GCSL Geography
Summer 2009

# **Mark Schemes**

**Issued: October 2009** 



# NORTHERN IRELAND GENERAL CERTIFICATE OF SECONDARY EDUCATION (GCSE) AND NORTHERN IRELAND GENERAL CERTIFICATE OF EDUCATION (GCE)

# **MARK SCHEMES (2009)**

#### Foreword

#### Introduction

Mark Schemes are published to assist teachers and students in their preparation for examinations. Through the mark schemes teachers and students will be able to see what examiners are looking for in response to questions and exactly where the marks have been awarded. The publishing of the mark schemes may help to show that examiners are not concerned about finding out what a student does not know but rather with rewarding students for what they do know.

#### The Purpose of Mark Schemes

Examination papers are set and revised by teams of examiners and revisers appointed by the Council. The teams of examiners and revisers include experienced teachers who are familiar with the level and standards expected of 16 and 18-year-old students in schools and colleges. The job of the examiners is to set the questions and the mark schemes; and the job of the revisers is to review the questions and mark schemes commenting on a large range of issues about which they must be satisfied before the question papers and mark schemes are finalised.

The questions and the mark schemes are developed in association with each other so that the issues of differentiation and positive achievement can be addressed right from the start. Mark schemes therefore are regarded as a part of an integral process which begins with the setting of questions and ends with the marking of the examination.

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all the markers are following exactly the same instructions and making the same judgements in so far as this is possible. Before marking begins a standardising meeting is held where all the markers are briefed using the mark scheme and samples of the students' work in the form of scripts. Consideration is also given at this stage to any comments on the operational papers received from teachers and their organisations. During this meeting, and up to and including the end of the marking, there is provision for amendments to be made to the mark scheme. What is published represents this final form of the mark scheme.

It is important to recognise that in some cases there may well be other correct responses which are equally acceptable to those published: the mark scheme can only cover those responses which emerged in the examination. There may also be instances where certain judgements may have to be left to the experience of the examiner, for example, where there is no absolute correct response – all teachers will be familiar with making such judgements.

The Council hopes that the mark schemes will be viewed and used in a constructive way as a further support to the teaching and learning processes.



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# General Certificate of Secondary Education 2009

# Geography

Paper 1 Foundation Tier

[G3601]

**THURSDAY 28 MAY, AFTERNOON** 

# MARK SCHEME

- (d) Order would be:
  - 1. Warm wet air comes across the sea [given]
  - 4. The drier air sinks and warms [1]
  - 2. Rising air cools [1]
  - 3. Clouds form and it rains [1]
  - 5. Little moisture in air. Rain shadow [1] [4]

(e) Table [1] per correctly located tick

Winter anticyclone	Summer anticyclone
✓	
<b>✓</b> given	
	1
<b>✓</b>	
	1
	✓

[5]

(f) (i) [1] per correct words underlined cold, drizzle and rain, warmer, heavy

[4]

(ii) Explain wet and windy weather of depressions

#### Level 1 ([1])

A single correct statement Air goes up making clouds [1] low pressure system [1]

# Level 2 ([2]-[3])

A statement with full connected elaboration on either wind or wet [2] or a partial answer addressing both aspects [3]

Air rises at the fronts giving rain [2]

Air goes up making clouds as water condenses when it gets colder and air rushes in making it windy [3]

#### Level 3 ([4])

A series of connected statements to explain both wind and wet Air rises making clouds as water vapour condenses when it gets colder and air rushes in towards the centre of a low pressure making it windy [3]

[4]

(g) (i) Meaning of global warming

#### Level 1 ([1])

An incomplete definition e.g. The heating of the earth

#### Level 2 ([2])

A full definition that relates to temperature rise and the idea it is an unnatural phenomenon

e.g. An overall increase in world temperatures which may be caused by additional heat being trapped by greenhouse gases released by humans [2]

(ii) [3] for each tip. Max [2] for an idea which helps reduce global warming but which doesn't come from Fig. 7

# Level 1 ([1])

A simple stated reason e.g. Walking doesn't release bad gases

# Level 2 ([2])

A stated reason which has a consequence e.g. Walking doesn't release many greenhouse gases because no fossil fuels get burned

### Level 3 ([3])

A stated reason with linked consequence and elaboration e.g. Walking doesn't release many greenhouse gases because no fossil fuels, like oil, get burned, so we contribute less to the build up of these gases like CO<sub>2</sub> which are linked to global warming [3]

(iii) Two impacts must be discussed, with 2 specific facts/figures for top Level 3

Impacts may be positive or negative and relate to people or environment

# Level 1 ([1-2])

A simple stated impact/s e.g. sea levels will rise [1]

# Level 2 ([3-4])

A stated impact with full explanation, or two partially explained impacts e.g. Sea levels will rise due to thermal expansion of the oceans. Places will flood and millions of people could be made homeless. Also there may be an increase in certain diseases which are currently restricted to tropical areas, like malaria [4]

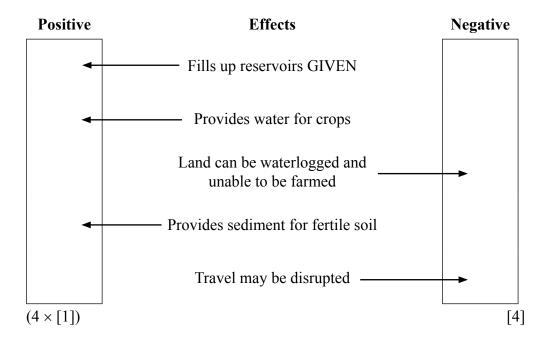
#### Level 3 ([5-6])

A stated reason with linked consequence and elaboration specific to named place, e.g. Sea levels will rise due to thermal expansion of the oceans. This means that low lying coastal areas like Bangladesh and the Netherlands face ongoing flood problems which might make millions of people homeless. Also there may be an increase in certain diseases which are currently restricted to tropical areas, like malaria. The insects which spread such diseases, e.g. mosquitos could expand their territories towards western Europe and North America if temperatures in those areas rise by a few degrees [6]

40

# (c) Effects of flooding

AVAILABLE MARKS



# (d) (i) Labelling river floodplain

Letter	Feature
C	River Channel
В	Floodplain
A	Valley sides
D	Levee

 $(4 \times [1]) \tag{4}$ 

(ii) The meaning of the term discharge

# Level 1 ([1])

A basic statement

• The water flowing in a river

### Level 2 ([2])

A statement with elaboration

• The amount of water passing one part in a river (in m³ per second)

[2]

# (iii) Case Study – cause of flooding and how flood hazard was reduced Do **not** accept coastal flooding

Name of river [1] e.g. Mississippi

Cause of flooding
Cause can be physical or human

#### Level 1 ([1])

A valid statement

- Heavy rainfall
- More tarmac surfaces

# Level 2 ([2])

A valid statement with consequence

- Heavy rainfall from January to May in the Appalachian mountains which led to the river breaking its bank
- More towns and cities were built on the Mississippi giving more
- impermeable surfaces and more run off [2]

Method of control

#### Level 1 ([1])

A basic statement describing a control measure

- Levees were built
- Trees were planted
- Spillways built
- Straightening the river

#### Level 2 ([2])

A statement with consequence

- Levees were raised to 15 metres
- Trees were planted reducing run off
- Spillways built to take flood water away
- Straightening the river by artificial channels to take away water quickly

#### Level 3 ([3])

A statement with consequence and elaboration specific to named river

- 3000 km of levees were raised to 15 metres in places and strengthened to keep water in river channel
- Trees were planted in the Tennessee Valley to grow and reduce run off
- Diversion spillways built to take water away into the delta and off the land quickly
- By cutting through the meanders the Mississippi has been straightened for 1750 km removing flood water quickly [3]

/ \		TT 1 '	. 1	1
(e)	Tha	Kachmir	earthqua	IZΔ
ıcı	1110	Nasimini	carmuua	NU
\ · /	_		- · · · · · · · · · · · · · · · · · · ·	_

(i) Completion of sentences about the Kashmir earthquake. Bold answers should be underlined

The Kashmir earthquake measured 7.6 on the **Richter** scale. The epicentre was in the Kashmir area of **Pakistan** near the town of **Muzaffarabad**. The earthquake was caused by movement of the plates which make up the earth's **crust**. The plates were forced **into** each other

 $(5 \times [1]) \tag{5}$ 

(ii) Underline the distance from the epicentre to Islamabad 100 km should be underlined [1]

(iii) The meaning of the term epicentre

### Level 1 ([1])

A basic statement

• Where the earthquake is strongest

#### Level 2 ([2])

A statement with elaboration – must mention surface

- The point on the earth's surface where the earthquake is strongest
- The point on the earth's surface where the strongest shock waves are felt first [2]
- (iv) Impacts of the earthquake

Description of Impact	Short Term	Long Term
Hospitals were unable to cope with the 100,000 injured people requiring medical care	1	
3.5 million people lost their homes and rebuilding could not begin until the spring		GIVEN 🗸
Many children were trapped in collapsed school buildings	1	
Aid workers spent months tackling the spread of diseases caused by dirty water		1

