strengths and weaknesses of their enquiries.

5 Specification Content

Throughout this section the symbol  is used in the margin to highlight where Key Skills development opportunities are signposted. For more information on Key Skills coverage please refer to Appendix A.

These specifications are set out in the form of teaching modules.

Each teaching module is assessed by its associated unit of assessment.

The content of the Advanced Subsidiary modules is designed to provide the candidate with a grounding in physical, human and environmental geography. This is developed through, and illustrated by, a study of a range of themes, real places and environments at a range of scales and in different contexts. This should include the United Kingdom and countries in various states of development. It also provides the basis for developing skills in collecting and handling primary data, in formulating questions for field investigation, and in awareness of appropriate secondary data sources for investigative work.

The Advanced Subsidiary modules together offer a complete course in themselves requiring study of:

- selected physical processes, their interactions and outcomes over space and time;
- selected human processes, their interactions and outcomes over space and time;
- interactions between people and their environments at different scales, focusing on relevant systems and processes, their outcomes, and consequent issues, responses and strategies.

The candidate's study of examples from the real world should illustrate these three bullet points.

A2 modules are underpinned by the Advanced Subsidiary modules and require study in greater depth involving work at all scales from local to global, in different parts of the world and in different types of environment.

- interactions between people and environments at different scales, focusing on relevant human and physical systems and processes, their outcomes, changes through time and consequent issues, responses and strategies;
- physical processes (terrestrial, atmospheric and biotic), their interactions, spatial outcomes and changes over time;
- human processes (economic, social, political and cultural), their interactions, spatial outcomes and changes over time;

The A2 modules provide opportunities for the synthesis of knowledge and understanding, and for the application of ideas and skills to new situations. The A2 half of the Advanced GCE course also provides the opportunity for candidates to formulate, conduct and present a personal investigative study on a topic of their own choice, or to present a shorter fieldwork report and to be examined on their data handling skills.

The content of each module is presented under a number of headings

The **Rationale** for each module is designed to indicate its role within the whole specification.

The **Introduction** for each section in a module is a commentary on the content that follows.

The **Content** indicates the key ideas and concepts within the module, the bullet points providing amplification. Centres are encouraged to use a variety of case studies to broaden their candidates' knowledge and understanding of named places.

Centres should select places for study at different scales from local to global, and may find it helpful to choose locations which can support more than one module. This helps to:

- limit the number of different places to be studied;
- develop a greater awareness of the links between different aspects of the subject.

The **Learning Outcomes** state what the candidate should understand by the end of that module.

5.1 Module 2680: The Physical Environment

	C3.1a, C3.1b, C3.2, C3.3; IT3.1, IT3.3.	**LP3.1, LP3.2.**

Rationale

All four sections of this module must be studied in order to provide a sound understanding of the physical and people/environment interactions.

A simple systems model can be the basic framework for study. In each of the four sections, candidates should study examples at local and regional scales using appropriate place specific material. Attention should be given to the effects of human actions, either intentional or unintentional, and should include some appreciation that decision making is an important aspect of the management of natural systems, influencing both processes and outcomes.

5.1.1 Hydrological systems

Introduction

This section deals with the range of basic concepts involved in the study of hydrological systems and processes. The terms referred to in the outline below are not exclusive, but cover the essential working terminology necessary for an adequate understanding of the processes involved. Teachers should choose appropriate place specific examples at local and regional scales in order to demonstrate and develop these concepts. Assessment may make use of maps (including OS maps and other national maps such as weather maps), satellite images and photographs.

As an introduction to this module the global hydrological cycle should be studied as a generalised, closed system.

*This module does **not** require a study of channel processes and fluvial landforms.*

Content

Candidates should develop knowledge and understanding of:

(a) Drainage basins:

Inputs, outputs, stores and flows; precipitation, evaporation, evapotranspiration, interception, throughfall, stemflow, infiltration, percolation, overland flow, throughflow, interflow, baseflow, water tables, groundwater, recharge. An awareness of the influences of human activity on inputs, outputs, stores and flows.

Characteristics of drainage basins: size and shape, drainage density, porosity and permeability of soils, rock type, slopes, vegetation type and seasonal variations in cover, land use, human activities; their influence on the flows and stores of water.

These drainage basin studies should be illustrated by reference to actual drainage basins.

(b) Rainfall – discharge relationships:

The hydrograph (daily and seasonal), its components and applications;

Influences on hydrographs, including climate, precipitation type and intensity, temperature, evaporation, transpiration and evapotranspiration rates, antecedent moisture, people;

Comparison of hydrographs of drainage basins with contrasting characteristics.

These rainfall discharge relationships should be illustrated by reference to real events.

5.1.2 Ecosystems

Introduction

The main focus of this section is actual ecosystems at local and regional scales and the interaction of plants and animals and their physical environment. Candidates need to consider flows and stores of energy and nutrients in ecosystems and the evolution of ecosystems in response to variations in the physical environment and human activities (both intentional and unintentional).

Content

Candidates should develop knowledge and understanding of:

(a) The components of ecosystems and how they inter-relate:

Energy flows, trophic levels, biomass, gross primary productivity (GPP), net primary productivity (NPP);

Nutrient stores and flows; nutrient cycling between soil, biomass and litter stores;

The impact of human actions on natural processes within the regional study of a broad-leaved deciduous forest ecosystem.

(b) A local place specific study of a xerosere (sand dune succession);

The development of plant communities and their related soils (including soil profiles) over time;

The dynamic nature of ecosystems;

Natural and human factors influencing them;

The concepts of colonisation, succession, competition, dominance, climax, plagioclimax and diversity in the development of plant communities over time.

5.1.3 Atmospheric systems

Introduction

The main focus of this section is on energy budgets at local and global scales, and related weather phenomena.

Content

Candidates should develop knowledge and understanding of:

(a) Local energy budgets:

- Local energy budget for day and night; incoming solar radiation, reflected solar radiation, surface absorption, sensible heat transfer, long wave earth radiation and latent heat transfers. Cloud cover influence on local energy budgets.

  The weather phenomena related to local energy budgets; ground and air frost, mist and fog, dew, temperature inversions;

  Human activity and its influence on local energy budgets and related weather phenomena.

(b) Global energy budget:

The energy budget for the earth-atmosphere system, latitudinal variation of radiation balance and the associated energy transfers in the atmosphere;

The significance of these transfers to the weather of the British Isles: air masses, depressions, anticyclones.

5.1.4 Lithosphere

Introduction

This section is intended to serve as an introduction to the study of earth structure (tectonics) and landscape (with the emphasis on weathering, mass movement and slope processes). Characteristic landforms which have evolved as a result of underlying geology, lithology, weathering, slope processes, mass movement and human actions should be illustrated and exemplified with reference to limestone (including chalk) and granite areas. Appropriate examples should be selected at global, regional and local scale.

Detailed knowledge of theories of slope evolution will not be required.

Content

Candidates should develop knowledge and understanding of:

(a) Tectonic processes and the influence of plate movements on volcanic activity, earthquakes and landforms:

Causes of plate movement;

Constructive plate boundaries; sea floor spreading, mid ocean ridges, rift valleys, volcanic activity;

Destructive plate boundaries; subduction zones, earthquakes, island arcs, fold mountains, collision zones, volcanic activity.

(b) Weathering processes and the influence of lithology. The main weathering processes should be studied in the context of landform development:

Physical weathering processes: freeze-thaw, heating/cooling, wetting/drying, exfoliation/spheroidal, crystal growth, pressure release;

Chemical weathering processes: hydrolysis, hydration, carbonation, solution, oxidation and organic action including the influence of humic acids and chelation;

Factors controlling weathering; climate, rock type, structure, vegetation, relief;

Human activity and its influence on weathering.

(c) Slope systems and processes of mass movement:

Slopes as open systems; types of slope profile in relation to input and output;

Processes of mass movement: heaves, flows, slides, falls; the conditions under which each type of mass movement occurs;

Factors controlling slope form and development: lithology and structure, climate, soil, vegetation cover, gradient, aspect;

Human activity and its influence on slope systems.

Module Learning Outcomes

Candidates should have an understanding of the physical environment and of the influence of people on it, supported by studies of places and events at a range of scales from global (tectonic processes) to local (slopes).

5.2 Module 2681: The Human Environment

C3.1a, C3.1b, C3.2, C3.3; IT3.1, IT3.3.

Rationale

This module focuses on population and settlement and the interaction between people and their physical and human environments. The approach encompasses scales from the global through regional and national to the local, and locations with different levels of development and different cultures. Teachers are free to select their own real world examples and these should cover the required range of scales and breadth of geographical locations.

5.2.1 Population: pattern, process and change

Introduction

Population patterns, processes and changes must be studied at the global and national scales. Candidates are expected to demonstrate knowledge and understanding of the population geography of a More Economically Developed Country (MEDC) and a Less Economically Developed Country (LEDC) of their choice. Assessment may make use of maps (including OS maps and other national maps), satellite images and photographs.

Content

Candidates should develop knowledge and understanding of:

(a) The distribution of population over space:

Physical influences on the distribution of population;

Economic, social and political influences on the distribution of population;

Spatial variations in birth and death rates and in age and sex structures.

(b) Population change through time:

The determinants of population change: fertility; mortality and migration; age-sex structures; the factors influencing population change and their influence for the economic and social geography of contrasting places;

The demographic transition and its application and limitations;

National population policies.

