

# GCE 2004

## *June Series*



# Mark Scheme

## Geography B (GGB4)

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Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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*Dr Michael Cresswell Director General*

## General Instructions to Examiners on Marking

It is important that every Examiner marks the scripts to the same standard as the rest of the panel. All Examiners must operate the Marking Scheme in a similar and consistent manner, and hence they must all participate in the application of that scheme at the Standardisation Meeting. In particular they should take careful note of all decisions taken or changes made at the meeting. Examiners are allocated to a Team Leader for the period of examining, and any difficulties that arise should be discussed with that person.

## The Marking Scheme

The Marking Scheme consists of two sections for each question or sub-question – the Notes for Answers and the Mark Scheme itself.

### Notes for Answers (NFA)

These indicate the possible content for the various sections of the question paper. In some cases (for example short answer questions) the NFA may indicate the only response that is acceptable, but in many cases they indicate either a range of suitable responses, or an exemplar of the type of response required. Therefore in most cases, the NFA do **not** provide model answers, and should not be regarded as such. More NFA may be added at the Standardisation Meeting if it is felt by the Principal Examiner that details of appropriate ways of answering the question have been omitted.

### The Mark Scheme:

This is provided in italics and provides the instructions to Examiners as to how they are to assess the work of candidates. The number of marks allocated within the mark scheme to a question should correspond to the number of marks for that question on the question paper.

There are two ways in which the Mark Scheme operates:

- (a) it indicates how the marks to short answer questions are to be allocated – usually to a maximum of 4 marks.
- (b) it indicates how Examiners should move through the Levels in a level response mark scheme – usually to all questions of 5 marks or more. Each Level has a levels descriptor, with clear statements of the “triggers” to move candidates from one level to another. Each Level contains a range of marks as shown on the Mark Scheme.

A number of features have been used to distinguish between Levels, for example:

- a number of characteristics, reasons, attitudes etc.
- the degree of specification, for example the use of specific case studies, or accurate detail
- responses to more than one command word, for example, describe and suggest reasons
- the degree of linkage between two aspects of the question
- the depth of understanding of a concept.

### The Marking Process

A sample of an Examiner's marked scripts will be marked again by a Senior Examiner according to the procedures set out by the Board. Also the scripts may be re-examined at the Awards Meeting and the subsequent Grade Review. Therefore, it is most important that Examiners mark clearly according to the procedures set out below.

- All marking should be done in red.
- The right-hand margin should be used for marks only.
- The overall mark for a question must be ringed at the end of the answer.
- The total mark for the question must be transferred to the front of the script.
- The left-hand margin is where an indication of the level achieved is written. Comments and codes (see below) may also be written on the left.
- Indications of the levels achieved may also occur in the body of the answer if this is easier for the Examiner to apply (e.g. in the marking of diagrams).
- Ticks should be used for short answer responses and Level I responses only, with one tick representing one mark (to the maximum allowed in a Levels scheme)
- Levels II, III and IV should be indicated with a Roman II, III or IV on the script, and this symbol should be used each time this Level is achieved. Examiners may wish to bracket an area of text where this level of response has been achieved.
- Once a candidate has reached Level II, additional Level I credit should be indicated using a + symbol. If these points are of sufficient quality **one additional mark** can be awarded (assuming no further Level II points are made).
- Examiners may indicate strong Level II or III material by writing "Level II (or III) – "good" in the left hand margin of the script. The Examiner should ensure that this is reflected in the **awarding of an appropriate number of marks** at the end of the answer.
- Level III is to be used only for questions of 9 marks or more, and Level IV is to be used only for questions of 25 marks in total.

