

Mark Scheme (Results)

June 2011

GCE Geography 6GE03
Contested Planet

Edexcel is one of the leading examining and awarding bodies in the UK and throughout the world. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers.

Through a network of UK and overseas offices, Edexcel's centres receive the support they need to help them deliver their education and training programmes to learners.

For further information, please call our GCE line on 0844 576 0025, our GCSE team on 0844 576 0027, or visit our website at www.edexcel.com.

If you have any subject specific questions about the content of this Mark Scheme that require the help of a subject specialist, you may find our **Ask The Expert** email service helpful.

Ask The Expert can be accessed online at the following link:

<http://www.edexcel.com/Aboutus/contact-us/>

Alternatively, you can contact our Geography Advisor directly by sending an email to Jonathan Wolton on:

GeographySubjectAdvisor@edexcelexperts.co.uk.

You can also telephone 0844 372 2185 to speak to a member of our subject advisor team.

June 2011

Publications Code UA027996

All the material in this publication is copyright

© Edexcel Ltd 2011

General Guidance on Marking

All candidates must receive the same treatment.

Examiners should look for qualities to reward rather than faults to penalise. This does NOT mean giving credit for incorrect or inadequate answers, but it does mean allowing candidates to be rewarded for answers showing correct application of principles and knowledge.

Examiners should therefore read carefully and consider every response: even if it is not what is expected it may be worthy of credit.

Candidates must make their meaning clear to the examiner to gain the mark. Make sure that the answer makes sense. Do not give credit for correct words/phrases which are put together in a meaningless manner. Answers must be in the correct context.

Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the Team Leader must be consulted.

Using the mark scheme

The mark scheme gives:

- an idea of the types of response expected
- how individual marks are to be awarded
- the total mark for each question
- examples of responses that should NOT receive credit.

Quality of Written Communication

Questions which involve the writing of continuous prose will expect candidates to:

- show clarity of expression
- construct and present coherent arguments
- demonstrate an effective use of grammar, punctuation and spelling.

Full marks will be awarded if the candidate has demonstrated the above abilities.

Questions where QWC is likely to be particularly important are indicated "QWC" in the mark scheme BUT this does not preclude others.

SECTION A

Question Number	Question	
1a	Suggest reasons for the changes to global electricity generation between 1973 and 2006. (10)	
	Indicative content	
<p>Expect some description to be present within explanations / reasons for the changes in electricity generation between 1973 and 2006. The major changes and reasons are:</p> <p>Overall increase:</p> <ul style="list-style-type: none"> • Increase in total electricity use from 6100 Twh to nearly 19000, a tripling in 30 years – reasons include increases in population, increased development and wealth including the rise of NICs and RICs in that period; development of energy intensive technology such as ICT, communications, air-con. <p>Specific energy sources:</p> <ul style="list-style-type: none"> • Oil: Credit specific reference to events such as the oil crises in the 1970s which made oil much less popular as an electricity source. High cost of oil. Better to use oil for transport and as a chemical feedstock than for electricity generation. Mention of peak oil in some countries. • Nuclear has increased hugely - technology matured during the period 1973 to the mid 1980s and nuclear was seen as reliable and reduced fossil fuel dependency. • Large rises in gas – seen as a ‘clean’ alternative to coal and oil, and a cheap one until recently; abundant supply and easy to build gas power stations. UK ‘dash for gas’. • Coal – more important now; cheap; credit reference to India and China, and globally huge reserves. • Hydro less important as a %; could be that many sites were already used by 1973 and large dams now less popular; NIMBY issues. • Renewable growth relates to environmental issues combined with better technology; credit comments that it is still a small part of the overall picture. • Credit other acceptable reasons <p>NB:</p> <ul style="list-style-type: none"> • Read use of descriptions such as ‘increase’, ‘decrease’, ‘gone up/down’ carefully. Figure 1 is relative, so while the % of HEP has fallen, total HEP use has not. Oil use has fallen in % and absolute terms. • Figure 1 relates to electricity generation, not primary energy use. Answering from the perspective of primary energy use i.e. misunderstanding Figure 2 will tend to produce only partially correct reasons. 		
Level	Mark	Descriptor
Level 1	1-4	A few general ideas on one or two parts of Figure 1; narrow and descriptive. Structure is poor or absent. Geographical terminology is rarely used with accuracy. There are frequent grammar, punctuation and spelling errors.
Level 2	5-7	Some range of explanations; some in detail but not full coverage of resource. Structure is satisfactory. Geographical terminology is used