(c) Population change through space:

Migration at local, national and international scales; its causes and consequences.

5.2.2 Rural and urban settlement: pattern, process and change

Introduction

Rural and urban settlement must be studied at the national, regional and local scales, within the economically developed and economically developing world. Three place specific case studies are required:

- A rural region in an MEDC which has undergone significant population and socio-economic change in the last thirty to forty years.
- An urban settlement in an MEDC where recent economic or social or demographic change has caused environmental problems.
- An urban settlement in an LEDC where urbanisation has caused environmental problems.

These place specific studies should examine; the causes of the change, (and where relevant, linkages between the urban and rural economies), the impact of change, the issues that arise, and the role of the physical environment. Assessment may make use of maps (including OS maps and other national maps), satellite images and photographs.

Content

Candidates are also expected to demonstrate knowledge and understanding of:

(a) Rural settlements in MEDCs:

Rural settlement patterns; site, situation, form and evolution;

Concepts of range, threshold, hierarchy and centrality (not central place theory).

(b) The population changes in MEDCs since 1960:

Rural-urban migration and rural depopulation;

Urban-rural migration and counterurbanisation;

The impact of migration in rural areas on population, age-structure, socio-economic groups, service provision and values and attitudes;

The contrasting experience of rural areas close to, and remote from, large urban centres.

(c) Contemporary urbanisation in LEDCs:

The importance of natural increase and rural-urban migration in contemporary urbanisation in LEDCs;

The conditions within rural areas in LEDCs which give rise to rural-urban migration;

The social and economic advantages (both real and perceived) for rural-urban migrants in LEDCs;

The problems of housing, jobs and service provision in urban areas in LEDCs.

(d) Contemporary urban growth in MEDCs:

The causes of suburbanisation and exurban growth in MEDCs;

The problems created by urban growth in MEDCs, including air pollution, water supply, waste disposal, urban sprawl and congestion.

(e) Urban land use and population patterns in cities:

Patterns of urban land use in MEDCs and LEDCs and urban morphology;

Population distribution and density;

The spatial segregation of groups within cities according to income, life cycle, ethnicity and housing stock.

Module Learning Outcomes

Candidates should have an understanding of population and settlement patterns and processes, and the factors that lead to changes in them. By making full use of case studies at different scales and in different areas of the world, the varied nature of human environments and the interaction of people and environments can be appreciated.

5.3 Module 2682: Geographical Investigation

C3.1a, C3.1b, C3.2, C3.3; N3.1, N3.2, N3.3; IT3.1, IT3.2, IT3.3.

WO3.1, WO3.2, WO3.3; LP3.1, LP3.2; PS3.1, PS3.2, PS3.3.

Rationale

- To develop knowledge and understanding of the principles of geographical investigation.
- To develop the skills necessary for the practice of geographical investigation. The identification of the types of question that can be asked in geographical investigation and the ability to formulate hypotheses where appropriate.
- To develop understanding of the need to consider and research the interactions between physical and human processes.

These aims are pursued by means of a systematic examination of the five stages of such enquiry:

1. **Identification of the question** or questions to be asked and any further necessary formulation into approaches that can best be researched;
2. **Development of a strategy** to answer the question or questions;
3. **Collection of the data** that is needed with due regard to sampling schemes, and the organisation and recording of the data into appropriate forms, together with any cartographic, diagrammatic or numerical representation;
4. **Analysis, evaluation and interpretation** of the data to answer the initial question or questions;
5. **Presentation of a summary** of the final answers or conclusions with a judgement by the candidate on their reliability, and a consideration of limitations identified by the candidate in the preceding stages of the investigation.

Candidates should be given opportunities to understand that at any stage in an investigation there might be a need to revisit previous stages in the sequence 1 to 5 and to revise work done in them when the outcome of any part of the work indicates that this is necessary.

Some teachers may choose to teach the content as a discrete module importing material taught in Modules 2680 and 2681. Others may prefer to incorporate the content of Module 2682 into their teaching schemes for Modules 2680 and 2681.

Introduction

The coverage of the specification material specified below should be related largely to the **local** scale so that candidates may have the opportunity of understanding at first hand the relationship between the chosen topics and the real world.

Each candidate **must** carry out **one** investigation, which may be teacher-led, leading to a report of not more than 1000 words. It should be a complete study encompassing in each case stages corresponding to 1 to 5 above and offering the opportunity to put into practice methods of geographical investigation appropriate to studies in physical and human geography, utilising both primary fieldwork and secondary data. The investigation may focus on a topic in either physical, human or environmental geography.

Primary data are defined as unprocessed information, this means information collected through fieldwork investigation, or material derived from other sources which might include

census, telephone directories, trade directories and remotely sensed data. This material will not have been analysed and/or interpreted in any way.

Secondary data are defined as information which is derived from published documentary sources, and has been analysed and/or interpreted such as processed census data, research papers, textbooks etc.

Secondary data also encompass sources of specific techniques and the formulae for their calculation, such as soil moisture content, stream channel efficiency, and indices such as PLVI, CBII and environmental quality. It is good practice to acknowledge secondary sources as footnotes or a bibliography.

The report of the investigation must be submitted to meet OCR's standard coursework deadlines in the January and June examination sessions. In the written examination, questions will relate to the report and candidates will be expected to be able to answer questions about the enquiry process. Examinations Officers are responsible for checking that the OCR cover sheets are attached to the reports and that all sections have been completed before despatch to the examiner. It may be helpful for the teacher responsible for teaching the specification to discuss procedures with the Examinations Officer.

Content

Candidates are expected to demonstrate the knowledge, understanding and skills involved in:

(a) The identification of the questions that can be asked in geographical investigation and the ability to formulate hypotheses where appropriate.

(b) The planning of the organisation of an investigation considering both theoretical and practical issues including risk assessment. The importance of background reading should be understood and the need for the development of operational plans that reflect available resources.

(c) The collection and recording of primary and secondary data, both quantitative and qualitative in type. Sampling methods (random, stratified, systematic, spatial and temporal) should be considered in the context of both human and physical geography investigations, and of those that involve a combination of both. Candidates should become familiar with the need to consider the accuracy of data. They should be able to represent data in the most appropriate form by the correct use of pie charts, bar charts, histograms, scatter graphs, dispersion diagrams and simple line graphs. The consideration of maps should include O.S. maps at 1:50000 and 1: 25000 scales and sketch maps prepared by the candidate. Special purpose maps such as Goad maps and geology maps should also be studied together with census data.

(d) The use of appropriately labelled and annotated photographs. The analysis of data using simple descriptive statistics, including measures of central tendency (mean, median, mode) and measures of variation (range, interquartile range, standard deviation), one test for investigating the difference between samples should be studied, such as the Mann-Whitney test, and one test of association such as the Spearman Rank. The use of satellite images, air photographs, Geographical Information Systems, simple statistical software and information and communication technology should be understood by candidates.

(e) The use of data, together with appropriate text to answer, or attempt to answer, the question originally asked. The ability to select and use only the appropriate data is important.

(f) Summarising the findings in a conclusion and commenting on the significance of findings in the light of the reliability of data and its accuracy. The development of a critical examination of all aspects of an investigation.

Presentation

The report may be hand-written or word-processed. It should be presented in continuous prose. The report may be divided into sections by the headings below. These are optional headings but the essential 'stages' must be identifiable within whatever format is used.

- Identification of the question
- Development of a strategy
- Collection of Data
- Analysis, Evaluation and Interpretation
- Summary

Candidates are expected to include appropriate appendices and references (to include people consulted) and a bibliography.

Sub- section headings within main headings are acceptable.

Candidates must provide accurate word counts of the continuous prose. Headings, subheadings, titles and genuine tables and annotations may be excluded from the word count.

Only essential illustrations should be included.

A4 paper should be used for the report. If larger sheets are desirable for illustrations these should be no larger than A3 folded to A4.

The sheets must not be enclosed in plastic pockets or put into any type of folder. They should instead be held together by means of a single hole (punched in the top left hand corner of the sheets) and a treasury tag.

A completed OCR cover sheet, authenticated by the candidate and the teacher, must be attached to the front of each study. This authentication includes the accuracy of the word count.

Resubmission

The marks for the report are recorded as a separate component within Unit 2682 and the marks can be carried over more than once using the appropriate entry code. Teachers are advised to suggest that candidates may wish to keep a copy of their report to use for revision should they decide to re-sit Unit 2682. However if a candidate wishes to make a new entry for the report component, a completely different investigation using primary data collected by the candidate must be submitted and authenticated by the centre.

Assessment Criteria and Mark Scheme

The investigation report carries 15 of the 75 available marks for Unit 2682. The investigation should be a complete study. Both primary and secondary data should be included in the study.

The characteristics associated with the mark bands in the mark scheme are as follows:

13-15 marks: A complete geographical investigation with appropriate use of both primary and secondary data. The work is very clearly expressed with correct use of geographical terminology and will be almost entirely free of errors in all sections. It will not exceed 1000 words and may be less than 1000 words.

10-12 marks: A complete geographical investigation using both primary and secondary data. The work is clearly expressed with mainly correct use of geographical terminology. The work may have a few errors.

7-9 marks: A complete geographical investigation**.** Primary data is used but there is little use of secondary data. The work is geographically sound but may have some weaknesses in written communication and geographical terminology. The work is substantially correct but there are errors.