### Other Mechanics of Marking

- Underline all errors and contradictions.
- Cross-out irrelevant sections using a line from top-left to bottom right. (However, be careful to check that there is no valid material, however brief, in the mass of irrelevance).
- Indicate repeated material with "rep".
- Put a wavy line in the left-hand margin to indicate weak dubious material.
- If the rubric is contravened, mark all answers but count only the best mark towards the candidate's total mark for the script. Put the mark for the question on the front of the script in the usual way, but also write "RAM Rubric" on the front of the script.
- Large areas of text must not be left blank – use the wavy line or write "seen" alongside the text. All pages must have an indication that they have been read, especially supplementary sheets.
- Unless indicated otherwise always mark text before marking maps and diagrams – do not give double credit for the same point made in the text and a diagram.

### Quality of Language Descriptors

The following descriptors concerning the quality of language must be applied to **all** questions in which candidates are required to produce extended writing. To attain full marks available at a level of response, the appropriate Quality of Language descriptor must be achieved. Use the same quality of language levels as are used in the geographical element of the mark scheme under consideration.

#### Three-level descriptors

- LEVEL I**
- Style of writing is suitable for only simple subject matter.
  - Expression of only simple ideas, using a limited range of specialist terms.
  - Reasonable accuracy in the use of English.
- LEVEL II**
- Manner of dealing with subject matter is acceptable, but could be improved.
  - Reasonable clarity and fluency of expression of ideas, using a good range of specialist terms, when appropriate.
  - Considerable accuracy in the use of English.
- LEVEL III**
- Style of writing is appropriate to subject matter.
  - Organises relevant information and ideas clearly and coherently, using a wide range of specialist vocabulary, when appropriate.
  - Accurate in the use of English.

#### Two-level descriptors

- LEVEL I**
- Manner of dealing with subject matter is acceptable, but could be improved.
  - Reasonable clarity and fluency of expression of ideas, using a good range of specialist terms, when appropriate.
  - Considerable accuracy in the use of English.
- LEVEL II**
- Style of writing is appropriate to subject matter.
  - Organises relevant information and ideas clearly and coherently, using a wide range of specialist vocabulary, when appropriate.
  - Accurate in the use of English.

**Question 1****(a) Notes for answers.**

A global product is a product that contains components made in a variety of countries. For example, a Vauxhall Corsa is assembled in Spain from components manufactured in Austria (engine), Germany (gearbox), Spain (seats and trim, bodywork).

The term can also be applied to a product that is marketed on a global scale, for example, Coca-Cola, and many food and personal hygiene products.

*Award three marks for the definition.*

*Two marks for the examples.*

**(5 marks)**

**(b) Notes for answers.**

The development of global marketing has been encouraged by:

- The assembly of products in the country of final destination, but from components produced in areas of cheaper production, mainly cheaper labour costs
- The growth of TNCs who are able to operate factories in a number of countries and bring products together for final assembly and market them successfully
- The growth of communication systems and advertising that has led to the demand for such products around the world
- Increased purchasing power, particularly in LEDCs that has led to an expansion of demand for consumer items
- The franchising of production by TNCs to locally based producers.

*Level I* – simple statements of factors, for example, advertising, growth of communications with no explanation as to how global marketing has developed; or a good description of one factor only. (0-2 marks)

*Level II* – good description of more than one factor leading to the development of global marketing. Greater sophistication of argument should receive further credit. (3-5 marks)  
**(5 marks)**

**(c) Notes for answers.**

The reasons for the growth of TNCs in various parts of the world are:

- TNCs are able to control or co-ordinate economic activities in different countries and can develop intra-firm trade within and between units of the same corporation in two countries. In this way the TNC has control over terms of trade and can reduce the effects of quota restrictions on the movement of goods.
- TNCs have the ability to take advantage of spatial differences in factors of production and government policies at the global scale. They can exploit differences in the availability of capital, labour costs and land and building costs; they can take advantage of cheaper labour in less developed economies. TNCs can also take advantage of different government policies; tax levels, subsidies/grants, environmental controls (less strict in some countries) and can get round trade barriers by locating in the 'market' economy.

- TNCs have geographical flexibility and can shift resources and production between locations at the global scale to maximise profits.