 $(3 \times [1])$ 

(v) Why earthquakes in LEDCs have more deaths AVAILABLE MARKS Level 1 ([1]) A basic statement Buildings in LEDCs not earthquake proof Poor communications in LEDCs Poorly organised emergency services in LEDCs Less money for emergency services in LEDCs Level 2 ([2]) A statement about deaths in LEDCs with a consequence Buildings in LEDCs are not earthquake proof and collapse easily killing people Poor communications in LEDCs hinders rescue efforts LEDCs have less money to spend on emergency services to care for injured people Level 3 [3] A statement with consequence and elaboration which compares earthquakes in MEDCs and LEDCs Buildings in LEDCs are not earthquake proof and collapse easily killing people whereas in MEDCs buildings are built to withstand tremors Many LEDCs have poor communications hindering rescue attempts while in MEDCs good communications means people can be evacuated quickly and avoid being killed in secondary quakes LEDCs have less money to spend on emergency services to care for injured people while emergency services in MEDCs are well funded and have modern equipment [3] 40

(a)	(i)	Term biome	
		A very large scale ecosystem	[1]
	(ii)	Distribution of Tropical Rainforest biome	
		Level 1 ([1]) A general statement with little accurate reference to location e.g. The rainforest in the middle of Africa	
		Level 2 ([2]) Some reference to compass points or lines of latitude e.g. The Tropical rainforest lies along the equator or is mainly in the west	
		Level 3 ([3]) Reference to compass points and the lines of latitude e.g. The Tropical rainforest lies along the equator especially to the we of Africa beside the Atlantic Ocean	est [3]
(b)	(i)	Nutrients are added in one of the following ways From rainwater or weathered rock	[1]
	(ii)	Nutrients are lost by leaching	[1]
	(iii)	<ul> <li>Completion of statements to describe how an ecosystem works</li> <li>Producers are plants which use sunlight, water and nutrients from the soil to make their own food</li> <li>Animals eat plants and also eat each other</li> <li>Decomposers such as fungi and bacteria feed on dead plants and animals and break them down so that nutrients can be recycled again</li> </ul>	d [5]
	(iv)	Small scale local ecosystem – [1] for name If not local ecosystem [1] for description and explanation e.g. Belvoir Park forest ecosystem Description of vegetation should include at least two named species	[1]
		Level 1 ([1]) A general description e.g. trees grow or oak trees grow	
		Level 2 ([2]) Two named species e.g. deciduous trees such as oak and beech grow	[2]

Theme C: Ecosystems and Sustainability

3

AVAILABLE MARKS

**4** A

#### Level 1 ([1])

A brief statement on either climate **or** vegetation e.g. The climate is cool and damp or deciduous trees grow

#### Level 2 ([2])

A statement which links the vegetation to the climate e.g. The climate is cool and damp in winter so the trees shed their leaves

# Level 3 ([3])

A statement which links the vegetation to the climate and is specific to the named ecosystem

e.g. The climate is cool and damp in winter and the temperatures fall below 6 °C so the deciduous trees, such as the oak or beech found in Belvoir Park forest, shed their leaves [3]

(c) (i) Completion of rainfall bar chart

#### Level 1 ([1])

Accurate height of bar at 20 mm Correct value and wrong value [1]

# Level 2 ([2])

Accurate height and width and shading of bar at 20 mm [2]

- (ii) Climate of the ecosystem in the Galapagos Islands
  - August to October

[1]

March

[1]

September

- [1]
- (iii) Many different types of plants can grow in the Galapagos Islands
  Biodiversity [1]
- (d) (i) Keeping a rule to look after the ecosystem in a sustainable way

#### Level 1 ([1])

A basic answer, mainly emphasising one aspect of one rule e.g. Not too many people are allowed to visit on the islands or e.g. Tourists have to stay on planned routes

#### Level 2 ([2])

An answer which links the rule to the protection of the environment e.g. Keeping down the number of tourists stops damage to the environment by tourists walking on the plants or disturbing the animals' habitats

#### Level 3 ([3])

An answer which links the rule to the protection of the environment and elaborates by demonstrating understanding of sustainability e.g. Keeping down the number of tourists stops damage to the environment by tourists walking on the unique plants or disturbing the animals' habitats and this preserves the area for future generations to enjoy [3]

(ii) (1) A named ecosystem where ecotourism takes place e.g. Maasai Mara Game Reserve in Kenya
How ecotourism could create one problem for local people

# Level 1 ([1])

A simple general statement e.g. Tourists could destroy the local people's way of life

# Level 2 ([2])

A statement of negative impact of tourism with a consequence e.g. Tourists could destroy the local people's way of life by exposing them to different cultures which make them dissatisfied

# Level 3 ([3])

A statement of negative impact of tourism with a consequence and elaboration

- e.g. Tourists disturb local people's way of life because they visit villages and buy cheap souvenirs which damages the culture and traditions of the local people [3]
- (2) One way in which ecotourism is managed to protect the environment (vegetation or soils)

  Benefit of ecosystem to the vegetation or soils

  The vegetation species and the soil characteristics must be specific to the named area for a good Level 3 answer

  Named area could be the Maasai Mara Game Reserve in Kenya

#### Level 1 ([1])

A basic answer

e.g. Soil is not eroded **or** vegetation is not trampled upon

#### Level 2 ([2])

A statement with a consequence linked to an aspect of the environment

e.g. Soil is not eroded all over the reserve because safari buses use designated tracks

#### Level 3 ([3])

A statement with a consequence and elaboration linked to an aspect of the environment

e.g. Soil is not eroded all over the reserve because safari buses use designated tracks and tourists travel in small groups, taking photographs from the minibuses and not walking all over the tall grasses so that the vegetation is not destroyed [3]

1 ^

(e)	(i)	One way farming will help the trees to grow again in the Tropical rainforest. If only describe slash and burn Level 1.		AVAILABLE MARKS
		Level 1 ([1]) A simple statement e.g. Tree roots are left behind or e.g. The area cleared is very small		
		Level 2 ([2]) A statement with a consequence e.g. Tree roots are left behind, so trees can grow again		
		Level 3 ([3]) A statement with a consequence and elaboration on how trees can grow again e.g. Tree roots are left behind, so trees can grow again more quickly (within 25 years) [3]		
	(ii)	Name and location of Tropical ecosystem may be in the rainforest or tropical grasslands – one mark for naming ecosystem e.g. The Amazon rainforest in Brazil		
		Accept Grass Land, Rain Forest [1] [0] marks for country alone.		
		Method of protection which must be specific to the named area for Level 3		
		Level 1 ([1]) A simple statement e.g. The trees are not allowed to be cut down		
		Level 2 ([2]) A statement with a consequence e.g. A forest reserve has been created so that trees are not allowed to be cut down		
		Level 3 ([3]) A statement with a consequence and elaboration related to the named Tropical ecosystem e.g. Forest reserves have been created such as the Tumucumaque		
		National Park covering 3.8 million hectares so that trees are not allowed to be cut down and the rainforest ecosystem will continue to survive into the future [3]	1	40
		QWC		6
		Total	I	126

The assessment of quality of written communication.

Marks are to be allocated to QWC in accordance with the following criteria.

Performance Level	Criteria	Marks
Threshold	Candidates present some relevant information in a form and using a style of writing which suits its purpose. The text is reasonably legible. Spelling, punctuation and the rules of grammar are used with some accuracy so that meaning is reasonably clear. A limited range of specialist terms is used appropriately.	0, 1, 2
Intermediate	Candidates present relevant information in a form and using a style of writing which suits its purpose. The text is legible. Spelling, punctuation and the rules of grammar are used with considerable accuracy so that meaning is clear. A good range of specialist terms is used appropriately.	3, 4
High	Candidates present and organise effectively relevant information in a form and using a style of writing which suits its purpose. The text is fluent and legible. Spelling, punctuation and the rules of grammar are used with almost faultless accuracy so that meaning is clear. A wide range of specialist terms is used skilfully and with precision.	5, 6



# General Certificate of Secondary Education 2009

# Geography

Paper 2 Foundation Tier

[G3602]

**TUESDAY 2 JUNE, AFTERNOON** 

# MARK SCHEME

- 1 (a) (i) Filling in the words as follows: unevenly, Ireland, few or 20, 100. [4]
  - (ii) Density [1]

(iii)

Leads to a high population density	Factor	Leads to a low population density
-	Low-lying flat fertile land	
	Very cold and dry climate —	-
	Mountainous or high land	-
GIVEN	Temperate climate	
	Rainforest	-
<b>—</b>	Good supply of resources	

[1] per correct arrow = [5]

- **(b)** Benefits of a multicultural society.
  - [2] for each idea explained. No marks for repeating an opportunity verbatim from **Fig. 2**. If another benefit is discussed and explained, not from **Fig. 2** award [1] maximum.

#### Level 1 ([1])

A simple statement,

- e.g. There is a chance to try new food, like Chinese food
- e.g. People can learn new languages
- e.g. People can take part in festivals like the Notting Hill carnival

#### Level 2 ([2])

A statement with an elaboration,

- e.g. There is a chance to try new food, like Chinese food as Chinese immigrants may set up ethnic restaurants
- e.g. People can learn new languages, such as Polish or Spanish which could help them on holidays
- e.g. People can take part in festivals like the Notting Hill carnival, learning about the culture of the migrants who are celebrating  $(2 \times [2])$  [4]

• /

#### Level 1 ([1])

The 2008 figure of 5 is correctly plotted.

# Level 2 ([2])

The 2008 figure of 5 is correctly plotted and the line graph is continued to connect this point to the others. [2]

(ii) 2000 [1]

(iii) 2002–2003 [1]

(iv) Two reasons why death rates may fall.