0-6 marks: A submission that is not a complete geographical investigation. Poor or no use is made of primary and/or secondary data. The work may be poorly expressed and geographical terminology may be weak. Much of the work may not be correct and there are errors.

NB a 'complete study' is defined in the Introduction

Module Learning Outcomes

Candidates should have the understanding and skills to identify suitable topics for individual investigation based on primary sources, supported by secondary materials, and to draw up practical programmes for the investigation of those topics.

5.4 Module 2683: Options in Physical and Human Geography

C3.1a, C3.1b, C3.2, C3.3; IT3.1, IT3.2, IT3.3.

WO3.1, WO3.2, WO3.3; LP3.1, LP3.2 LP3.3; PS3.1, PS3.2, PS3.3.

Rationale

This module builds on the foundations of knowledge and understanding established through the study of Physical and Human Environments in the Advanced Subsidiary GCE. The options in this module involve study at a greater depth and the assessment reflects this.

Candidates must study **two** options: one from **Group A** and one from **Group B**.

The options have been devised to enable candidates to pursue their own interests in aspects of physical and human geography. The assessment makes greater demands of the candidates than the AS units, including the ability to organise and structure answers which show critical understanding. Candidates need to have studied sufficient case study material to support essay-style answers. In most options there is a free choice of case studies. It is envisaged that teachers will select exemplar material at all scales from local to global, in different parts of the world and in different types of environment. The contexts should include the United Kingdom, other member states within the European Union (EU) and countries in various states of development.

Group A

There are five Physical Options from which candidates must select any **one**.

5.4.1 Coastal Environments

5.4.2 Fluvial Environments

5.4.3 Glacial and Periglacial Environments

5.4.4 Hot arid and Semi-arid Environments

5.4.5 Applied Climatology

Group B

There are four Human Options from which candidates must select any **one**.

5.4.6 Agriculture and Food

5.4.7 Manufacturing Industry: Location, Change and Environmental Impact

5.4.8 Service Activities: Location, Change and Environmental Impact

5.4.9 Tourism and Recreation and their Environmental Impacts

5.4.1 Coastal Environments (Group A Option)

Introduction

This option focuses on the physical nature of the coastal environment. It introduces candidates to the study of coastal processes and landforms necessary for an informed understanding of the issues of erosion, deposition and management in coastal zones.

Content

Candidates should study the coast as an open system with inputs, throughputs and outputs. The relationships between processes and landforms should be emphasised using appropriate case studies which include stretches of contrasting coastline.

(a) Waves, marine and sub-aerial processes:

- Wave generation and characteristics; fetch, energy, refraction, reflection;
- Breaking waves; high and low energy breakers, swash and backwash;
- Swash-aligned beaches and drift-aligned beaches;
- Beach profiles and their relationship to wave energy and sediment size;
- Processes of marine erosion; quarrying, abrasion, corrosion/solution, attrition;
- Wave transportation and deposition; sediment sources and characteristics, sediment cells, longshore drift;
- Sub-aerial processes; weathering and processes of mass movement;
- Lithology and coastal morphology.

(b) Coastal landforms and coastal morphology:

- Cliffs and shore platforms;
- Cliff profiles (including caves, arches and stacks) and their evolution, form and rate of recession as related to lithology, slope processes and human activities;
- Beaches; their form in cross section and plan, simple and compound spits, tombolos, offshore bars, barrier beaches and islands (cuspate forelands are not required);
- Structure and coastlines; concordant/pacific and discordant/atlantic.

(c) Causes and results of changing sea level on coastal landforms:

- Isostatic and eustatic movements;
- Estuaries, rias and fjords;
- Raised beaches, relict cliff lines.

(d) The coastal ecosystem; its landforms and vegetation succession:

- Coastal sand dunes; formation and development;
- Salt marshes and mud flats.

(e) Coastal management

- Contrasting methods of coastal management, hard and soft engineering schemes, alternative approaches;
- Impact of human activities on coastal systems; recreation, conservation, erosion, flooding, reclamation. Sources of conflict and resultant management strategies/schemes with reference to a contemporary case study.

Learning Outcomes

Candidates should appreciate that coastlines are subject to a range of physical processes, not all of which are marine. They should be aware that the impact of physical processes and human activities has resulted in the need for coastal management even if the strategy is that of 'managed retreat' or 'laissez faire'.

5.4.2 Fluvial Environments (Group A Option)

Introduction

This option focuses on the physical nature of streams and rivers. It introduces candidates to fluvial processes and landforms, how they change over time and the effects of human activities, both directly and indirectly, on fluvial processes.

Content

Candidates should have an understanding of rivers as open systems which combine with weathering processes and the slope system to modify landscapes (reference may be made to hydrological processes studied in Module 2680). They should study streams of a suitable size in the field. They should be familiar with a range of measurement techniques and be able to represent and interpret the data so obtained. Examples and case studies at different scales should be used where appropriate

(a) The energy balance related to transport of water and sediment:

- Sources of water and sediment; the river as a self-regulatory transport mechanism; equilibrium and feedback mechanisms;
- Load transport; bedload / traction, saltation, suspension and solution;
- Deposition and sedimentation sequences; the Hjulstrom curve;
- Erosion processes – abrasion / corrasion, corrosion / solution, hydraulic action and the influences of these processes on velocity and discharge;
- Methods of measuring velocity and discharge;
- Patterns of flow in channels of different cross-section and plan; laminar, turbulent and helicoidal flow;
- Variations of flow pattern under different conditions of high, average and low flow; annual flow regimes;
- Modification of flow by abstraction, land use changes, urbanisation.

(b) Channel shape:

- Hydraulic geometry; the variables of width, depth, gradient, roughness and load;
- Measurement of channel shape in cross-section and channel efficiency; hydraulic radius, width-depth ratio, at bankfull and normal flow; channel roughness, Manning's equation;
- Inter-relationships between channel efficiency, velocity and discharge;
- Factors influencing channel shape; geology, variations in discharge and load, human actions / activities.

(c) Valley and channel landforms:

- Long and cross-profiles;
- Straight, meandering and braided channels; conditions under which they form; channel movements;
- Riffle and pool sequences; their relationship to channel gradient and meander development;
- Gorges, waterfalls, bluffs, point bars, floodplains, unpaired terraces, levees, crevasse splays, alluvial fans, deltas.

(d) Changes over time:

- Changes of base level; eustatic and isostatic changes; changes in local base levels; effects on long profile; rejuvenation;
- Knick points, incised, ingrown and entrenched meanders, paired terraces, river capture, valley shape modification.

(e) Floods and droughts:

- Causes and effects; prediction, prevention and amelioration;
- Ecological and engineering solutions and issues which arise.

Learning Outcomes

Candidates should have an understanding of how the elements of fluvial systems interact and the effects of intervention in one part of a system. They should appreciate the importance of the interaction between river processes and human activities and that the management of rivers can have important consequences.

5.4.3 Glacial and Periglacial Environments (Group A Option)

Introduction

There is much evidence to support the view that glaciation is the most potent agent of erosion affecting the earth's surface. This option focuses on the past and present effects of ice action in glacial and periglacial areas. It introduces candidates to the landforms and landscapes that result from such activity. Periglacial activity currently affects about 15% of the earth's land area.

Content

This option should include the study of past and present day glacial landscapes using examples of both types of glaciated landscapes and resultant landforms. Candidates should acquire a sound knowledge and understanding of the ways in which bodies of ice can change and modify natural landscapes and the relationships between periglacial processes and landforms. Examples and case studies should be used where appropriate at local and regional scales.

(a) Present and past distribution of glacial and periglacial activity and environments:

- The Pleistocene in the British Isles;
- The glacial / inter-glacial cycle and the extent of ice cover in relation to those cycles;
- The present global distribution of periglacial environments;
- The Quaternary distribution of periglacial environments in Western Europe.

(b) The glacier as a system:

- Accumulation, ablation, glacial mass balance in relation to advance and retreat;
- Growth and decay of continental ice sheets, ice caps and glaciers;
- Cold and warm based glaciers, types and rates of ice movement.

(c) Processes of glacial weathering and erosion, the resultant landforms and landscapes:

- The influence of rock type and glacial regime;
- The time and significance of multiple advance and retreat;
- Nivation, abrasion, plucking, dilatation;
- Landscapes produced by valley glaciers, ice sheets and glacial scour (knock and lochan landscapes).

(d) Periglacial weathering and slope processes:

- The significance of the active layer;
- Frost sorting;
- Ground ice;
- Solifluction and surface wash.

(e) Processes of glacial transport and deposition:

- Supraglacial, englacial, subglacial means of transporting sediment;
- Depositional landscapes; till plains, moraines, drumlins;
- Glacio-fluvial processes and landforms; outwash plains, eskers, kames, kame terraces.

(f) Deglaciation and its effects on the landscape:

- Glacial diversion of drainage; spillways, former glacial lakes;
- Ice marginal landforms.
- Periglacial landforms and landscapes; slope forms; valley forms; thermokarst, alases; patterned ground; pingos.

Learning Outcomes

Candidates should understand how and why past glacial and present day glacial landscapes are different. They should be aware of the impact of large volumes of ice on landscapes and the distinctive features which result. They should appreciate a periglacial landscape which is the result of processes associated with ice in rather than on the ground.

5.4.4 Hot arid and Semi-arid environments (Group A Option)

Introduction

This option focuses on the nature of hot arid and semi-arid environments. It introduces candidates to their global distribution, their landforms and landscapes, and to the processes that produce them. Candidates have the opportunity to develop their understanding of the causes of aridity and the consequences for people and environments.