**Level I** – a basic list of reasons with no link to any named area or named TNC; or a good explanation of one reason only. (0-3 marks)

**Level II** – more than one reason fully explained and/or developed. (4-7 marks)  
**(7 marks)**

**(d) Notes for answers.**

Attitudes within the host country:

- National Government; favour the investment, job creation and increased revenue but could threaten existing industry
- Component firms; favourable potential linkages to supply incoming TNC.
- Construction firms in favour; investment and jobs in building plant/supporting infrastructure/new housing; increased revenue/jobs
- Newly employed in favour; increased income and living standard; new opportunities for female workers.
- Providers of local services/shop keepers etc in favour; increased local disposable income is likely to increase trade.
- Trade Unions; welcome additional jobs but may fear loss of influence if new firm adopts single-union approach.
- Local councils (city councils) may be concerned by increased pressure on services.
- Local residents may be negative; increased road traffic, loss of greenfield sites, but some may have gained employment.
- Environmentalists; views will depend upon the type of manufacturing but likely to object if development will result in any form of increased pollution, loss of habitat or right of way.
- Competing firms; loss of sales as a result of the TNC locating in home market; resentment that foreign firms have been given subsidies/grants/incentives not available to domestic manufacturers.

Attitudes within the country of origin:

- For the development of managerial and research skills - country of origin more likely to be involved in these activities
- There will be a general rise in income levels - the whole nation will benefit from overseas investments; greater desire to invest in overseas operations
- wider share ownership - individuals, and corporate groupings more willing to become involved in foreign investments
- increased desire to develop new markets overseas - increased potential for sales.

**Level I** - a basic list of attitudes; or one attitude attributed and discussed in detail.  
(0-3 marks)

**Level II** - more than one attitude attributed and discussed in some detail. Both attitudes may be just applicable to one of host / country of origin to access this level. Candidates who discuss a range of attitudes for both host and country of origin should access higher marks. (4-8 marks)  
**(8 marks)**

**Total for Question 1 = 25 marks**



**Question 2****(a) Notes for answers**

Faulting involves the fracturing of the earth's crust along which rocks have been displaced either vertically, horizontally or some intermediate angle. There are different kinds of fault:

- A normal fault – the result of tension, the rocks being displaced in the direction of the fault plane
- A reverse fault – the product of compression, the rocks of one side of the fault plane being thrust over those on the other side
- A tear fault – where the movement is in a horizontal direction.

*Level I* – basic statements about the meaning of faulting, as in the first sentence given above. (0-2 marks)

*Level II* – more detail concerning the types of faulting, for example any of the bullet points given above. (3-5 marks)  
**(5 marks)**

**(b) Notes for answers**

When two crustal plates slide past each other and the movement of the plates is parallel to the plate margin there is no creation or destruction of crust. This is termed a conservative or passive margin. There is no subduction, therefore there is no volcanic activity associated with this type of margin. The movement of the plates creates stresses between the edge of the plates; as sections of the plate rub past each other the release of friction triggers shallow focus earthquakes. The San Andreas Fault in California is along the line of a conservative margin where the Pacific and North American plates move parallel to each other. They are both moving in the same direction but at different speeds.

Transform faults run at right angles to the margin.

*Reserve one mark for example (1)*

*One mark for each correct statement of the meaning of conservative plate margin (4)* **(5 marks)**

**(d) Notes for answers**

Earthquakes occur at a variety of plate margins:

At Constructive Plate margins where plates move apart - as the new crust cools and spreads transform faults are produced at right angles to the plate boundary. The parts of the spreading plate on either side of these faults may move at different rates; this causes friction between the sub parts of the plate and this causes earthquakes. These earthquakes are shallow focus, i.e. they originate in the lithosphere plate near the surface of the earth.

At Destructive Plate margins where plates move towards each other - as the plates converge, the oceanic crust subducts and moves down into the asthenosphere. The sinking lithosphere is much colder than the asthenosphere and it is brittle. As stresses increase the sudden failure of the lithosphere triggers earthquakes along the line of the subducting plate; these may be shallow, intermediate or deep focus earthquakes.