Ideally award [3] for each reason, which may cover: medical care, food supplies, sanitation, living conditions and wealth. If the candidate looks at birth rates or gives reasons why death rates rise then award maximum level 2 for each reason.

For each reason

#### Level 1 ([1])

A correct reason is identified,

e.g. medical care can reduce the death rates in a place

# Level 2 ([2])

A reason is identified with a connecting consequence,

e.g. Better medical care like more doctors can reduce the death rates in a place

A well explained answer on lower birth rate and linked to resources can achieve 2 marks

#### Level 3 ([3])

A reason is identified with a connecting consequence and elaboration, e.g. Better medical care like more doctors giving vaccinations against things like measles can reduce the death rates in a place  $(2 \times [3])$ 

(d) (i) Definition of population structure.

#### Level 1 ([1])

A partial definition,

e.g. the way a population is made up

Accept either age or gender alone for [1]

### Level 2 ([2])

Full definition that mentions age and/or sex of population, e.g. The way a population is made up of males and females of different ages [2]

(ii) 8.7 is underlined. [1] AVAILABLE MARKS (iii) One impact of having a high % young people. Impacts may include education provision, health care provision, future job requirements, adult consumption rate, wealth accumulation. Level 1 ([1]) A simple stated impact, e.g. It will be hard to educate so many children Level 2 ([2]) A stated impact and consequence, e.g. It will be hard to educate so many children, so more schools and teachers will be needed Level 3 ([3]) A stated impact and consequence with elaboration, e.g. It will be hard to educate so many children, so more schools and teachers will be needed, this means the government will have to fund this through investment, and may even have to raise taxes to cover the costs [3] (iv) True/false [1] each The answers are: true, false, false [3] (e) (i) Types of energy [1] each The answers are: non-renewable, renewable, renewable, non-renewable [4] (ii) No mark for the scheme this time. Level 1 ([1]) A simple statement of a problem, e.g. Wind farms are quite ugly Level 2 ([2]) A stated problem and consequence, e.g. Wind farms are quite ugly and can affect tourism Level 3 ([3]) A stated problem with a related consequence and elaboration that is specific to the case study area, e.g. Wind farms are quite ugly and can negatively affect tourism meaning some areas in Northern Ireland like the "North Coast" might 40 lose money [3]

40

/• \	D C	4	1 1	1
(IV	) Define	e tec	nno	logy

#### Level 1 ([1])

A basic statement,

e.g. The use of computers or the use of machinery

#### Level 2 ([2])

A more detailed statement,

e.g. The use of computers or machinery to complete a job. Technology has allowed products to be made in much larger quantities at a cheaper cost [2]

(c) (i) Life expectancy is an indicator of development. Look at the map showing global patterns in life expectancy. Answer the questions that follow.

#### Level 1 ([1])

A basic statement that describes or explains, e.g. Life expectancy varies all over the world Life expectancy is low in Africa.

# Level 2 ([2]-[3])

A more detailed statement that begins to compare places, e.g. Life expectancy is high in North America, but low in Africa e.g. Life expectancy is high in North America at 70 years or over, but low in Africa at less than 50 years

# Level 3 ([4])

A detailed comparison of life expectancies across the world. Figures need to be utilised,

- e.g. North America and Europe and Australia have high life expectancies at over 70 years. The lowest life expectancies are found in Africa and Asia at less than 50 years
- e.g. Many Asian countries and South American countries have improving life expectancies. They are becoming more like MEDC life expectancies. [4]
- (ii) ENERGY CONSUMPTION = ECONOMIC INDICATOR
  ACCESS TO CLEAN WATER = SOCIAL INDICATOR
  LITERACY RATE = SOCIAL INDICATOR
  [1]
- (iii) Advantages could be
  - It is reliable
  - It is easy to calculate
  - It shows comparisons well

[1]

Disadvantages could be

- It is only an average
- It doesn't highlight variations within a country [1]

Any appropriate advantage or disadvantage.

(d)	(i)	Indonesia	[1]	AVAILABLE MARKS
	(ii)	Asia	[1]	
	(iii)	MEDC	[1]	
	(iv)	Define globalisation.		
		Level 1 ([1]) A basic statement, e.g. Companies operating all around the world		
		Level 2 ([2]) A more detailed statement, e.g. Globalisation occurs when people, goods, money and ideas move around the world faster than ever before	[2]	
	(v)	Named TNC – any appropriate one LEDC located in – any appropriate one	[1] [1]	
		Reason Level 1 ([1]) A basic statement, e.g. Wages are lower in this country		
		Level 2 ([2]) A statement and a consequence, e.g. Wages are lower in this country so firms can make larger profits		
		Level 3 ([3]) A statement, consequence and elaboration required. Some case study detail should be evident to achieve Level 3, e.g. Wages are 6 times lower in LEDCs compared to MEDCs. This leads to larger profits as less money is paid out in wages.		
		In 2007 Nike made \$360 million in profit	[3]	40

			Theme F: Settlements and Change		AVAILABLE MARKS
3	(a)	(i)	EAST PACIFIC	[1] [1]	MARKS
		(ii)	BLUE Mountain Range	[1]	
		(iii)	Identify the three economic factors Trade Employment Housing	[1] [1] [1]	
		(iv)	Using Map 1 suggest one physical factor that would have made Sydra good site for a settlement.  Economic factors such as trade, employment will receive no credit in this question.  Answer must focus on a PHYSICAL FACTOR.  Answers may focus on river, natural harbour/bay, fertile soils, close to mountains, close to coast, flat land, floodplain, etc.		
			Level 1 ([1]) A simple statement, e.g. There is a river present e.g. There is a natural harbour		
			Level 2 ([2]) A statement with a consequence of why it is a good site, e.g. There is a river present. This supplies much needed water for drinking, cooking and power e.g. There is a harbour present. This allows ships to come ashore easi e.g. There is a mountain range nearby. Building materials can be obtained here or the mountain range provides shelter from cold winds	ly [2]	
		(v)	The site of Sydney has many bridging points. State the meaning of the term <b>bridging point</b> .	e	
			Level 1 ([1]) A simple statement, e.g. A place with a bridge e.g. A place that is easily crossed		
			Level 2 ([2]) A statement with a consequence, e.g. A place on a river that is easily crossed. Usually the narrowest an shallowest place on a river	d [2]	
					1

(b)	(i)	Complete the graph for 2000.  RURAL AREA = 20%  URBAN AREA = 80%  Candidates must mark each area and correctly shade it for [2].	[2]
	(ii)	A millionaire city is one with more than a million people in it.	[1]
	(iii)	Urbanisation occurs in LEDCs. State fully how one PUSH factor could increase the rate of urbanisatio	n.
		Level 1 ([1]) A simple statement, e.g. No jobs in the countryside	
		Level 2 ([2]) A statement with a consequence, e.g. No jobs in the countryside so people leave to get a better standard life	of
		Level 3 ([3]) A statement, consequence and elaboration, e.g. No jobs in the countryside so people leave to get a better standard life. Over time the population of urban areas grows rapidly.	of [3]
	(iv)	Identify <b>one</b> problem that this increase in population can bring to a LEDC city and suggest why it is a problem to the people who live in the city.	he
		Candidates may focus on overpopulation, lack of housing, growth of shanty towns, pollution, and crime rate increase. Accept any valid problem.	[1]
		EXPLANATION Level 1 ([1]) A simple statement, e.g. There are too many people e.g. People find it hard to find homes e.g. People find it hard to find jobs	
		Level 2 ([2]) A statement with a consequence, e.g. People find it hard to find homes so shanty towns begin to grow rapidly	

e.g. There are too many people in the city and resources become scarce.

The city becomes overpopulated [2]

[2]

#### Level 1 ([1])

A simple statement, e.g. People leave cities due to pollution

#### Level 2 ([2])

A more detailed statement,

e.g. In MEDCs people sometimes decide to move from urban areas to rural areas due to air, noise and land pollution in the form of litter. They move to rural areas which are less polluted [2]

(c) (i) Describe the difference in the spheres of influence of the jewellery shop and the newsagent in the two settlements in Co. Tyrone. Use **Fig. 10** to help you.

# Level 1 ([1])

A simple description,

e.g. The sphere of influence is larger for the jewellery shop

#### Level 2 ([2])

A more detailed description,

e.g. The sphere of influence is much larger for the jewellery shop than the newsagent. People will travel further for a piece of jewellery

# Level 3 ([3])

A more detailed description with elaboration,

e.g. The sphere of influence is much larger for the jewellery shop than the newsagent. People will travel further for a piece of jewellery. It extends in all directions around the town of Omagh for up to 32 km for the jewellery shop and only 4 km for the newsagent [3] Reasons not required here, e.g. type of goods (high order/low order)

(ii) Match the service with the correct order of service.

DEPARTMENT STORE = High Order

CORNER SHOP = Low Order

(2 × [1])

(iii) Complete the following table by inserting TRUE or FALSE in the column.

STATEMENT	TRUE/FALSE
A village has a larger sphere of influence than a hamlet.	TRUE
Spheres of influence can be worked out by conducting a survey.	Given
All towns have exactly the same sized sphere of influence.	FALSE
Spheres of influence can't overlap.	FALSE

[1] for each correct answer.

[3]

(d) (i) Describe the trend in recycling rates shown in Fig. 11.