Content

In order to cover all aspects of this option, examples of hot arid and semi-arid environments should be selected from contrasting regions. Cold deserts (ice / tundra) are not included in this option.

(a) The distribution and climatic characteristics of hot arid and semi-arid environments:

- Definitions and causes of aridity, effective precipitation;
- Pressure and wind systems in deserts;
- Influence of ocean currents on deserts;
- Degrees of aridity, high wind energy environments, diurnal and seasonal variations in aridity, drought periodicity;
- Past climatic change, Pleistocene pluvials, post glacial changes.

(b) Processes which result in desert landforms and landscapes:

- Weathering processes; thermal fracture, exfoliation, chemical weathering;
- Effects of weathering; block and granular disintegration;
- Processes of erosion, transport and deposition; by wind (corrasion, deflation, saltation); by water (hydrological regime, episodic rainfall, flash floods, impact of changing climate, sheet and stream floods).

(c) Development of desert landforms and landscapes (the role of past and present processes should be considered):

- Sand dune landscape;
- Wadis, alluvial fans, arroyos, pediments, the piedmont zone to include bahadas, playas, salt lakes, inselbergs.

(d) Soils and vegetation:

- Biomass, productivity, biodiversity, limited nutrient cycling, fragility;
- Adaptation of plants and animals to extreme temperatures, physical and physiological drought;
- Characteristic soils and the processes of upward water movement by capillarity.

(e) The impact of human activity on the hot arid and semi-arid environment:

- Nature, causes and problems associated with desertification, land degradation, over cultivation, over grazing, deforestation, soil erosion, and degeneration;
- Use and misuse of surface and ground water resources, problems of irrigation, salinisation.

Learning Outcomes

Candidates should appreciate the causes of aridity and how the extent of aridity and the arid landscapes of today are the result of past and present, physical and human processes.

5.4.5 Applied Climatology (Group A Option)

Introduction

This option focuses on the relationship between people and their climatic environment. Although the references are commonly to climate, with some themes the time scale is such that ‘meteorological’ is strictly more appropriate. In the case of all the themes, the variations with geographical location should be considered.

Content

(a) Urban climates:

- The contrasting energy budgets of urban areas and their surroundings; the climatic consequences of these differences and their human significance;
- The relationship between urban morphology and urban climate;
- The modification by buildings of the climate adjacent to them;
- The relationship between city size and the magnitude of the urban climate/rural differences.

(b) Forest climates:

- The contrasting energy budgets of forests and their surroundings and the resultant climatic differences in temperature, radiation, wind speed and humidity;
- The relationship between forest type and the resultant climate;
- The human significance of forest climate, exemplified by forest disease and forest re-generation;
- Wind-throw and the circumstances under which it is most likely.

(c) Shelter belts and wind breaks:

- The modification of climate by shelter-belts and wind-breaks and the human significance of these modifications;
- The direct effect on wind speed and turbulence of shelter-belts and wind-breaks of different nature and density;
- The indirect influences on air and soil temperature, evaporation and the water balance.

(d) Topo-climates (the interrelationships between topography and climatology at the local scale):

- The climate of slopes and valleys and the human significance of their climates;
- The relationship between topography, frost and fog frequency and human activity;
- Simple models of frost forecasting;
- Topo-climatic variations with latitude.

(e) Air pollution:

- The climatological and meteorological factors that contribute to air pollution with its associated human problems;
- The significance of lapse rates and of geographical location in pollution concentration;
- Case studies of major air pollution episodes.

(f) Human comfort:

- Human comfort in both the hot and cold areas of the Earth's surface;
- The indices used to express comfort, in cold conditions; wind chill and equivalent temperature; the purpose and limitations of such indices;
- The climatic protection provided by buildings in different climates, to afford comfort to human beings.

Learning Outcomes

Candidates should have an appreciation of temporal and spatial variations in microclimates and ways in which climate can influence the environment and human activity. The variations of the above micro and meso-climates with latitude and climatic zone should be understood.

5.4.6 Agriculture and Food (Group B Option)

Introduction

This option focuses on the interaction between human and physical systems, both in MEDCs and LEDCs. Specifically, it considers outcomes (in terms of food production, food availability and the impact of agriculture on environmental systems) and issues (of social equality and environmental sustainability).

Content

Candidates should have a knowledge and understanding of:

(a) Agricultural systems:

- The distribution and nature of commercial and non-commercial agricultural systems at a global scale.

(b) Agro-ecosystems:

- Energy and nutrient flows;
- Productivity;
- Diversity and stability;
- Sustainability.

(c) The influence of the physical environment on agricultural systems:

- Climate;
- Soils;
- Relief;
- Hydrology;
- Irrigation and other manipulations of the environment (drainage, fertilisers, pesticides).

(d) The influence of human and cultural factors on agricultural systems:

- Population density and markets, technology, capital, government;
- Agricultural innovations and their spatial diffusion.

(e) Food supplies:

- The geography of malnutrition, undernutrition and overnutrition at global and regional scale;
- Definition, causes and spatial distribution of food shortages and famines;
- Food aid and related issues.

Learning Outcomes

Candidates should appreciate the diversity of agricultural systems, the factors that influence agricultural production and their effects on the physical environment. They should become aware of the social and political issues related to food production.

5.4.7 Manufacturing Industry: Location, Change and Environmental Impact (Group B Option)

Introduction

This option looks at the locational patterns of manufacturing industry in MEDCs, LEDCs and newly industrialised countries (NICs) at global, national, regional and local scales. There is particular emphasis on the processes of change; on their economic, social and environmental impacts; and on the resultant issues and conflicts.

Content

Candidates should have a knowledge and understanding of:

(a) Industrialisation, deindustrialisation and reindustrialisation:

- Export-led industrialisation import substitution and movement offshore in NICs;
- The environmental impact of contemporary industrialisation;
- Deindustrialisation and reindustrialisation in MEDCs since the 1980's.

(b) Industrial location factors:

- The influence of markets, materials, energy, transport, economies of scale, agglomeration (cluster) economies, labour, capital and inertia at different scales;
- The organisation of manufacturing firms at regional, national and global scales;
- Transnational companies (TNCs), multi- and single- plants, multi- and single- plant locations, small manufacturing enterprises (SMEs);
- The location of firms' Headquarters (HQ), Research and Development (R&D), and branch plants;

- Foreign Direct Investment (FDI) and disinvestment and its influence on national and regional economies;
- Globalisation and the global shift of manufacturing; the urban rural shift.

(c) The locational influence of governments and governmental agencies:

- Regions of industrial change: peripheral regions, core regions, deindustrialised regions;
- Policies affecting industrial location.

(d) The economic, social, cultural and environmental consequences of manufacturing growth and decline:

- Unemployment and the threat to communities;
- Impact on the rural-urban fringe;
- The concept of negative externalities, including pollution, dereliction, loss of countryside, disadvantages to particular social groups;
- Management of change by government, planners and other agencies.

Learning Outcomes

Candidates should gain a broad understanding of the locational patterns of manufacturing industries across the world, in different economies and at different scales. They should also appreciate recent changes in the patterns, their causes and the possible consequences.

5.4.8 Service Activities: Location, Change and Environmental Impact (Group B Option)

Introduction

This option focuses on retailing and office-based producer services, their location and change in MEDCs. The economic, social and environmental impact of changing service provision, and planning responses to these changes, are considered at national, regional and local scales.

Content

Candidates should have a knowledge and understanding of:

(a) Theories and models of the location of service activities:

- Central place theory and concepts of threshold, range, hierarchy and centrality;
- Bid-rent theory;
- Trade area analysis;
- Behavioural approaches (decision-making, perception studies).

(b) Changing patterns of retail organisation:

- Decline in the number of retail outlets, the ratio of product to service outlets, growth of multiples and decline of independents, retail factory outlets;
- The influence of economies of scale, IT, and the role of shopping as a leisure activity.

(c) Retailing and office location in the Central Business District (CBD):

- Theories and models (including the core-frame and Davies models);
- The effect on the CBD of the decentralisation of retailing and office activities;
- Planning responses aiming to maintain the status and quality of retailing in the CBD.

(d) Retailing and office location out-of-centre:

- The effect of new retail centres (including regional shopping centres, retail parks and hypermarkets) on the traditional urban retailing hierarchy;
- Office parks and large-scale out-of-centre service projects, edge cities;
- The social, economic and environmental impacts of decentralisation.

(e) Changing service provision (shops, schools, public transport, health care) in rural areas:

- The effects on services of rural depopulation, personal mobility, teleworking, counterurbanisation, second homes, retirement;
- The impact of edge-of-town superstores on rural retailing;
- Issues associated with service decline and planning responses.

Learning Outcomes

Candidates should gain an understanding of the factors that influence patterns of retailing and service activities in MEDCs, and the economic, social and environmental effects of recent changes on those patterns.

5.4.9 Tourism and Recreation and their Environmental Impacts (Group B Option)

Introduction

This option looks at the development of tourism as a resource-based industry; at changing patterns of tourism and recreation; and at the interactions at different scales between tourism and recreation and the physical environment.

Content

Candidates should have a knowledge and understanding of:

(a) Tourism as a resource-based industry:

- Natural resources;
- Cultural resources;
- Heritage resources.