		with some accuracy. There are some grammar, punctuation and spelling errors.
Level 3	8-10	Detailed range of reasons across the resource – overall change + individual sources; likely to refer to specific examples. Structure is good. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are rare

Question Number	Question	
1b	Using named examples assess the extent to which energy insecurity might lead to conflicts both within and between countries. (15)	
	Indicative content	
<p>There are a number of possible ways energy insecurity may lead to increase and conflict. Firstly there are energy hotspots which could lead to increased tensions if they are developed, some of these are international (between):</p> <ul style="list-style-type: none"> • The Arctic, and possibly Antarctic – areas thought to contain oil and gas reserves but the ownership of which is disputed; the Falklands is another example. • The Middle East can be seen as a continued source of international tension, depending on the perspective taken over the 2 Gulf Wars, plus recent North African conflicts. • Disputes over gas /oil pipeline routes. • Conflict can also occur as a result of disputed energy pathways, such as flows of Russian gas into Europe; expect details of the Russia/Ukraine dispute. <p>Others are more national (within):</p> <ul style="list-style-type: none"> • The development of the ANWR and other protected areas; this could create tension between oil companies, governments and local or indigenous people. • Oil exploitation in Nigeria has created conflict between TNCs and Government versus the Ogoni people. • Some might mention the role of China in Sudan, and the conflict over oil between North and South Sudan. <p>There are a range of other conflicts which are more environmental than political which might result from demands to develop renewable sources such as:</p> <ul style="list-style-type: none"> • NIMBY issues associated with wind farms developments. • The debate over the role of nuclear power. • The role of Coal e.g. Kingsnorth. • Conflict over unconventional sources e.g. tar sands, oil shales, shale gas. <p>Take an open minded approach to the meaning of conflict i.e. between players and nations, to include price disputes, a 'war of words' or other tensions as well as out-right conflict.</p> <p>Credit other acceptable ideas.</p> <p>NB Max 11 for an assessment of how conflicts could occur either within or between countries.</p>		
Level	Mark	Descriptor
Level 1	1-4	A few general ideas; likely to focus on one issue such as Russian Gas. Structure is poor or absent. Explanations are over simplified and lack clarity. Geographical terminology is rarely used with accuracy. There are frequent grammar, punctuation and spelling errors.
Level 2	5-8	Some range of ideas in a descriptive account which recognises some sources of conflict and tension, but not in depth. Structure is satisfactory. Explanations are clear, but there are areas of less clarity. Geographical terminology is used with some accuracy. There are some

		grammar, punctuation and spelling errors.
Level 3	9-12	A range of ideas and examples, some in depth which begins to assess e.g. the seriousness of some issues. May be unbalanced on within and between. Structure is good. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are rare.
Level 4	13-15	A range of detailed ideas and examples related to conflict which assesses the extent / likelihood of difficulties in relation to energy security. Within and between covered. Carefully structured. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are very rare.