# Level 1 ([1])

A simple trend or no figures quoted, e.g. Recycling rates have increased over time

# Level 2 ([2])

A trend is quoted and one figure is quoted or a list of figures with no trend would be Level 2,

e.g. Recycling rates have risen over time reaching a maximum of 45%

# Level 3 ([3])

A trend is quoted and at least two figures quoted.

e.g. Recycling trends have risen over the period, reaching 30% between July and September 2006. It fell slightly until March 2007 before rising to 45% between July and September 2007 [3]

(ii) State two items that can be recycled.

Any two possible items

Paper, aluminium, glass, bottles, newspapers, cardboard, batteries, recyclable nappies.

$$(2 \times [1]) \tag{2}$$

Not Oil, grass cuttings, food products, plastic bags

(iii) From the list below underline <b>two</b> sustainable forms of waste management.	AVAILABLE MARKS
COMPOSTING REUSE PRODUCTS $(2 \times [1])$ [2]	
(i) For a planning initiative within a city that you have studied, discuss the measures taken to keep a sense of community.	
Maximum Level 2 if no planning initiative named or if named planning initiative doesn't match up with the measures taken.	
Name of planning initiative	
Most candidates will choose Laganside Don't accept just the name of the city [1]	
Measure taken	
Level 1 ([1]) Candidates give a measure and complete a brief statement on it. No reference to conserving a sense of community would restrict answers to this level, e.g. The area is redeveloped e.g. A newspaper/newsletter was published	
Level 2 ([2]) A measure is given with some description, e.g. The area is developed and people make use of facilities, this develops jobs and encourages people to stay e.g. Affordable housing is offered to try to encourage local people to stay in the area	
Level 3 ([3]) For Level 3 candidates should give one measure and one fact/figure. Some reference to conserving a sense of community should be given, e.g. The area has been redeveloped and up to 16 000 jobs have been created. This keeps people in the area, preserving the sense of community e.g. New housing areas are made available such as Ravenhill Reach and Mays Meadow. This encourages people to stay and work in this area e.g. A newspaper/newsletter was published called Laganlines which informed the community about what was going on in the area. Local people could get a say in what was being done to their areas	40
QWC	6
Total	126

**(e)** 

Marks are to be allocated to QWC in accordance with the following criteria.

Performance Level	Criteria	Marks
Threshold	Candidates present some relevant information in a form and using a style of writing which suits its purpose. The text is reasonably legible. Spelling, punctuation and the rules of grammar are used with some accuracy so that meaning is reasonably clear. A limited range of specialist terms is used appropriately.	0, 1, 2
Intermediate	Candidates present relevant information in a form and using a style of writing which suits its purpose. The text is legible. Spelling, punctuation and the rules of grammar are used with considerable accuracy so that meaning is clear. A good range of specialist terms is used appropriately.	3, 4
High	Candidates present and organise effectively relevant information in a form and using a style of writing which suits its purpose. The text is fluent and legible. Spelling, punctuation and the rules of grammar are used with almost faultless accuracy so that meaning is clear. A wide range of specialist terms is used skilfully and with precision.	5, 6





# General Certificate of Secondary Education 2009

# Geography

Paper 1 Higher Tier

[G3603]

**THURSDAY 28 MAY, AFTERNOON** 

# MARK SCHEME

#### 1 (a) (i) Weather

#### Level 1 ([1])

A simple or incomplete definition or list of elements of weather e.g. The daily temperature

#### Level 2 ([2])

A complete definition e.g. The daily changes in the atmosphere

[2]

#### (ii) Description of climate

### Level 1 ([1]–[2])

A simple description without figures

e.g. Most rain falls in the winter [1]

e.g. Most rain falls in January and the temperature is highest in July and August

# Level 2 ([3]-[4])

A more detailed description which includes seasons/months. Top mark answers may recognise connections between rainfall and temperature patterns and must include figures

e.g. Most rainfall occurs in the winter, with the summer experiencing a drought as there is only a trace of rainfall at all in July. The temperature rises to almost over 25/26 °C in the summer [3]

e.g. Most rainfall occurs in the winter, January has the greatest amount of 30 mm, with the summer experiencing a drought as no rain falls at all in July. The temperature rises to almost 25/26 °C in the summer. Winter temperatures remain mild only falling to 12 °C in January and February

[4]

#### (b) (i) Suggest how plastic greenhouses moderate impact of climate on farming

# Level 1 ([1])

A simple correct statement

e.g. The climate can be controlled in the greenhouse

#### Level 2 ([2])

A correct statement with a consequence

e.g. The climate can be controlled in the greenhouse, like temperature in the winter time

#### Level 3 ([3])

A correct statement with a consequence and elaboration

e.g. The climate can be controlled in the greenhouse, like temperature increased in the winter time, so that crops could be grown all year round/so that crop yields could be increased [3]

[1]

(ii) Any correct examplee.g. irrigation[0] if glasshouses/greenhouses is written

# (c) (i) Rainfall pattern

# Level 1 ([1])

A simple statement relating to rainfall e.g. Rainfall is uneven across the British Isles

# Level 2 ([2]-[3])

A more detailed description which may include one specific reference e.g. Rainfall is uneven across the UK, it mostly falls in the North [2] e.g. Rainfall is uneven across the UK, it mostly falls in the North where over 2000 mm falls in some places. Very little rainfall occurs in the SE [3]

# Level 3 ([4])

A detailed description which includes reference to direction and at least one figure and notes pattern of high/middle and low rainfall amounts e.g. Rainfall is uneven across the UK, it mostly falls in the North West of Scotland where over 2000 mm falls in some places. Other areas of high rainfall are seen on the west and east coasts of Ireland. The rest of Ireland has a medium amount of rainfall (750–1500 mm). The lowest levels of rainfall are on the far eastern coastal areas, especially the SE of England where less than 750 mm of rainfall is recorded each year [4]

(ii) An explanation of relief rainfall which is connected to **Fig. 3** is required. If the explanation does not refer back to diagrams then maximum Level 2. If another explanation is given (e.g. wind direction) then maximum Level 1

# Level 1 ([1]–[2])

A brief answer with no explanation relating to relief rainfall e.g. More rainfall occurs over the highest hills in parts of the British Isles [1]

e.g. Areas in the South West of the British Isles get more rain because the prevailing winds are tropical maritime and have lots of moisture in them which can condense into rain clouds on reaching a land mass [2]

#### Level 2 ([3]-[4])

An answer which explains relief rainfall but may not connect it well to the diagrams, or which makes the connection but does not have a full explanation of relief rainfall mechanism

e.g. When moist air comes off the sea it is forced up the side of mountains. As it rises it cools, this causes the water vapour to condense and clouds to form near the tops of mountains. Rain follows and this means that mountains in the UK have wetter weather [4]

#### or

A clear description of the patterns linking height to rainfall amount with figures from a minimum of two places

•

# Level 3 ([5])

An answer which both explains relief rainfall and clearly connects it to the diagrams and referring to at least two named places with figures. e.g. When moist air comes off the sea it is forced up the side of mountains. As it rises it cools, this causes the water vapour to condense and clouds to form near the tops of mountains. Rain follows and this means that areas of high relief – e.g. the NW where large areas of Scotland which have land over 500 m are the wettest in the UK. In contrast E. Anglia is less than 150 m and has less than 750 mm of rainfall

(d) Summer anticyclone. If candidate covers a winter anticyclone – maximum Level 2

# Level 1 ([1]-[2])

An answer which briefly describes the weather experienced under an anticyclone

e.g. It is hot [1]

# Level 2 ([3]-[4])

An answer which partially describes and explains a summer anticyclone, or fully covers the answer for a winter anticyclone e.g. It is often dry and hot because air is falling so there are few clouds in the sky [4]

# Level 3 ([5]-[6])

An answer which accurately describes and explains a summer anticyclone e.g. It brings settled weather. Temperatures can be warm/hot. This is due to the subsiding air which warms as it falls. The eventually warmer air makes for fine weather in the summer since the sun is high in the sky within the British Isles [5]

e.g. It is hot and dry with clear skies at night and a possible dew in the morning. Temperature can be warm/high. This is due to the subsiding air which warms as it falls. The eventually warmer and drier air reduces cloud formation and thus anticyclones are usually associated with fine weather in the summer since the sun is high in the sky within the British Isles Accept references to radiation cooling at night [6]

(e) (i) Meaning of global warming

# Level 1 ([1])

An incomplete definition e.g. The heating of the earth

# Level 2 ([2])

A full definition that relates to temperature rise and the idea it is an unnatural phenomenon

e.g. An overall increase in world temperatures which may be caused by additional heat being trapped by greenhouse gases released by humans

[2]

(ii) [3] for each tip. Maximum [2] for an idea which helps reduce global warming but which doesn't come from Fig. 5

# Level 1 ([1])

A simple stated reason e.g. Walking doesn't release many bad gases

# Level 2 ([2])

A stated reason with a consequence e.g. Walking doesn't release many greenhouse gases because no fossil fuels get burned

# Level 3 ([3])

A stated reason with linked consequence and elaboration e.g. Walking doesn't release many greenhouse gases because no fossil fuels like oil get burned, so we contribute less to the build up of these gases like  $CO_2$  which are linked to global warming  $(2 \times [3])$ 

(iii) Two impacts must be discussed, with 2 specific facts/figures for top Level 3

Impacts may be positive or negative and relate to people or environment

# Level 1 ([1]-[2])

A simple stated impact/s e.g. Sea levels will rise [1]

# Level 2 ([3]-[4])

A stated impact with full explanation, or two partially explained impacts e.g. Sea levels will rise due to thermal expansion of the oceans. Places will flood and millions of people could be made homeless. Also there may be an increase in certain diseases which are currently restricted to tropical areas, like malaria [4]

#### Level 3 ([5]–[7])

A stated reason with linked consequence and elaboration
e.g. Sea levels will rise due to thermal expansion of the oceans. This
means that low lying coastal areas like Bangladesh and the Netherlands
face ongoing flood problems which might make millions of people
homeless. Also there may be an increase in certain diseases which are
currently restricted to tropical areas, like malaria. The insects which
spread such diseases, e.g. mosquitos, could expand their territories
towards western Europe and North America if temperatures in those
areas rise by a few degrees

[7]

40

# Level 2 ([2])

A valid statement plus consequence, e.g.