(b) The development of tourism since the eighteenth century as a response to:

- Changing social and environmental values;
- Changing economic conditions;
- Changing transportation technologies and the importance of tourism in the global economy.

(c) The influence of government on tourism and recreation:

- Government sponsorship of tourism and recreation;
- Tourism and recreation as part of national and regional development strategies;
- The effects of political changes and political crises on international tourism;
- Types of tourism development: enclaves, resorts and zones.

(d) Intra-national tourism and recreation:

- The Butler model of tourism development;
- Changing spatial patterns of tourism and their causes;
- The decline of traditional seaside resorts and the growth of urban based tourism;
- The promotion, marketing and reinventing of the tourism industry.

(e) International tourism:

- Factors promoting the growth of international tourism: transport, technology, infrastructure, wealth etc.;
- The economic, social and environmental impacts of tourism in LEDCs;
- Mass tourism and its environmental impact, sustainable tourism, ecotourism;
- Issues associated with the development of tourism in LEDCs (including dependency, environmental stress and sustainability).

Learning Outcomes

Candidates should gain an understanding of geographical patterns and flows associated with tourism and recreation. They should be aware of the costs and benefits of tourism in environmental, economic, cultural and social terms.

Module Learning Outcomes

The additional intended learning outcomes for all options in this module are to allow candidates to pursue the two selected options in sufficient depth to offer a smooth transition to the study of similar topics in higher education. In the case of the physical option candidates should understand the variety of processes operating; and, through the use of case studies, the diversity of features produced and their impact on human activities. In the case of the human option candidates should gain sound knowledge and understanding of the variety of processes influencing the interaction between people and their varied environments.

5.5 Module 2684 Synoptic Geography: People and Environment Options

C3.1a, C3.1b, C3.2, C3.3; IT3.1, IT3.3.

WO3.1, WO3.2, WO3.3; PS3.1, PS3.2, PS3.3,

Rationale

Synoptic assessment involves the assessment of the ability to draw on the understanding of the connections between different aspects of geography represented in the whole 'A' Level specification. The assessment of this unit is in the form of two essay questions designed to explore links between the different parts of the specification content. Candidates are required to synthesise relevant knowledge, understanding and skills learned in Modules 2680, 2681, 2682 and 2683 in the context of the interrelationships between physical, human and environmental geography.

The options in this module all require candidates to make clear links with ideas and information from their other modules. They are required to demonstrate critical understanding and the ability to apply knowledge and critical understanding to unfamiliar contexts.

This module offers four options. Candidates must study two of them.

5.5.1 Geographical Aspects of the European Union (EU)

5.5.2 Managing Urban Environments

5.5.3 Managing Rural Environments

5.5.4 Hazardous Environments

5.5.1 Geographical Aspects of the European Union (EU)

Introduction

This option focuses on the regional and common policies of the EU and their impact on the EU's economic and social geography. It also examines the environmental and economic impact upon the EU of selected transnational issues. The issues listed should be studied with reference to case studies drawn from a variety of spatial scales (international, national, regional and local). Within the context of the EU, this option provides opportunities for synthesising knowledge and understanding of geographical ideas, processes and decision making introduced in Modules 2680 and 2681 in the context of the European Union.

Synoptic Links

This option requires candidates to draw together and apply relevant knowledge, understanding and skills learned in other modules in this specification. There are important links to be made in this option with, for example, the following sections:

5.1.1 (a) Hydrological systems: Drainage basins

5.1.2 (a) Ecosystems: The components of ecosystems and how they inter-relate

5.1.3 (b) Atmospheric systems: Local energy budgets

5.2.1 (c) Population: pattern, process and change: Population change through time and space

5.2.2 (a) Rural and urban settlement: pattern, process and change: Rural settlements in MEDCs

5.2.2 (b) Rural and urban settlement: pattern, process and change: The population changes in MEDCs since 1960

5.2.2 (d) Rural and urban settlement: pattern, process and change: Contemporary urban growth in MEDCs

5.4.1 (a) Coastal Environments: Waves, marine and sub-aerial processes

5.4.1 (d) Coastal Environments: The coastal ecosystem; its landforms and vegetation succession

5.4.1 (e) Coastal Environments: Coastal management

5.4.5 (a) Applied Climatology: Urban climates

5.4.5 (e) Applied Climatology: Air pollution

5.4.6 (a-e) Agriculture and Food

5.4.7 (c) Manufacturing Industry: Location, Change and Environmental Impact: The locational influence of government and governmental agencies

5.4.7(d) Manufacturing Industry: Location, Change and Environmental Impact: The economic, social, cultural and environmental consequences of manufacturing growth and decline

5.4.8 (e) Service Activities: Location, Change and Environmental Impact: Changing service provision in rural areas

5.5.9 (c) Tourism and Recreation and their Environmental Impacts: The influence of government on tourism and recreation

Content

Candidates should have a knowledge and understanding of:

(a) Regional development in the EU:

- Geographical impact of the single European market and of economic and monetary union upon regional development in the EU;
- Core-periphery patterns and processes;
- The identification and distribution of regions in the EU disadvantaged by isolation and physical geography;
- The intentions and achievements of the EU's regional policies.

(b) Studies of selected problem regions:

- A former or declining manufacturing or mining region;
- A region with problems arising from rapid growth;
- A rural region experiencing rural decline;

(c) The impacts of some of the EU's common policies and their geographical outcomes:

- Agriculture in the EU;
- The underlying principles of the Common Agricultural Policy and their economic, social and environmental impact;
- Fishing in the EU maritime area;
- The aims, instruments and effectiveness of the Common Fisheries Policy.

(d) Transnational environmental and economic issues and the EU:

- EU responses to specific transnational problems of pollution; acid rain, pollution of drainage basins and coastal seas;
- The EU's global trading relationships;
- The implications of the Single European Market and of economic and monetary union for patterns of investment by multi-national companies.

Learning Outcomes

Candidates should gain an appreciation of the regional and common policies of the EU against the background of its regional geography. They should make use of regional and transnational case studies to exemplify policies, issues and problems.

5.5.2 Managing Urban Environments

Introduction

This option focuses on the economic, social, cultural and environmental problems of urban areas; the planning responses to these problems and the management of change. It builds on the relationships between people and the urban environment introduced in Module 2681 and aspects of physical geography and environments introduced in Module 2680. Problems, planning and management strategies should be evaluated using case studies from urban areas in both MEDCs and LEDCs.

Synoptic Links

This option requires candidates to draw together and apply relevant knowledge, understanding and skills learned in other modules in this specification. There are important links to be made in this option with, for example, the following sections:

5.1.1 (a) Hydrological systems: Drainage basins

5.1.1 (b) Hydrological systems: Rainfall discharge relationships

5.1.3 (b) Atmospheric systems: Local energy budgets

5.2.1 (a-c) Population: pattern, process and change

5.2.2 (a-e) Rural and urban settlement: pattern, process and change

5.4.5 (a-e) Applied Climatology

5.4.7 (a-d) Manufacturing Industry: Location, Change and Environmental Impact

5.4.8 (b) Service Activities: Location, Change and Environmental Impact: Changing patterns of retail organisation

5.4.8 (c) Service Activities: Location, Change and Environmental Impact: Retail and office location in the Central Business District (CBD)

5.4.8 (e) Service Activities: Location, Change and Environmental Impact: Changing service provision

5.4.9 (a) Tourism and Recreation and their Environmental Impacts: Tourism as a resource-based industry

5.4.9 (d) Tourism and Recreation and their Environmental Impacts: Intra-national tourism and recreation

Content

Candidates should have a knowledge and understanding of urban processes. Case studies should be selected from different areas and at scales appropriate to the processes examined.

(a) Urban growth:

- Urbanisation and urban growth in LEDCs;
- Changing demographic and social structure in MEDCs and the demand for housing;
- Planning to contain urban sprawl (decentralisation of population, industries and services) exurban growth and invasion of the countryside. Green belts, wedges/axes, new towns, overspill towns etc.;
- Development of brownfield sites for housing and economic activities;
- Revitalisation of central areas and inner cities to encourage re-urbanisation;
- Problems of housing in cities in LEDCs. Responses including self help, sites-and-services, upgrading etc.

(b) Social exclusion:

- Social and economic inequality; poverty, ill health, unemployment, access to services and social exclusion in urban areas;
- Multiple deprivation: inner cities, peripheral estates, Government sponsored and private planning initiatives;
- Underemployment in LEDC cities, the informal economy, inward investment by TNCs.

(c) Congestion:

- Traffic congestion, public versus private transport;
- Counterurbanisation, decentralisation and lengthening journeys-to-work;
- Planning responses e.g. rapid transit schemes, bus lanes, car sharing, park and ride, road pricing, re-urbanisation etc.

(d) Pollution:

- Air, noise and water pollution: causes, consequences and management;
- Waste disposal;
- Sustainable cities.

Learning Outcomes

Candidates should be aware that urban problems stem both from the concentration and the dispersion of population and economic activity. They should recognise that urban areas in MEDCs and LEDCs often share similar problems; whose main differences are ones of scale and severity. They should appreciate that interpretations of urban issues and approaches to dealing with urban change vary with time and space. They should have a clear understanding that the future of large urban areas depends on their sustainable use of environmental resources such as urban sites, clean air and clean water.