At Conservative Plate boundaries where plates slide past each other - the movement of the plates creates stresses between the edge of the plates; as sections of the plate rub past each other the release of friction triggers shallow focus earthquakes.

**Level I** – basic statements regarding the causes of earthquakes – simplistic link to plate boundaries with no attempt to classify the factors or discussion of one, late boundary only. (0-3 marks)

**Level II** – detailed account of the causes of earthquakes which makes some attempt to categorise their creation or characteristics. For example, different plate boundaries are discussed, or depth of earthquake. (4-7 marks)  
**(7 marks)**

(e) **Notes for answers**

This question is looking for a range of effects across various parts of the world. Clearly, the answers will be case study specific. In general terms: the primary effect, to some, is simply ground shaking followed by the secondary effects of soil liquefaction, landslides, avalanches, tsunamis (tidal waves) and the effect upon the people and the built environment. Another view is that most of the above are primary effects along with collapsing buildings, destruction to road systems and other forms of communication, service provision rupturing (gas, water, electricity), and that secondary effects consist of tsunamis, fires (from ruptured gas mains, collapsing electricity transmission systems), flooding, disease, food shortages, disruption of the local economy. Some of the effects in the human environment are short term whilst some are to be found over a very long period of time.

**Level I** – generalised statements of effects which could apply to many / most areas of the world which suffer earthquakes. There is no real sense of place in the answer. (0-3 marks)

**Level II** – case study material accesses this level, but to gain the higher marks within the range more than one case study must be offered. (4-8 marks)  
**(8 marks)**

**Total for Question 2 = 25 marks**

**Question 3****Notes for answers**

A soil profile is a vertical diagram through a soil from the surface to the parent material that shows the variations in characteristics through the soil.

The most commonly used system of horizon notation divides a soil into three basic units.

O/A/E - mineral and organic layers near the surface; a zone of eluviation which may lose soluble salts by drainage and downwash

B - subsurface horizon of illuviation in which accumulation of material from A occurs

C – the weathered parent material or regolith.

It may also be given as:

Surface Horizons	L F H	Leaf; un-decomposed litter Partially decomposed; fermentation layer Well decomposed; humus layer
A	Ah Ap  Ea Eb	Dark coloured humic horizon Ploughed layer in cultivated soils  Eluvial horizon from which clay/sesquioxides have been removed Bleached (albic or ash like) layer in podsolised soils Brown eluvial layer depleted of clay
B	Bt Bh Bf Bfe) Bs	Illuvial clay redeposited (textural B horizon) Illuvial humus layer Illuviated iron layer Brightly coloured layer of sesquioxide (iron/aluminium) accumulation
C		Weathered parent material

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Soil processes:

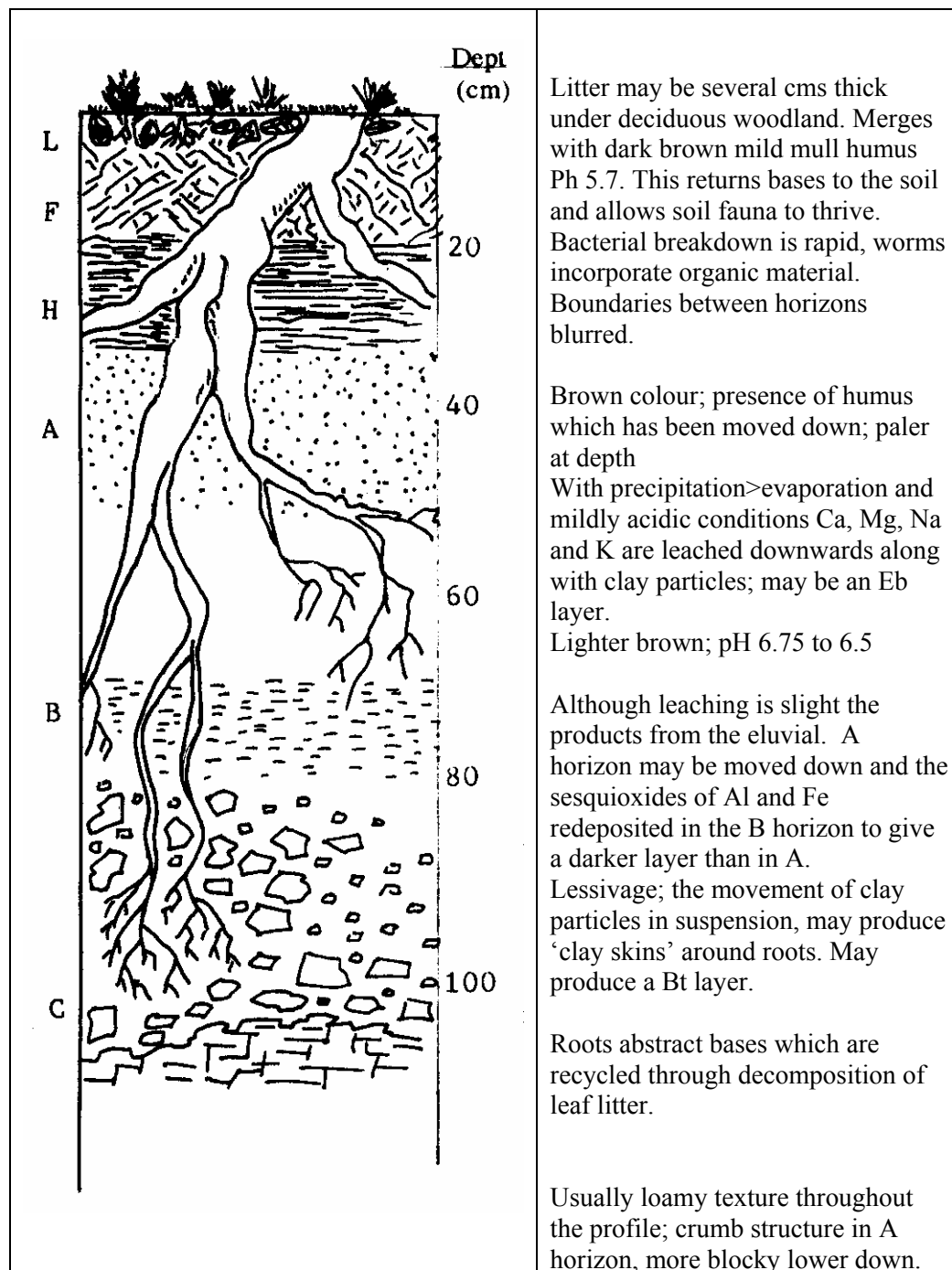
- **Leaching:** is the downward movement of material in solution or in colloidal suspension.

Rainwater, which is a weak carbonic acid, combines with organic acids produced by the breakdown of the organic material at the surface to produce a complex acid solution that causes chemical breakdown in the soil. Soluble bases are dissolved and carried down through the soil profile. Clay particles may be moved down through the profile in suspension; a process of eluviation known as lessivage.

- **Gleying:** (gleisation) this process occurs when water movement through the soil is restricted. This may be caused either by a high water table (groundwater gley) or as a result of an impermeable layer within the soil which impedes the movement of water (surface water gley). This impermeable layer may be caused by soil processes; for example within a podsol the formation of an iron pan restricts water movement at depth and this can produce a gleyed layer above the iron pan. Groundwater gleys are usually associated with low-lying areas such as valley floors. Under waterlogged conditions all of the pore spaces are occupied by water and this produces anaerobic (oxygen deficient) conditions. Under these conditions the decomposition of plant debris on the surface is slow and the presence of organic matter and specialised bacteria cause reducing conditions under which the solubility of many constituents is changed. Iron, which is relatively insoluble in its ferric (oxidised) form over the normal range of soil pH, is much more soluble when reduced to the ferrous form. Under waterlogged conditions iron becomes more mobile and is slowly removed from the system. The gleyed soil is a bluish grey colour. Often the waterlogging is seasonal as the height of the water table varies; this produces mottling with orange brown colouration produced when oxygen enters the soil and oxidation occurs. These processes are illustrated in a gley soil profile.
- **Podsolization:** (cheluviation) this is a more intense form of leaching which operates under more acidic conditions. This form of translocation is caused by leaching due to stronger humic acids, or chelating agents, being released as a result of the slower breakdown of the more acidic raw humus (mor) produced under coniferous woodland and upland heaths.
- **Calcification:** occurs in soils in areas of low precipitation, where evaporation rates are high, and where there is a water deficit for a large proportion of the year. When rain falls it is sufficient to penetrate the upper horizons, dissolve some calcium and percolate downwards. However, there is insufficient rainfall to perform leaching of the soil effectively and soon the water is evaporated leading to a deposition of calcium carbonate.