- Homeowners had their properties flooded leaving people homeless with their possessions destroyed
- Holiday makers were stranded when their caravans were flooded and had to be rescued before ending their holiday
- Campsite owners suffered flooding which meant they lost money as they could not rent out their accommodation and had to pay for repairs and drying out
- Shopkeepers could not get to work as roads were blocked which meant that they lost income

 $(2 \times [2]) \tag{4}$ 

# (c) River management scheme

# Level 1 ([1]-[3])

One valid hard or soft engineering strategy stated with consequence or two strategies simply stated or one with some development and the second simply stated, e.g.

- Land use zoning
- Planting trees
- Creating diversion spillways
- Building levees to retain water and planting trees to absorb water

# Level 2 ([4]-[6])

Two strategies stated with consequence or one strategy with discussion of the need for a co-ordinated approach, e.g. or all 3 aspects each at Level 2

- The flow of the major tributaries of the Mississippi, have been controlled by over 100 dams to regulate the discharge and prevent flooding. Also land use strategies have been established to minimise the number of houses on the floodplain to reduce the flood danger to homes
- Diversion spillways have been created to divert flood water into the delta. A co-ordinated approach is needed to ensure the present generation of people and wildlife meet their needs for water without endangering future generations' potential to meet their needs

# Level 3 ([7]-[9])

Answer to include 2 facts/figures/places

One hard and one soft engineering strategy each stated with consequence and elaboration plus a discussion on the need for a co-ordinated approach specific to the named river, e.g.

• On the Mississippi 3000 km of levees have been built and some raised in places to 15 metres and have been strengthened to keep water in the main channel. Afforestation strategies have been put in place in the Tennessee Valley to reduce and delay runoff and therefore reduce flooding. A co-ordinated approach is needed to ensure sustainable development as 31 states rely on the Mississippi for their water supply so changes in the river need to be carefully planned to ensure all states receive an adequate water supply

- The flow of the major tributaries of the Mississippi, that is the Missouri, Ohio and Tennessee have been controlled by over 100 dams to regulate the discharge. In addition the creation of safe flooding zones, by buying housing in the current flood danger areas and creating green areas instead. In Rock Island, Illinois \$7 million of housing has been purchased to enable land use zoning. A co-ordinated approach is needed since all people in the USA would have to fund compensation given as Federal Aid in the event of massive flood damage which would have serious consequences for the funds available for other developments [9]
- (d) Kashmir earthquake
  - (i) The meaning of the term epicentre

# Level 1 ([1])

A basic statement

• Where the earthquake is strongest

# Level 2 ([2])

A statement with elaboration

- The point on the earth's surface where the earthquake is strongest
- The point on the earth's surface where the strongest shock waves are felt first
- Point on earth's surface directly above focus [2]
- (ii) Scale on which earthquakes are measured Richter Scale
  (1 × [1])

 $(1 \times \lceil 1 \rceil) \qquad \qquad \lceil 1 \rceil$ 

(iii) Purpose of a seismograph

#### Level 1 ([1])

A basic statement

• An instrument used to record earthquakes

#### Level 2 ([2])

A statement and consequence

- A seismograph which measures the energy or size/strength of an earthquake [2]
- (iv) Distance from the epicentre to the capital city Islamabad The distance is  $100 \,\mathrm{km}$  [1]

•

# (v) Reason why there were more deaths in Muzaffarabad than in Islamabad

#### AVAILABLE MARKS

# Level 1 ([1])

A basic statement which could account for the difference in the death toll

- Muzaffarabad was closer to the epicentre
- Muzaffarabad may have had poorly constructed houses

# Level 2 ([2])

A statement with a consequence relating to a difference in the death toll

- Muzaffarabad was closer to the epicentre so the earthquake would have been stronger here
- Muzaffarabad may have had poorly constructed houses being a small rural settlement

# Level 3 ([3])

A statement with a consequence and elaboration which could account for the differences in deaths.

- As Muzaffarabad was close to the epicentre the shaking caused by the earthquake would have been stronger here than at Islamabad 80 km away/meaning that more buildings would have collapsed in Muzaffarabad killing more people
- Islamabad is the capital so it may have earthquake proof buildings and better emergency services than the smaller settlement of Muzaffarabad so fewer people would have been injured and they could have received better medical care [3]
- Elaboration can be distance or damage

# (vi) Responses to the earthquake

Response	Immediate	Long Term
The Red Cross distributed 21,500 blankets and medical supplies	✓	
Plans were put in place to re-establish water supplies in Muzaffarabad which had been contaminated for months by sewage		<b>/</b>
Building laws were tightened to make sure there will be less damage and fewer deaths in future earthquakes		GIVEN 🗸
Rescue teams arrived from Russia and the UK to help find survivors	1	
The army began building homes for homeless families to replace the tents given as emergency aid		1

 $(4 \times [1]) \tag{4}$ 

# Level 1 ([1])

A basic statement, e.g.

- Earthquake drills
- Earthquake proof buildings
- Earthquake kits

# Level 2 ([2])

A valid precaution with a consequence, e.g.

- Practise earthquake drills regularly in schools and places of work
- Build earthquake proof buildings which do not collapse during an earthquake saving lives

# Level 3 ([3])

A valid precaution with a consequence and elaboration specific to the named location, e.g.

- The Japanese spent millions of pounds on strengthening buildings and other structures with cross beams, springs and rubber pads to withstand shaking, for example in Kansai International Airport/Akashi Bridge which survived the Kobi earthquake
- Japan has a public education programme which produces pamphlets, broadcasts and lectures about earthquake survival. On the anniversary of the Great Quake of 1923 each 1st September, there is a public holiday to practise earthquake drills

 $(2 \times [3]) \qquad \qquad [6] \qquad 40$ 

# 3 (a) (i) Term biome

# Level 1 ([1])

A simple statement e.g. A large ecosystem

# Level 2 ([2])

A statement which refers to both environment and large scale
A very large scale ecosystem with similar plants, animals and soils and/
or climate (any two of these characteristics) [2]

# (ii) Distribution of African biomes

# Level 1 ([1]-[2])

One or two named biomes using the key, or list of all in the key, with little accurate reference to location

e.g. There is a Mediterranean biome at the top and bottom of Africa and there is rainforest in the middle

# Level 2 ([3]-[4])

Some reference to compass points and the lines of latitude for at least three ecosystems in the key

e.g. The Mediterranean ecosystem lies to the north and south west along the coast; the desert lies along the two Tropics especially in the north along the Tropic of Cancer and the rainforest lies along the equator especially to the west

#### Level 3 ([5])

Reference to compass points, the lines of latitude and/or oceans for at least four ecosystems in the key

e.g. The Mediterranean ecosystem lies to the north and south west along the coast; the desert lies along the two Tropics especially in the north along the Tropic of Cancer; the Tropical rainforest lies along the equator especially to the west beside the Atlantic Ocean; the Savanna grasslands is in a large band from west to the east and to the south between the Equator and the Tropic of Capricorn [5]

# (b) (i) Nutrients are added in two ways [1] each Rainwater or weathered rock [2]

# Level 1 ([1]-[2])

A simple statement about one or two aspects of the cycle e.g. Plants die and decompose so more plants have nutrients to grow again

# Level 2 ([3]-[4])

An accurate general link from either plants or animals to the soil and back again

e.g. Plants die and decompose [1] into the soil and this releases nutrients which are taken by plants again [3]

• Ref. to bacteria/fungi as decomposers/or food chain [4]

# Level 3 ([5])

Accurate detail on the links from the store of nutrients in both plants/ animals to the soil store and may include other gains and losses shown/ named decomposers, e.g. Plants are eaten by animals which die and are decomposed by bacteria/fungi into the soil; some nutrients are leached out of the soil and lost from the ecosystem while others are added as weathered rock decomposes into the soil; this releases nutrients which plants are able to take up from the soil and use for growth; animals eat the plants and obtain nutrients used (for growth, reproduction, etc.) [5]

- (iii) Small scale local ecosystem no mark for name but the named plant (producer), insect, bird or animal (herbivore or consumer) must be species found in the named ecosystem. If not local, maximum Level 1 for 3 answers accurate to the named ecosystem e.g. Belvoir Forest ecosystem: oak tree, beetle/red squirrel, sparrow hawk. If not named maximum Level 1 [3]
- (c) (i) Climate of the ecosystem in the Galapagos Islands accurate facts described with figures for full Level 3 [4]

#### Level 1 ([1])

A basic statement, e.g.