5.5.3 Managing Rural Environments

Introduction

This option focuses on the interaction between people and the social, cultural and economic environment in rural areas in MEDCs. This interaction gives rise to issues and changes which have both beneficial and adverse impacts on the physical and economic environment. A clear focus of study should be the causes of change and the responses in the form of management by local authorities, government agencies etc. The option builds on the relationships between people and the rural environment introduced in Module 2681 and aspects of physical geography and environments introduced in Module 2680.

Synoptic Links

This option requires candidates to draw together and apply relevant knowledge, understanding and skills learned in other modules in this specification. There are important links to be made in this option with, for example, the following sections:

5.1.1 (a) Hydrological systems: Drainage basins

5.1.1 (b) Hydrological systems: Rainfall - discharge relationships

5.2.1 (all) Population: pattern, process and change

5.2.2 (a-b) Rural and urban settlement: pattern, process and change

5.4.5 (b-d) Applied Climatology

5.4.6 (b-d) Agriculture and Food

5.4.8 (e) Service Activities: Location, Change and Environmental Impact: Changing service provision

5.4.9 (a) Tourism and Recreation and their Environmental Impacts: Tourism as a resource based industry

5.4.9 (d) Tourism and Recreation and their Environmental Impacts: Intra-national tourism and recreation

Content

Candidates should have a knowledge and understanding of ecological, economic and social processes in rural areas. Case studies should be selected from different rural areas and at scales appropriate to the processes examined.

(a) Agriculture:

- The farmers' role in managing the countryside;
- Intensive farming, soil erosion and conservation, pollution of water resources, impact on rural landscapes;
- De-intensification of farming.

(b) Recreation and tourism:

- Protected landscapes, national parks, wilderness areas;
- Pressure, conflicts and issues; visitors, external and Internal pressures (economic, ecological);
- Management plans in national parks.

(c) Settlement:

- Rural settlements in MEDCs, population turnover, population growth, depopulation;
- Second homes, declining service provision;
- Responses by local authorities: subsidies, key settlements;
- Impacts on rural communities and cultures.

(d) Wildlife:

- Intensive farming: loss of habitat (e.g. wetlands, hedgerows, chalk grassland, ancient woodlands);
- Environmentally Sensitive Areas (ESAs), country stewardship, set-aside, the future of uplands/countryside;
- Declining biodiversity, pressure on Sites Special Scientific Interest (SSSIs), nature reserves;
- Sustainable forestry.

Learning Outcomes

Candidates should realise that rural environments and rural resources in MEDCs are currently under pressure. Conflicting demands for housing, employment, recreation and leisure require mediation through long term planning which emphasises the sustainability of rural resources.

5.5.4 Hazardous Environments

Introduction

This option focuses on the nature of hazardous environments. It examines the relationships between people, atmospheric systems and the lithosphere introduced in Module 2680. Candidates have the opportunity to study a range of hazards, their spatial distribution, causes and consequences for people and environments. The roles of monitoring, prediction and risk assessment should be evaluated.

Synoptic Links

This option requires candidates to draw together and apply relevant knowledge, understanding and skills learned in other modules in this specification. There are important links to be made in this option with, for example, the following sections:

5.1.3 (a-b) Atmospheric systems

5.1.4 (a-b) Lithosphere

5.2.1 (c) Population: pattern, process and change: Population change through space

5.2.2 (all) Rural and urban settlement, pattern, process and change

5.4.1 (a) Coastal Environments: Waves, marine and sub-aerial processes

5.4.2 (e) Fluvial Environments: Floods and droughts

5.4.3 (d) Glacial and periglacial environments: Periglacial weathering and slope processes

5.4.6 (c) Agriculture and Food: The influence of the physical environment on agricultural systems

5.5.9 (e) Tourism, Recreation and their Environmental Impacts: International tourism

Content

Candidates should have a knowledge and understanding of the variable perception of hazards, of their unpredictability, and how they influence attempts to deal with them. Case studies should be selected from different areas and at scales appropriate to the hazards being examined.

(a) Hazards resulting from crustal movements:

- Global distribution;
- Volcanic hazards – types of eruption and their products; nuée ardentes, lava flows, mudflows, pyroclastic and ash fallout;
- Earthquake activity and resultant hazards; shaking, landslides, tsunami;
- Effects of hazards caused by volcanic and seismic activity on lives and property; variations in availability of warning systems;
- Responses to the perceived level of danger; risk assessment.

(b) Hazards resulting from mass movements:

- The nature and causes of mass movement on slopes;
- Hazards resulting from slope instability and their level of impact in different areas.

(c) Hazards resulting from atmospheric phenomena:

- Distribution of areas at most risk from hurricanes, tropical storms and tornadoes;
- Processes causing the development and level of intensity of tropical storms and tornadoes;
- Related hazards – severe river and coastal flooding, landslides, storm surges, wind damage;
- Impact on lives, property and communications.

Learning Outcomes

Candidates should understand the causes and consequences of natural hazards; their variable impact on people and places; and the management strategies for prevention and/or mitigating their effects. Candidates should appreciate the impact of hazards on the economic, political, social and cultural environment.

5.6 Module 2685: Personal Investigative Study (Geography A)

	C3.1a, C3.1b, C3.2, C3.3; N3.1, N3.2, N3.3; IT3.1, IT3.2, IT3.3.	**LP3.1, LP3.2, LP3.3.**

Rationale

The aim of this module is to build on the knowledge, understanding and skills developed by candidates in their work for Module 2682, particularly the Geographical Investigation. For this module candidates are required to submit a 2500 word report of a personal investigative study, based on a geographical question or hypothesis of their choice.

The question or hypothesis must be geographical, but may be of any aspect of geography, including those not represented in the specification. It may be on the same theme as the candidate's Geographical Investigation for unit 2682 but none of the material may have been previously submitted for examination by the candidate. The study must be a personal one and not the product of group work.

Assessment

The report is externally examined, by an examiner appointed by the OCR. The assessment represents 15 % of the A level. Appendix C gives details of the assessment criteria.

Content

The Personal Investigative Study must be based on a question or hypothesis the candidate has devised that is of an appropriate clarity, scale and feasibility. The candidates must collect their own data and present an analysis of this data, relating it to the chosen question or hypothesis. Conclusions related to the chosen theme, and an evaluation of those conclusions, should be present in the report.

The study must include primary data. Primary data are defined as unprocessed information, this means information collected through fieldwork investigation, or material derived from other sources which might include census, telephone directories, trade directories and remotely sensed data. This material will not have been analysed and/or interpreted in any way.

Secondary data are defined as information which is derived from published documentary sources, and has been analysed and/or interpreted such as processed census data, research papers, textbooks etc.

Secondary data also encompass sources of specific techniques and the formulae for their calculation, such as soil moisture content, stream channel efficiency, and indices such as PLVI, CBII and environmental quality. It is good practice to acknowledge secondary sources as footnotes or a bibliography.

The candidate's report of the Personal Investigative Study should be in the form of a structured study with appropriate section headings, and where appropriate, sub-headings. It is strongly recommended that the report be presented under the five major section headings of the assessment criteria. Pages must be numbered and a contents page, appendices, references and a bibliography provided. The study must be in good English and in continuous prose, and may be in word-processed or in legible manuscript format.

Word length

The study must not exceed 2500 words. The word-count will not include the title page, the appendices, references or the bibliography. Where appendices contain information the candidate wishes to be considered for assessment purposes that material should be extracted and included in the body of the study. Candidates must provide accurate word counts of the continuous prose. Headings, sub-headings, titles and genuine tables and annotations, references and the bibliography are excluded from the word count. Studies that are over length will not be able to access the highest levels specified in the mark scheme.

Teacher assistance

Through the work done in Module 2682 candidates should already have been introduced to the identification of appropriate questions and hypotheses for geographical investigation and how to pursue them. Teacher assistance may not be required by many candidates, except for that assistance necessary to ensure the safety of candidates during the work on this module. Details of any further assistance should be recorded and details provided as part of centre authentication procedures. Authentication includes the accuracy of the word count.

Guidance

While there are no formal procedures for approval of proposed studies, or for other guidance, written advice may be obtained from OCR.

The Personal Investigative Studies must be submitted to meet OCR's standard coursework deadline.

The total amount of time candidates devote to the work on, and related to, the study should be commensurate with its assessment weighting of 15% of the Advanced Level qualification. In the case of the majority of studies three to five days of fieldwork represents an appropriate time allocation for primary data collection.

Retaking the module

A candidate retaking the module must present another Personal Investigative Study and it is the responsibility of the centre to ensure that report is on an entirely different topic from that previously examined. A candidate retaking the module must confirm in writing that the report meets this condition and the centre's authentication must confirm this.

Presentation

A4 paper should be used for the study. If larger sheets are desirable for illustrations these should be no larger than A3 folded to A4. The study must be submitted in an A4 flat manila folder (not a ring binder) with the pages fastened securely together. Individual pages must not be enclosed in plastic pockets. A4 paper should be used for the report. Where illustrations can be presented clearly only on larger sheets, these must be no larger than A3 size and be folded to A4 size in such a way that they can be readily inspected without disassembling the report. A completed OCR cover sheet, authenticated by the candidate and the teacher, must be attached to the front of each study.

Module Learning Outcomes

Candidates should be able to demonstrate their ability to:

- identify a suitable geographical question or hypothesis for personal investigation;
- develop a planned strategy for the investigation;
- collect, record and assemble data, balancing primary and secondary data appropriately;
- present the data appropriately;
- analyse and interpret the data in a manner that relates to the chosen theme;
- present a summary, conclusion and evaluation of the study;
- recognise the need for each section of the report to make any necessary linkages to other sections.