Effects on soils:

**Brown Earth soil**



Litter may be several cms thick under deciduous woodland. Merges with dark brown mild mull humus Ph 5.7. This returns bases to the soil and allows soil fauna to thrive. Bacterial breakdown is rapid, worms incorporate organic material. Boundaries between horizons blurred.

Brown colour; presence of humus which has been moved down; paler at depth  
 With precipitation > evaporation and mildly acidic conditions Ca, Mg, Na and K are leached downwards along with clay particles; may be an Eb layer.  
 Lighter brown; pH 6.75 to 6.5

Although leaching is slight the products from the eluvial. A horizon may be moved down and the sesquioxides of Al and Fe redeposited in the B horizon to give a darker layer than in A.  
 Lessivage; the movement of clay particles in suspension, may produce 'clay skins' around roots. May produce a Bt layer.

Roots abstract bases which are recycled through decomposition of leaf litter.

Usually loamy texture throughout the profile; crumb structure in A horizon, more blocky lower down.

**Podsol**

Horizon Notation	Diagram	Dep (cm)	Description
L			Surface vegetation; conifers, heathland, moorland grasses.
F			Litter of leaves, pine needles; slowly decomposing under colder upland climate.
Ea		20	Dark, acidic mor humus
Ea			Light grey ash colour, clean sand grains, gritty texture. pH 4.5 – 5.5. Bleached layer. Eluviated zone, leached of nutrients; Fe/Al compounds washed down.
Ea/B		60	Clear horizon boundaries; acidity restricts fauna; less mixing. Deposition of humus to form Bh layer.
Bs		60	Darker red/brown colour; redeposition of sesquioxides of Fe and Al. PH 4.5 – 6.0 Clay content increases; possible iron pan Bfe. Transitional B zone
B c		100	Weathered parent material
C		100	Parent rock
R		100	Parent rock

Gley

<p>The diagram illustrates a soil profile for a ground water gley. It is divided into several horizons: L (top organic layer), F (sharp boundary), Ag (horizon with rootlets), Bg (clayey, structureless horizon), and Bt or Bfe (clay layer or iron pan). A depth scale on the right indicates 20, 60, and 100 units. The bottom of the profile is weathered parent material.</p>	<p>Ground water gley.</p> <p>Dark brown-black organic layer; little decay. PH 4.5 Sharp boundary <b>Upper limit of winter water table.</b></p> <p>Little organic matter; blue-grey colour</p> <p>Possible mottling; orange brown patches often along rootlets where air can enter the soil in the summer. Indistinct boundary. <b>Lower limit of summer water table.</b></p> <p>Clayey texture, structureless form. High base status; few nutrients lost because of impeded drainage. (Possible clay layer (Bt horizon) or iron pan (Bfe layer) in a surface water gley.</p> <p>Weathered parent material</p>
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**Mark Scheme**