It is hot all year

#### Level ([2]-[3])

An answer which refers to temperature and rainfall, e.g.

• The highest temperature is 28 °C, it is wettest in March

#### Level 3 ([4])

An answer which refers to rainfall and temperature with a minimum of 2 figures to illustrate, e.g.

• There is a dry season from August to October with less than 8 mm of rainfall. The wettest month is March (almost 80 mm) which corresponds to the highest temperature of 28 °C [4]

# (ii) Definition of biodiversity

AVAILABLE MARKS

[2]

(1) A statement which shows two aspects of biodiversity

# Level 1 ([1])

e.g. Many plants can grow Many plants or animals living in an area.

# Level 2 ([2])

- e.g. Many plants of **different** types/species living in an area
- A variety/range of plants and animals/species
- (2) A statement which shows understanding of how biodiversity could be linked to the climate in Fig. 11

#### Level 1

e.g. It is hot and wet for part of year

#### Level 2

e.g. It is hot and wet in part of the year so many types of plants or animals which like hot, wet conditions can grow (and may refer also to dry season for other plants/animals to survive) [2]

(iii) Name and location of tropical ecosystem may be in the rainforest or tropical grasslands – no mark for naming ecosystem, but the vegetation species and the soil characteristics must be specific to the named area

# Level 1 ([1]-[2])

Simple accurate statements about the vegetation and soil e.g. Trees grow, the soil is poor in nutrients or the soil is wet

#### Level 2 ([3]–[4])

Simple links between the vegetation and soil e.g. Many layers of vegetation can grow because the trees, such as mahogany, drop their leaves all year adding nutrients to the soil

# Level 3 ([5]–[6])

Accurate links between the vegetation and soil with at least two **fact/ figures** as shown in bold for examples

e.g. In the rainforest the soil is **heavy red clay** and is not very fertile unless the vegetation dies and decomposes, allowing its nutrients to be added to the soil. The trees have **shallow roots** which quickly take up the nutrients from the soil. Many layers of vegetation from shrubs to the **canopy and emergents** grow here and the trees, such as **mahogany** drop their leaves all year adding nutrients to the soil. The soil is leached of nutrients due to the heavy rainfall so the leaves from the trees have to keep falling and decomposing so that the soil continues to provide nutrients for more vegetation to grow (nutrient recycling) [6]

4 -

# Level 1 ([1])

A basic answer, mainly emphasising one aspect of the code of conduct e.g. Not too many people are allowed to visit on the islands or e.g. Tourists have to stay on planned routes

# Level 2 ([2])

An answer which links the code to the protection of the environment e.g. Keeping down the number of tourists stops damage to the environment by tourists walking on the plants or disturbing the animals' habitats

# Level 3 ([3])

An answer which links the code to the protection of the environment and elaborates by demonstrating understanding of sustainability e.g. Keeping down the number of tourists stops damage to the environment by tourists walking on the unique plants or disturbing the animals' habitats and this preserves the area for future generations to enjoy [3]

(ii) One problem ecotourism creates for local people

# Level 1 ([1])

A simple general statement e.g. Tourists could destroy the local people's way of life

# Level 2 ([2])

A statement of negative impact of tourism with a consequence e.g. Tourists could destroy the local people's way of life because they visit villages and buy cheap souvenirs

#### Level 3 ([3])

A statement of negative impact of tourism with a consequence and elaboration

e.g. Tourists disturb local people's way of life because they visit villages and buy cheap souvenirs which undermines the culture and traditions of the local people [3]

(iii) Benefit of ecotourism to the environment (vegetation and soils)

Named area of ecotourism – no mark but the vegetation species and the soil characteristics must be specific to the named area for a good Level 3 answer. This should be a tropical ecosystem

Named area could be the Maasai Mara Game Reserve in Kenya

#### Level 1 ([1])

A basic answer

e.g. Soil is not eroded or vegetation is not trampled upon

Level 2 ([2]) A statement with a consequence linked to an aspect of the environment e.g. Soil is not eroded all over the reserve because safari buses use designated tracks		AVAILABLE MARKS	
Level 3 ([3]) A statement with a consequence and elaboration linked to an aspect of the environment			
e.g. Soil is not eroded all over the reserve because safari buses used designated tracks and tourists travel in small groups, taking photographs from the minibuses and not walking all over the tall grasses so that the		40	
vegetation is not destroyed [3		6	
Tota	ll	126	
			ĺ

The assessment of quality of written communication.

Marks are to be allocated to QWC in accordance with the following criteria.

Performance Level	Criteria	Marks
Threshold	Candidates present some relevant information in a form and using a style of writing which suits its purpose. The text is reasonably legible. Spelling, punctuation and the rules of grammar are used with some accuracy so that meaning is reasonably clear. A limited range of specialist terms is used appropriately.	0, 1, 2
Intermediate	Candidates present relevant information in a form and using a style of writing which suits its purpose. The text is legible. Spelling, punctuation and the rules of grammar are used with considerable accuracy so that meaning is clear. A good range of specialist terms is used appropriately.	3, 4
High	Candidates present and organise effectively relevant information in a form and using a style of writing which suits its purpose. The text is fluent and legible. Spelling, punctuation and the rules of grammar are used with almost faultless accuracy so that meaning is clear. A wide range of specialist terms is used skilfully and with precision.	5, 6



# General Certificate of Secondary Education 2009

# Geography

Paper 2 Higher Tier

[G3604]

**TUESDAY 2 JUNE, AFTERNOON** 

# MARK SCHEME

# 1 (a) (i) Description of population variation

# Level 1 ([1])

A simple correct statement describing how population density varies across the UK,

e.g. Few people live in the north. [1]

# Level 2 ([2]-[3])

Correct statements describing how population density varies across the UK. Top level 2 may have one figure.

e.g. Few people live in the north and more people live in the south. [2] e.g. Few people live in the north and more people live in the south. Most of Ireland is in between. [3]

# Level 3 ([4])

Correct statements describing how population density varies across the UK. It will contain 2 or more figures.

e.g. Few people live in the north, in Scotland large areas have less than 20 people per square km. The south is more densely populated, the south east being crowded, with over 100 people per square km. Most of Ireland has an in between population density. [4]

# (ii) Meaning of population density

# Level 1 ([1])

A correct but incomplete definition. e.g. the number of people in a place. [1]

#### Level 2 ([2])

An answer that notes the number of people in a specified area.

e.g. the number of people per square km. [2]

e.g. the number of people in a certain area. [2]

[2]

# (iii) Two challenges of a multicultural society.

Ideally award [3] for each challenge, which may cover; language, customs, racism, civil disorder, poverty and segregation. For each challenge:

#### Level 1 ([1])

A correct challenge is identified.

e.g. There may be problems communicating. [1]

#### Level 2 ([2])

A challenge is identified with a connecting consequence.

e.g. Due to many migrants speaking other languages, there may be problems of communication. [2]

# Level 3 ([3])

A challenge is identified with a connecting consequence and elaboration. e.g. Due to many migrants speaking other languages, there may be problems of communication. This can make it difficult for them to receive good medical care or do well in school. [3]  $2 \times [3] = [6]$ 

**(b)** Case study – global scale high population density.

No marks for identification of a specific area, most likely regions are western Europe, Bangladesh/India, east Coast of the USA, Japan and eastern China. If the candidate identifies and goes on to discuss a region of low population density then award maximum Level 2 for each reason.
e.g. Area Bangladesh

# Level 1 ([1])

A correct factor is stated. e.g. There is a good soil. [1]

# Level 2 ([2])

A correct factor is stated and there is a consequence noted. e.g. There is a good fertile soil which allows lots of food to be grown. [2]

# Level 3 ([3])

A correct factor is stated and there is a consequence and elaboration noted. e.g. In E. China there is a good fertile soil which allows three cycles of rice to be grown, and this allows even small patches of land to support many people there.  $2 \times [3] = [6]$ 

# (c) (i) Completion of Fig. 2

# Level 1 ([1])

The 2008 figure of 5 is correctly plotted. [1]

#### Level 2 ([2])

The 2008 figure of 5 is correctly plotted and the line graph is continued to connect this point to the others. [2]

(ii) Two reasons why death rates may fall.

Ideally award [3] for each reason, which may cover; medical care, food supplies, sanitation, living conditions and wealth. More sophisticated answers may identify population structure and the high percentage of young people in the population. If the candidate looks at birth rates or gives reasons death rates rise then award maximum Level 2 for each reason.

# Level 1 ([1])

A correct reason is identified.

e.g. Medical care can reduce the death rates in a place.

# Level 2 ([2])

A reason is identified with a connecting consequence.

e.g. Better medical care like more doctors can reduce the death rates in a place.

# Level 3 ([3])

A reason is identified with a connecting consequence and elaboration. e.g. Better medical care like more doctors giving vaccinations against diseases like measles can reduce the death rates in a place.  $2 \times [3] = [6]$ 

# (d) (i) 8.7 is underlined

[1]

(ii) Comparison of dependent populations in Egypt in 2005.

# Level 1 ([1])

A simple statement.

e.g. Egypt doesn't have many elderly people.

e.g. Egypt has a dependent population of 37%.