5.7 Module 2686: Investigative Skills (Geography A)

C3.1a, C3.1b, C3.2, C3.3; N3.1, N3.2, N3.3; IT3.1, IT3.2, IT3.3.

WO3.1; LP3.1, LP3.2, LP3.3.

Rationale

This module *applies* the knowledge, understanding and skills developed for geographical investigations in Module 2682 to situations in physical, human and environmental geography. Further progression is achieved by a requirement for evaluation and judgement in the application of investigative knowledge, understanding and skills.

Introduction

Candidates answer two structured questions related to the methodology of geographical enquiry introduced in Module 2682. There is an emphasis on methods of data collection, data presentation and data analysis. Questions are based around stimulus materials such as numerical data sets, photographs, maps and other primary and secondary documents.

Primary data are defined as unprocessed information, this means information collected through fieldwork investigation, or material derived from other sources which might include census, telephone directories, trade directories and remotely sensed data. This material will not have been analysed and/or interpreted in any way.

Secondary data are defined as information which is derived from published documentary sources, and has been analysed and/or interpreted such as processed census data, research papers, textbooks etc.

Questions will not require any mathematical calculation, or the construction of charts, graphs and statistical maps.

Content

Candidates should be prepared for questions in the written examination related to the five stages of geographical enquiry:

(a) **The formulation of a question or hypothesis** capable of being researched; and critical understanding of the limitations imposed on geographical enquiry by the resources, including the available data.

(b) **The design of realistic strategies**, including risk assessment, to answer the question or test the hypothesis.

(c) **The selection and evaluation** of:

(i) appropriate sampling methods and sample size, and;

(ii) appropriate methods of data presentation.

The following sampling and data presentation methods should be considered:

Sampling – random, systematic, stratified, spatial (transects, quadrats) and temporal;

Mapping – choropleth, isopleth, proportional symbols, dot, flow-line, sketch maps;

Graphs and charts – line, pie, bar, log, scatter, histograms, pictograms, Lorenz curves, cumulative frequency graphs, tables, frequency curves, dispersion diagrams, kite diagrams, triangular graphs, rose diagrams, circular diagrams, profiles, cross sections;

Photographs – labelled, annotated.

(d) **The analysis of data** using appropriate techniques. Candidates should have an understanding and critical appreciation of the application of the following statistical techniques:

Descriptive statistics – mean, median, mode, range, inter-quartile range, standard deviation and coefficient of variation, nearest neighbour analysis;

Inferential statistics – correlation (Spearman, Pearson Product), coefficient of determination, regression lines, Chi-squared test, t-test, Mann-Whitney U-test.

(e) **The drawing of conclusions** and a critical evaluation of their significance and reliability.

Module Learning Outcomes

Candidates should be able to apply their knowledge and understanding of geographical methodology appropriately to tackle unfamiliar problems and situations. They should be aware of the limitations imposed by the resources and data available; be able to evaluate alternative methods and strategies; and be able to assess the validity and reliability of outcomes.

6 Further Information and Training for Teachers

To support teachers using these specifications, OCR will make the following materials and services available:

- up-to-date copies of these specifications;
- a full programme of In-Service Training (INSET) meetings;
- a dedicated subject-specific telephone number;
- specimen question papers and mark schemes;
- past question papers and mark schemes after each examination session;
- coursework guidance materials;
- written advice on coursework proposals;
- a Report on the Examination, compiled by senior examining personnel, after each examination session.
- a specification dedicated e-list provides a forum to support teachers with assessment, teaching and learning issues.

If you would like further information about these specifications, please contact OCR.

7 Reading and Resources List

The resources referred to below may prove useful in delivering Advanced Subsidiary GCE and Advanced GCE Geography.

The list is not intended to be exhaustive nor does inclusion on the list constitute a recommendation of the suitability of the resource for the specification. The list below contains books that are available in spring 2002. The possibility exists that more up to date texts which have been prepared for the revised GCE specifications may become available. Teachers will need to use their professional judgement in assessing the suitability of the material contained in this list.

Cambridge University Press has produced an AS textbook and a book written especially to meet the demands of the synoptic module, which have been endorsed by OCR for use with this specification. Details are as follows:

Hart C, Geography for AS, Cambridge University Press, ISBN 0 521 78609 6

Hart C, Geography for A2 Synoptic Module, Cambridge University Press, ISBN 0 521 89349 6

The options in Physical and Human Geography module at A2 and the coursework investigations can be supported by existing standard A level texts.

Recommended Reading

Teachers and candidates are recommended to read geography publications such as:

Geofile, Quarterly, Stanley Thomas.

Geography, 3 annually, The Geographical Association.

Geography Review, 5 annually, Philip Allan Publishers.

Teaching Geography, 3 annually, The Geographical Association.

Sample Reading List

Candidates should have access, for reference purposes, to library copies of dictionaries and standard Advanced level textbooks. The list below gives some examples.

Acreman M (Ed), The Hydrology of the UK, Routledge, 0415187613

Barrett H, Population Geography, Longman, 0050045075

Bishop V and Prosser R, Landform Systems, 2nd Ed, Collins, 000711432X

Bishop V, Hazards and Responses, 2nd Ed, Collins, 0007114311

Bowen A and Pallister J, AS Level Geography, Heinemann, 435352830

Carr M, New Patterns: Process and Change in Human Geography, Nelson, 0174386818

Chaffey J, Managing Environments in Britain and Ireland, Hodder & Stoughton, 0340655593

Chaffey J, Managing Wilderness Regions, Hodder & Stoughton, 0340655585

Champion J et.al. The Population of Britain, Oxford, 0198741758.

Chrispin J and Jegende F, Population, Resources and Development, 2nd Ed, Collins, 0003266516

Clowes A and Comfort P, Process and Landform, Longman, 0050040596

Daniel P and Hopkinson M, The Geography of Settlement, Longman, 0050042866

Dickinson G and Murphy K, Ecosystems, Routledge, 0415145139

Drakakis-Smith D, Third World Cities, 2nd Ed, Routledge, 0415198828

Drake G, Urban Challenge, Hodder and Stoughton, 0340737344

Flint D and Flint C, Urbanisation: Changing Environments, 2nd Ed, Collins, 0007114273

Flint,D, Managing Resources, Hodder and Stoughton, 0340730889

Frampton S ed. Natural Hazards, Hodder and Stoughton, 034074944

Hall T, Urban Geography, 2nd Ed, Routledge, 0415217965

Hansom J, Coasts, Cambridge University Press, 0521313775

Holden A, Environment and Tourism, Routledge, 0415207185

Hornby W and Jones M, An introduction to Population Geography, Cambridge University Press, 0521278740

Hornby W and Jones M, An Introduction to Settlement Geography, Cambridge, 0521282632

Kenward A, and Whittingham J, Global Tourism Development, 03407221197

Kidd A, Managing Ecosystems, Hodder and Stoughton, 0340724951

Lenon B and Cleves P, Fieldwork Techniques and Projects in Geography, 2nd Ed, Collins, 0003266435

Matthews H and Foster I, Geographical Data, Oxford, 019913328X

Musk L, Weather Systems, Cambridge, 0521278740

Nagle G and Spencer K, A Geography of the European Union, Oxford, 0199146551

Nagle G and Spencer K, Sustainable Development, Hodder and Stoughton, 0340679700

Nagle G, Changing Settlements, Nelson, 017490021X

Nagle G, Hazards, Nelson, 0174900228

Nagle G, Tourism, Leisure and Recreation, Nelson, 0174447051

Newson M, Hydrology and the River Environment, Oxford, 019874157X

O'Hare G & Sweeney J, The Atmospheric System, Longman, 0050037420

O'Hare G, Soils, Vegetation, Ecosystems, Longman, 0050042378

Park C, The Environment, 2nd Ed, Routledge, 0415217717

Potter R and Lloyd-Evans S, The City in the Developing World, Longman, 0582357411

Prosser R, Raw M, Bishop V, Landmark AS Geography, Collins, 0003265595

Prosser R, Leisure, Recreation and Tourism, 2nd Ed, Collins, 0003266508

Prosser R, Managing Environmental Systems, Nelson, 017448223X

Raw M and Atkins P, Agriculture and Food, Collins, 0003266664

Raw M, AS/A level Geography: Essential Word Dictionary, Philip Allan, 0860033740

Raw M, Manufacturing Industry: The Impact of Change, 2nd Ed, Collins, 0003266494

Ross S, Natural Hazards, Stanley Thornes, 0748739513

Ross S, Essential Mapwork Skills, Nelson Thornes 0748764615

Smith P, Addison K and Atkinson K, Fundamentals of the Physical Environment, 3rd Ed, Routledge, 0415232945

Tivy J and O'Hare G, Human Impact of the Ecosystem, Longman, 00500032038

Warburton P, Atmospheric Processes and Human Influence, 2nd Ed, Collins, 0007114303

Williams S, Tourism Geography, Routledge, 0415142156

Witherick M, Environment and People, Stanley Thornes 0340603399

Witherick M, Environment and People , Stanley Thornes, 0748721207

Woodfield J, Ecosystems and Human Activity, 2nd Ed, Collins, 000366524

Appendix A

Key Skills

Key Skills signposting appears in three sections of OCR specifications:

1) *Key Skills Coverage* – the matrix aids curriculum managers in mapping the potential Key Skills coverage within each OCR Advanced Subsidiary/Advanced GCE specification.