<b>G</b>	<b>Level I 0-6</b>	<b>Level II 7-12</b>	<b>Level III 13 -17</b>	<b>Level IV 18 - 20</b>
	Simple statements of the meaning of the term. Very generalised.	Detailed statements of the term. Some development within the horizons e.g. within the organic horizon.		
	Brief outlines of soil forming processes.	Detailed statements of one soil forming process, with clear understanding of the process and the factors affecting it.	Detailed statements of both soil forming processes	
		Simple comments on the effect of processes on the profiles of the chosen soil types.	Clear links established between process and profile characteristics for one soil.	Clarity of discussion for both soils with synthesis between profiles and processes, or link from processes to profiles.
<b>S</b>	<b>Level I 0-1</b>	<b>Level II 2 - 3</b>	<b>Level III 4 - 5</b>	
	Information is adequately organised, and presented with a reasonably accurate use of English.	Well-organised and presented with an accurate use of English. Limited use of terminology.	Well-organised and presented in a clear and logical manner with a very accurate use of English. Range of terminology used.	

**Total for Question 3 = 25 marks**



## Question 4

### Notes for answers

International migration is the movement of people from one country to another to reside either permanently or for a long period of time (at least one year). There are many types of and reasons for international migration.

A multicultural society is a social grouping, which contains members from a wide variety of national, linguistic, religious and cultural backgrounds. Racial differences feature strongly in any multicultural society, although religion and language are possibly more problematical in terms of different groups coexisting.

Examples can be at a variety of scales:

- national - the ethnic mix of South Africa
- regional - the religious and language diversification that exists within the area of the former Yugoslavia
- local - Notting Hill (London) and Chapeltown (Leeds)

There have been several major forms of international migration in the last 30 years:

- MEDCs to MEDCs - decreasing in amount - e.g. within the EU or from E.Europe to EU - employment related, seeking increases in living standards
- LEDCs to MEDCs - decreasing in amount due to restrictions of entry, but increases in illegal movements - e.g. Mexico to USA, North and West Africans to France - again economic
- LEDCs to LEDCs - increasing in some parts of world - Egyptians, Pakistanis and Indians to Middle East for economic reasons, Ethiopia to Sudan to escape famine, Rwanda to Zaire due to civil unrest, Afghans to Pakistan and elsewhere fleeing the Taliban.
- Others - e.g. from one part of the former Yugoslavia to another due to forced movement and ethnic cleansing; family reunification within Germany (Korea)

Each of the above need clear statements of areas of origin and areas of destination, together with appropriate reasoning.

Issues within multicultural societies include:

- housing - general issue of dispersion v assimilation
- second generation migrants feel trapped in low cost housing and resent the racism they experience when they move
- famine refugees/asylum seekers put pressure on host counties to provide temporary housing
- legal battles over refugee and asylum status
- political extremism often becomes more explicit
- employment - general issue of opportunities v discrimination
- low pay/poor working conditions of many ethnic migrants
- religion - rights to practice own religions, and tolerance of those religions
- educational opportunities - still may be problems of language differences, and the need to have specialist literature (e.g. health leaflets). Opportunities to have own schools and systems may be an issue in some places (often linked to religion).

**Mark Scheme**

<b>G</b>	<b>Level I 0 - 6</b>	<b>Level II 7 - 12</b>	<b>Level III 13 - 17</b>	<b>Level IV 18 - 20</b>
	Simple statements of the meaning of the terms. Very generalised.	Detailed statements of the meaning of the terms. For example, some exemplification.		
	Simple statements of explanation, for example for jobs, due to war etc.	More detailed explanation with some depth to economic, social or political factors. Some use of case study material.	Well-developed discussion of a number of reasons with good use being made of case study material.	
		Simple statements of the issues caused by multicultural societies. Brief references to case study material.	Good use of case study material. Detailed statements of the issues of multicultural societies.	Clarity of discussion fully linking migration to multicultural societies and the issues resulting. Clear statement establishing relationship or otherwise.
<b>S</b>	<b>Level I 0 - 1</b>	<b>Level II 2 - 3</b>	<b>Level III 4 - 5</b>	
	Information is adequately organised, and presented with a reasonably accurate use of English.	Well-organised and presented with an accurate use of English. Limited examples.	Well-organised and presented in a clear and logical manner with a very accurate use of English. Range of examples.	

**Total for Question 4 = 25 marks**