# Level 2 ([2]–[3])

A simple comparison with a maximum of one figure.

e.g. Egypt doesn't have many elderly people, but has a larger youth dependency. [2]

e.g. Egypt doesn't have many elderly people, only 5%, but has a larger youth dependency. [3]

# Level 3 ([4])

A comparison with figures to illustrate.

e.g. Egypt doesn't have many elderly dependents, only 5%, but has a much larger youth dependency at 32%. [4]

(iii) One impact of having a large youth dependency.

Impacts may include education provision, health care provision, future job requirements, adult consumption rate, wealth accumulation.

#### Level 1 ([1])

A simple stated impact.

e.g. It will be hard to educate so many children.

#### Level 2 ([2])

A stated impact and consequence.

e.g. It will be hard to educate so many children, so more schools and teachers will be needed. [2]

# Level 3 ([3])

A stated impact and consequence with elaboration.

e.g. It will be hard to educate so many children, so more schools and teachers will be needed, this means the government will have to fund this through investment, and may even have to raise taxes to cover the costs.

[3]

(e) Renewable energy scheme case study.

The benefits and problems can relate to people or environment or a mixture of both.

# Level 1 ([1]-[2])

A simple review of renewable energy which may describe the benefits or problems.

- e.g. Wind farms produce very little pollution. [1]
- e.g. Wind farms produce very little pollution and the land under the turbines can still be used for farming. [2]

# Level 2 ([3]-[4])

A discussion about the benefits and problems of renewable energy.

- e.g. Wind farms produce very little pollution and the land under the turbines can still be used for farming but they are quite ugly and can affect tourism. [3]
- e.g. Wind farms produce very little pollution and the land under the turbines can still be used for farming but they are quite ugly and can negatively affect tourism meaning the area might lose money. [4]

# Level 3 ([5]-[6])

A discussion about the benefits and problems of a specific renewable energy scheme, it will include two or more specific facts/figures. Top Level 3 should come to a conclusion about whether benefits outweigh problems so show a full evaluation.

e.g. Wind farms in Northern Ireland produce very little pollution as they do not release greenhouse gases like CO<sub>2</sub> and the land under the turbines can still be used for grazing sheep but they are quite ugly and can negatively affect tourism meaning the area might lose money. Also the wildlife can be disrupted. Hen harriers in Co. Fermanagh would have had their hunting disrupted if a wind farm had been built there. Overall the current problems outweigh the benefits with this type of renewable energy scheme in Northern Ireland.

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- 2 (a) (i) Photograph 1 = Primary Industry [1]
  Photograph 2 = Secondary Industry
  Do **not** accept farming or car making.
  - (ii) [1] for saying that tertiary jobs provide a service.[1] for an appropriate tertiary industry or job. [2]
  - (iii) 1. % in primary industries for U.K = 5%

    2. Bangladesh

    [1]
  - (iv) Link between employment structure and development.

# Level 1 ([1]-[2])

A simple statement.

Rich countries have few people employed in primary jobs. [1] Rich countries have few people employed in primary jobs but many employed in tertiary jobs. [2]

# Level 2 ([3]-[4])

A statement with some detail but may not compare the different levels of development. Some figures are quoted.

Rich countries like France have few people employed in primary activities at only 7%. They have a high % of people working in tertiary activities. [3]

Rich countries like France have few people employed in primary activities at only 7%. They have a high % of people working in tertiary activities whereas poor countries like Bangladesh do not. [4]

#### Level 3 ([5])

A detailed statement which clearly links employment structure and the level of development. Figures are quoted from the Table and reference is made to MEDC/LEDC as well as a link to Brazil as developing. Rich countries like France have few people employed in primary activities at only 7%. They have a high % of people working in tertiary activities. This makes them a MEDC whereas poor countries like Bangladesh have a high % of people working in primary jobs at 70% and a low % working in tertiary activities at 18%. This makes them a LEDC.

(b)	(i)	What are hi-tech industries also known as
		Sunrise Industries

[1]

(ii) Using Fig. 4, suggest two factors that make it a good location for these hi-tech industries in this science park.

Factors could include

- Infrastructure (airport, roads, docks)
- Large city Large labour pool
- Universities close by
- Public transport
- Flat land Brownfield site

# Level 1 ([1])

A brief statement.

The science park is near an airport [1]

The science park has a good road infrastructure [1]

# Level 2 ([2])

A statement with a consequence and a specific reference to Fig. 4.

The science park is near the George Best airport. This makes it easier to transport goods overseas.

The science park is close to a number of motorways, e.g. M2 and M3.

This allows workers to get to work easily. [2]

$$(2 \times [2]) \tag{4}$$

(iii) Two areas are

Silicon Glen

M4 corridor

[1] each [2]

(c) (i) Life expectancy is an indicator of development. Look at the map showing global patterns in life expectancy. Answer the questions that follow.

#### Level 1 ([1]-[2])

A basic statement that describes or explains, e.g.

Life expectancy varies all over the world.

Life expectancy is low in Africa. [1]

Life expectancy is low in Africa due to poor medical care. [2]

Life expectancy is high in North America but low in Africa. [2]

If no figures utilised or a list of figures then maximum top Level 2. (including explanation)

# Level 2 ([3]–[4])

A more detailed statement that begins to compare places. Description and/or explanation are evident.

Life expectancy is high in North America at 75 years or over but low in Africa at less than 50 years. [3]

Life expectancy is high in North America at 75 years or over but low in Africa at less than 50 years. This is due to trained medical staff that help to look after people in hospitals. [4]

- -

# Level 3 ([5]-[6])

Must have two countries and a comparison.

A detailed comparison of life expectancies across the world. Description and explanation must be evident.

North America and Europe and Australia have high life expectancies at over 75 years. This is due to advanced medical care provided by trained doctors and nurses. The lowest life expectancies are found in Africa and Asia at less than 50 years. This is due to factors such as famine, disease and poor medical care.

(Many Asian countries and South American countries have improving life expectancies.) [6]

(ii) Evaluate social indicators such as life expectancy as a measure of development.

# Level 1 ([1])

A basic statement, e.g.

They are a reliable indicator or They are only an average. [1]

# Level 2 ([2]-[3])

An answer which addresses advantages or disadvantages but includes little or no evaluation.

They are a reliable indicator and can be used to compare levels of development between countries. [2]

Social indicators are good because they give a clear indication of the levels of development in a country but other indicators such as GNP hide differences within a country. [3]

#### Level 3 ([4])

An answer which evaluates social indicators by showing advantages and disadvantages or compares them to economic indicators and makes a judgement about them.

Social indicators are valuable in that government is made aware of the level of development of the facilities for the people in that country, e.g. access to clean water, literacy rate, % of children in primary school etc. In contrast economic indicators such as GNP can give misleading information about the level of development due to reserves of fossil fuels such as oil. [4]

(d) (i) A TNC is a company that is found all over the world.
An appropriate example, e.g. Nike, Coca Cola [1]

AVAILABLE MARKS

(ii) MEDC [1]

# (iii) No mark for TNC

Two reasons needed.

Answers may include

- Low wages
- Low factory set up costs
- Large market
- No trade unions
- Government incentives to attract them there.

# Level 1 ([1])

A basic statement

e.g. Wages are lower in this country.

# Level 2 ([2])

A statement and a consequence

e.g. Wages are lower in this country so firms can make larger profits.

# Level 3 ([3])

A statement, consequence and elaboration required.

Some case study detail should be evident to achieve Level 3 which includes two facts/figures.

e.g. Wages are 6 times lower in LEDCs compared to the USA. This leads to larger profits as less money is paid out in wages. In 2007 Nike made \$360 million in profit.

 $(2 \times [3]) \tag{6}$ 

(iv) Explain one disadvantage this TNC could bring to the environment.

#### Level 1 ([1])

A basic statement, e.g.

The TNC causes pollution.

#### Level 2 ([2])

A statement and a consequence, e.g.

The TNC causes pollution such as factories emitting harmful gases that damage the atmosphere.

The TNC causes pollution such as factories dumping waste in seas or rivers.

## Level 3 ([3])

A statement, consequence and elaboration

The TNC causes pollution such as factories emitting harmful gases that damage the atmosphere. The governments of many LEDCs don't have tough environmental laws so the TNC continues to pollute. [3]

-^

3 (a) (i) Name the river that flows through Sydney.

#### PARRAMATTA RIVER

[1]

(ii) On which **ocean** is Sydney located. Pacific

[1]

(iii) Using Fig. 7, suggest two physical factors that would have made Sydney a good site for a settlement.

Human factors such as trade, employment will receive no credit in this question.

Answer must focus on PHYSICAL FACTORS.

Answers may focus on river, natural harbour/bay, fertile soils, close to mountains, close to coast, flat land, floodplain, etc.

# Level 1 ([1])

A simple statement

There is a river present

There is a natural harbour

There is a mountain range nearby all [1]

# Level 2 ([2])

A statement with an elaboration of why it is a good site

There is a river present. This supplies much needed water for drinking, cooking and power. [2]

There is a harbour present. This allows ships to come ashore easily. [2] There is a mountain range nearby. Building materials can be obtained here or the mountain range provides shelter from cold winds. [2] Two physical factors must be given.

 $(2 \times [2]) \tag{4}$ 

(iv) State fully how one economic factor can lead to the growth of a settlement over time.

Answer may focus on employment opportunities, resource availability, trade, route centres.

#### Level 1 ([1])

A simple statement

There are jobs available.