2) *Specification Content (section 5)* – the specific evidence references enable subject teachers to identify opportunities for meeting specific Key Skills evidence requirements within the modules they are delivering.

3) *Appendix A* – provides guidance to teachers in trying to identify those parts of their normal teaching programme which might most appropriately be used to develop or provide evidence for the Key Skills signposted.

These specifications provide opportunities for the development of the Key Skills of Communication, Application of Number, Information Technology, Working With Others, Improving Own Learning and Performance and Problem Solving as required by QCA's subject criteria for Geography (QCA,1999).

Through class work, coursework and preparation for external assessment, candidates may produce evidence for Key Skills at Level 3. However, the extent to which this evidence fulfils the requirements of the QCA Key Skills specifications at this level will be dependent on the style of teaching and learning adopted for each module. In some cases, the work produced may meet the evidence requirements of the Key Skills specifications at a higher or lower level.

Throughout section 5 the symbol  is used in the margin to highlight where Key Skills development opportunities are signposted. The following abbreviations are used to represent the above Key Skills:

C = Communication

N = Application of Number

IT = Information Technology

WO = Working with Others

LP = Improving Own Learning and Performance

PS = Problem Solving

These abbreviations are taken from the QCA Key Skills specifications for use in programmes starting from September 2000. References in section 5 and Appendix A, for example IT3.1, show the Key Skill (IT), the level (3) and subsection (1).

Centres are encouraged to consider the OCR Key Skills scheme to provide certification of Key Skills for their candidates.

Key Skills Coverage

For each module, the following matrix indicates those Key Skills for which opportunities for at least some coverage of the relevant Key Skills unit exist.

Module	Communication	Application of number	IT	Working with Others	Learning Performance	Problem Solving
	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3
2680	✓		✓		✓	
2681	✓		✓			
2682	✓	✓	✓	✓	✓	✓
2683	✓		✓	✓	✓	✓
2684	✓		✓	✓		✓
2685	✓	✓	✓		✓	
2686	✓	✓	✓	✓	✓	

Appendix B

Analytical and Presentational Methods for Modules 2685 and 2686

a) Techniques for the collection and handling of primary data in physical geography

Hydrological variables, drainage basin parameters, water quality, slope profiling, geomorphological mapping, soils and vegetation survey, sediment analysis, meteorological variables.

b) Techniques for the collection and handling of data in human geography

Population characteristics, urban and townscape analysis, rural land use, environmental quality, settlement patterns and hierarchies.

c) Methods of representing data

Tabulation, bar, line and log. graphs, scatter diagrams and best fit lines, pictograms, choropleth, isopleth, rose diagrams, dot and flow-line maps, proportional circles and pie graphs, profiles and cross sections, transects, sketch maps and photographs, histograms, location quotients, Lorenz Curve, mean centre, nearest neighbour analysis, cumulative frequency graphs.

d) Statistical techniques

Descriptive statistics including measures of central tendency (mean, median, mode), measures of variations within and between samples (range, quartile range, mean deviation, standard deviation, running means) methods of presenting and describing distributions.

e) Methods of analysing samples

Correlation (Spearman, Pearson Product-Moment), simple linear regression, Chi-square, t-test, Mann-Whitney U-test.

Appendix C

Assessment Criteria for Personal Investigative Study (Unit 2685)

Assessment Objectives

AO1 show knowledge of the specified content

AO2 show critical understanding of the specified content

AO3 apply knowledge and critical understanding to unfamiliar contexts

AO4 select and use a variety of skills and techniques, including communication skills appropriate to geographical studies

A01	A02	A03	A04	Total
12	12	21	45	90

The number of marks available for the assignment is 90 and they are awarded using the following criteria.

A. Formulating a question or hypothesis capable of being researched, understanding the limitations imposed on geographical enquiry by the resources, including data, available. Designing realistic strategies, including risk assessment (18 marks)

B. Carrying out programmes of data collection using selected sampling strategies (18 marks)

C. Representing the data using the most appropriate methods (18 marks)

D. Analysing the data using appropriate techniques (18 marks)

E. Drawing conclusions and the critical evaluation of their significance and reliability (18 marks)

Personal Investigative Studies which exceed the advisory word limit of 2,500 words will not be eligible for the award of Level 3 marks.

Criterion A:

Formulating a question or hypothesis capable of being researched and understanding the limitations imposed on geographical enquiry by the resources, including data, available. Designing realistic strategies, including risk assessment **(18 marks)**

Marks	Assessment Criteria Descriptors
Level 3 15-18 marks	• A clearly expressed geographical question or hypothesis capable of being researched and demanding ideas and initiatives of the candidate's own • The research issues are clearly defined using accurate geographical terminology • Clear, explicit and concise links to relevant geographical theory and concepts • Evidence of the construction of an appropriate research strategy in terms of aims and data required with evidence of understanding of the limitations imposed by resources and methods of meeting these • Detailed appreciation of risk, and appropriate steps to reduce risk to an acceptable minimal level
Level 2 8-14 marks	• A geographical question or hypothesis capable of being researched by the application of basic geographical principles, with limited contribution from the candidate's ideas. • The research issues are recognised and stated in appropriate geographical terminology • Clear reference to relevant geographical theory and concepts • Evidence of detailed and appropriate planning in terms of aims and data required with some evidence of appreciation of resource limitations • Detailed appreciation of risk but little or no evidence of steps to minimise it
Level 1 0-7 marks	• A geographical question or hypothesis capable of being researched at an elementary level without contribution from the candidates own ideas • Generally correct terminology • Some Limited reference to geographical theory and concepts • Reference made to planning of the necessary work, limited evidence of understanding of the data and resource limitations • Some appreciation of risk without evidence of steps to minimise it

Criterion B:

Carrying out programmes of data observation, collection and recording using selected sampling strategies **(18 marks)**

Marks	Assessment Criteria Descriptors
Level 3 15-18 marks	• All data collected are appropriate with necessary primary/secondary balance, precisely matched to the question or hypothesis • Collection shows evidence of a strategy, well planned with full attention to data reliability, accuracy and precision, and high quality, effective observation • Full range of appropriate techniques and sampling methods used to collect data accurately
Level 2 8-14 marks	• Data collected are appropriate with primary/secondary balance mainly matched to question or hypothesis • Collection is well planned with attention to data accuracy and thorough, accurate, observation • Adequate Appropriate range of appropriate techniques and sampling methods used to collect data accurately
Level 1 0-7 marks	• Both primary and secondary data are present • Collection shows some evidence of planning • Adequate range of techniques and sampling methods used with some accuracy although they may not be wholly appropriate

Criterion C:

Representing the data using the most appropriate methods **(18 marks)**

Marks	Assessment Criteria Descriptors
Level 3 15-18 marks	• The form and number of data presentation items is wholly appropriate to the study • All graphs, maps and illustrative material are logically organised and correctly presented to a very high standard • The quality of written communication in the study as a whole is extremely sound, concise and coherent with very few, if any, errors in written communication
Level 2 8-14 marks	• The form and number of data presentation items included is appropriate although there are areas where additions and improvements could be made • The majority of graphs, maps and illustrative material are logically organised and correctly presented to a high standard • The quality of written communication in the study as a whole is sound, and meaning is clear, although a number of errors may be present.
Level 1 0-7 marks	• The data presentation items are a mixture the appropriate and inappropriate • Graphs, maps and illustrations are competently presented but there are technical questions about some of the decisions e.g. choice of scale for graphs and maps, and accuracy • The quality of written communication is generally sound although there are areas where meaning is unclear

Criterion D:

Analysing the data using appropriate techniques **(18 marks)**

Marks	Assessment Criteria Descriptors
Level 3 15-18 marks	• The most appropriate analytical methods are used with a very high level of accuracy • Interpretation is logical, coherent and fully focused on the aims of the investigation • The significance of the results to the aims of the investigation is concisely and accurately interpreted
Level 2 8-14 marks	• Appropriate analytical methods are used correctly • Interpretation is correct, coherent, reasoned and relevant to the aims of the investigation • The significance of the results to the aims of the investigation is thoroughly interpreted
Level 1 0-7 marks	• Mostly appropriate analytical methods are used correctly • Interpretation is adequate with attempts to analyse and see relationships • Some interpretation of the results with reference to the aims of the investigation

Criterion E:

Drawing conclusions and the critical evaluation of their significance and reliability **(18 marks)**

Marks	Assessment Criteria Descriptors
Level 3 15-18 marks	• Clear and valid conclusion drawn from evidence and firmly focused on the question/hypothesis (the circle is closed explicitly), considerable emphasis on explanation • Evaluation is concise, balanced and supported by relevant discussion of the research strategy used • Detailed synthesis of limitations of the study, its significance, reliability and opportunities for further development are completed without exceeding the word limit of 2 500 words
Level 2 8-14 marks	• The conclusion is clear and concise, and directly related to the question set with its significance explained, but with incomplete support from the evidence of the study, explanation is adequate • Evaluation draws upon the evidence in the earlier sections of the investigation • Clear recognition of most limitations of the study in terms of significance and reliability
Level 1 0-7 marks	• Meaningful conclusion related to the question set with some explanation • Evaluation may be limited and make little or no use of earlier sections of the Investigation • Some evaluation of the study's success in terms of awareness of limitations and reliability