People move to cities to improve their lives.

There are better opportunities in the settlement.

People construct buildings such as schools. all [1]

#### Level 2 ([2])

A statement with a consequence.

People move into the settlement to be near their place of work to avail of the jobs available. [2]

People construct buildings such as schools allowing people to get an education. [2]

# Level 3 ([3])

A more detailed statement with a consequence and elaboration. To achieve Level 3 students need to make some reference to the growth of the settlement over time.

AVAILABLE MARKS

Over time companies and businesses move into the settlement. This encourages people to live here as products and jobs are available to its residents. This encourages the settlement to grow outwards increasing the population. [3]

# (b) (i) Using the information in Table 4, fill in the blank boxes.

Area	Net percentage population change	Percentage of population gained or lost
Inner City	Given	Given
Suburbs	Given	9 or 5
Area outside city	+40%	Given

(ii) Underline the process that has occurred in this city.

(c) State fully two reasons why the outer city areas are gaining population.  $(2 \times [3])$ 

Answers may stress attractions (pull factors) of outer city areas or push factors from inner city areas. Either are acceptable but not reverse reasons, e.g. little space in inner city, lots of room in outer city suburbs.

# Level 1 ([1])

A simple statement, e.g.

The outer city is a peaceful area or it is a cleaner environment. [1]

# Level 2 ([2])

A statement and a consequence, e.g.

The outer city is a cleaner environment as there is less air pollution from cars and factories. [2]

Most people own a car so therefore can commute to work from outside the city. [2]

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# Level 3 ([3])

A statement, consequence and elaboration

Most people own a car so therefore can commute to work either by public or private transport from outside the city. People feel they can achieve a better quality of life in the countryside so decide to put up with travelling into the city each day. [3]

(d) Describe and explain the difference in the spheres of influence of the jewellery shop and the newsagent in the two settlements in Co. Tyrone. Use **Fig. 8** to help you.

# Level 1 ([1]-[2])

A simple description or explanation or both done briefly.

- e.g. The sphere of influence is larger for the jewellery shop. [1]
- e.g. The jewellery shop sells more expensive goods. [1]
- e.g. The sphere of influence is much larger for the jewellery shop as it sells expensive goods. [2]

# Level 2 ([3]-[4])

Some description and explanation are evident.

Candidates may neglect or focus on one of the spheres of influence more than the other. Restrict these answers to Level 2

- e.g. The sphere of influence is much larger for the jewellery shop than the newsagent. It extends in all directions around the town of Omagh. This is due to the jewellery shop selling high order goods. [3]
- e.g. The sphere of influence is much larger for the jewellery shop than the newsagent. The sphere of influence extends in all directions and takes in many smaller settlements around Omagh including Dromore and Castlederg. People travel a longer distance to purchase these high order goods. [4]

# Level 3 ([5]-[6])

A detailed description and explanation that contrasts the difference in the spheres of influence of both businesses. The candidate makes good use of the resource.

e.g. The sphere of influence is much larger for the jewellery shop than the newsagent. The sphere of influence takes in many smaller settlements around Omagh. The sphere of influence extends in all directions to a maximum of 32 km. The newsagents has a smaller sphere of influence of up to 4 km.

[Description]

This is due to the jewellery shop selling high order goods that people are prepared to travel a long distance to purchase. Newsagents sell low order goods which are inexpensive convenience goods The jewellery shop needs a higher threshold population to sustain the business. [Explanation] [6]

# (e) (i) Describe the trend in recycling rates in Fig. 9.

#### AVAILABLE MARKS

# Level 1 ([1])

A simple trend or no figures quoted e.g. Recycling rates have increased over time.

# Level 2 ([2])

A trend is quoted and one figure is quoted or a list of figures with no trend would be Level 2.

e.g. Recycling rates have risen over time reaching a maximum of 45%.

# Level 3 ([3])

A trend is quoted and at least two figures quoted.

e.g. Recycling trends have risen over the period, reaching 30% between July and September 2006. It fell slightly until March 2007 before rising to 45% between July and September 2007.

(ii) Name two items that can be recycled.

Any two possible items

Paper, aluminium, glass, bottles, newspapers, cardboard, batteries, recycleable nappies [1] each [2]

not Oil, grass cuttings, food products.

 $(2 \times [1]) \tag{2}$ 

(iii) Apart from recycling name and describe one other sustainable method of dealing with waste.

DO NOT accept landfill or incineration as both are unsustainable.

DO NOT accept recycling either.

Accept answers related to composting.

The most sustainable forms are REDUCTION, REUSE

#### Level 1 ([1])

A named method with no description

- e.g. People can reduce their waste or
- e.g. People can reuse products. [1] each

#### Level 2 ([2])

A suitable method with some description

- e.g. People can reduce their waste by buying products with less packaging in shops. [2]
- e.g. People can reuse products such as a bag for life when they go shopping. This cuts out the need for lots of plastic bags. [2]

# Level 3 ([3])

A suitable method with some description and elaboration.

e.g. People can reuse products such as a bag for life when they go shopping. This cuts out the need for lots of plastic bags. This reduces the amount that go to landfill. [3]

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[2]

(f) (i) State the meaning of the term **gentrification**.

# Level 1 ([1])

A simple statement

- e.g. An area that improves
- e.g. An area that changes
- e.g. An area that becomes richer over time [1] each

# Level 2 ([2])

A more detailed statement

- e.g. This occurs in an inner city area where lower income groups are displaced by more affluent income groups, usually professional workers. [2]
- e.g. This occurs when housing is improved in an area, e.g. central heating added, new bathrooms and kitchens. The value of the house increases, and encourages wealthier buyers to move in. [2]
- (ii) For a planning initiative within a city that you have studied, discuss two measures taken to conserve a sense of community.

# Name of planning initiative

Most candidates will choose Laganside
Do **not** accept just the name of the city. [0]
If sense of character (buildings) in an area – top of Level 2
Answer must be linked to people and sense of community for Level 3

#### Measures taken

# Level 1 ([1]-[2])

Candidates give a measure and complete a brief statement on it. No reference to conserving a sense of community would restrict answers to this Level.

- e.g. The area was redeveloped.
- e.g. A newspaper/newsletter was published. [1] each
- e.g. The area is developed and people make use of facilities, this develops jobs in the area. [2]
- e.g. Affordable housing is built to try to encourage local people to stay in the area. [2]

#### Level 2 ([3]–[4])

For Level 2 candidates should give one measure and at least one fact/figure. Alternatively candidates may give a number of measures but lack specific detail can reach up to [3].

A well described measure with one specific fact/figure can achieve [4]. Maximum Level 2 if no planning initiative named or if named planning initiative doesn't match up with the measures taken.

- e.g. The area has been redeveloped and up to 16000 jobs have been created.
- e.g. New housing areas are made available such as Ravenhill Reach and Mays Meadow. This encourages people to stay and work in this area. [3]
- e.g. A newspaper/newsletter was published called Laganlines which informed the community about what was going on in the area. [3]
- e.g. The area has been redeveloped and up to 16000 jobs have been created. People have been retrained in new skills such as IT and now can

--

go for the office and business jobs that are available. This encourages people to settle in the area and create a positive sense of community. [4]

# Level 3 ([5]-[6])

As the question asks for measures taken, then two measures must be given to get Level 3 with specific facts/figures given.

Two measures well described that conserves a sense of community with one specific fact/figure can achieve [5].

Two measures well described that conserves a sense of community with two specific facts/figure can achieve [6].

e.g. In 1997 Laganside adopted a new Community Strategy to ensure the local communities would benefit from the changes brought about. One measure included delivering a newsletter called Laganlines to 180 000 people in the area informing residents of developments coming up. Local people have been given the opportunity to have an input about changes to their area, e.g. building playgrounds, sculptures, transport issues, etc.

The second measure was to build affordable homes in the area. [5]

In 1997 Laganside adopted a new Community Strategy to ensure the local communities would benefit from the changes brought about. The first measure included delivering Laganlines to 180 000 people in the area informing residents of events coming up. Local people have been given the opportunity to have an input about changes to their area, e.g. building playgrounds, sculptures, etc.

If city is not mentioned, then maximum marks – Level 2

The second measure was to set up training schemes such as Millennium Leap which has set up by the Training and Employment Agency to help retrain workers who once worked in manufacturing industries in the new IT skills that are now required for the 16000 new jobs created in the tertiary sector. These measures encourage people to stay in the area and conserve a sense of community. [6]

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QWC

6

**Total** 

126

The assessment of quality of written communication.

Marks are to be allocated to QWC in accordance with the following criteria.

Performance Level	Criteria	Marks
Threshold	Candidates present some relevant information in a form and using a style of writing which suits its purpose. The text is reasonably legible. Spelling, punctuation and the rules of grammar are used with some accuracy so that meaning is reasonably clear. A limited range of specialist terms is used appropriately.	0, 1, 2
Intermediate	Candidates present relevant information in a form and using a style of writing which suits its purpose. The text is legible. Spelling, punctuation and the rules of grammar are used with considerable accuracy so that meaning is clear. A good range of specialist terms is used appropriately.	3, 4
High	Candidates present and organise effectively relevant information in a form and using a style of writing which suits its purpose. The text is fluent and legible. Spelling, punctuation and the rules of grammar are used with almost faultless accuracy so that meaning is clear. A wide range of specialist terms is used skillfully and with precision.	5, 6