Question Number	Question	
2a	Suggest reasons for the differences in water consumption for the countries shown. (10)	
	Indicative content	
<p>Expect some description to be present alongside explanations of the differences shown. There should be some reference to both total water use (which is <i>per capita</i> on Fig 2) and use by sector in L2 and above.</p> <p>Total water use:</p> <ul style="list-style-type: none"> • Related to level of development i.e. high in USA, Germany and low in Ghana / China; water costs may be seen as high in Ghana which limits use (economic scarcity). • As well as this some areas may be seen as physically well-endowed with supply e.g. Egypt and the Nile. • Highest in the USA; developed water system to distribute water and also low cost in relation to incomes; some might see water use as wasteful. • Use is much lower in Germany compared to the USA – some might see this as due to attempts to conserve and not waste water i.e. efficient supply system; attitudes of users. <p>Use by sector</p> <ul style="list-style-type: none"> • Agricultural use in related to the need for irrigation e.g. in Egypt due to hot climate – perhaps true in India and other areas (rice). In Ghana infrastructure may not support irrigation and / or farming may be more rain fed. • Industrial use correlates well with development level and requirements of industry, so NICs are lower than MEDCs but higher than Ghana. • Domestic use is highest in the USA linked to use of appliances etc and leisure use e.g. swimming pools, gardens, golf courses. <p>Credit some mention of countries not on the map if relevant, but the focus should be on the countries shown.</p> <ul style="list-style-type: none"> • Credit other acceptable reasons 		
Level	Mark	Descriptor
Level 1	1-4	A few general ideas with very partial coverage of the map; descriptive. Reasoning is poor or absent. Geographical terminology is rarely used with accuracy. There are frequent grammar, punctuation and spelling errors.
Level 2	5-7	Some range of reasons suggested and covers much of the resource but unbalanced. Structure is satisfactory. Geographical terminology is used with some accuracy. There are some grammar, punctuation and spelling errors.
Level 3	8-10	Balanced across Figure 2 and good range of reasons, likely to include physical / economic factors. Structure is good. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are rare

Question Number	Question	
2b	Using named examples, assess the impact of using trans-boundary water sources on people and the environment. (15)	
Indicative content		
<p>Transboundary water sources consist of:</p> <ul style="list-style-type: none"> • River systems and drainage basins • Groundwater aquifers <p>Credit use of examples which are international as well as examples which are within a country or region such as the Colorado, Ebro or Yangtze.</p> <p>Answers to the question might focus on ways in which the development of transboundary sources leads to increased water insecurity in regions, whilst securing supplies for others – in other words for people there are winners and losers. This could be illustrated with reference to a range of examples from around the world in drainage basins such as the Nile and Ganges, and in aquifers systems under Israel, Jordan and Palestine.</p> <p>In some cases some people might gain supply but others lose out as they are in the way of developing supplies and pathways – such as in relation to the Three Gorges part of the South-North transfer in China.</p> <p>Impacts could include:</p> <p>The environment:</p> <ul style="list-style-type: none"> • Likely to be seen more as a universal loser as withdrawal / transfer schemes interfere with natural river systems and lead to the drying up of lakes, depletion of aquifers and this has knock-on effects to ecosystems and biodiversity. • Saltwater incursion, salinisation, desertification. • Pollution i.e. pollution from one region entering another (India / Bangladesh and Ganges River); impacts on river ecology and human health. • Loss of ecosystem in the Aral Sea due to diversion of river (also impacts on health, jobs) <p>People:</p> <ul style="list-style-type: none"> • People – increased insecurity for the losers, better supply for the winners (and associated development) • Politics / diplomacy – where tensions result from the development of water resources without agreement; possible conflicts • Economic – the loss of supplies for farming and industry with impacts on people’s income and livelihood. <p>Better responses should consider positive and negative impacts. Credit other acceptable ideas.</p> <p>NB: Max 11 for an assessment of the impacts on <i>either</i> people <i>or</i> the environment.</p>		
Level	Mark	Descriptor
Level 1	1-4	A few general issues focussed on one aspect of the question. Structure is poor or absent. Explanations are over simplified and lack clarity. Geographical terminology is rarely used with accuracy. There are frequent grammar, punctuation and spelling errors.

Level 2	5-8	Some range of impacts in a largely descriptive account which is unbalanced but may address people or environment. Structure is satisfactory. Explanations are clear, but there are areas of less clarity. Geographical terminology is used with some accuracy. There are some grammar, punctuation and spelling errors.
Level 3	9-12	Some balance and a range of impacts and examples which mentions people and environment; may begin to consider positive and negative. Begins to assess. Structure is good. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are rare.
Level 4	13-15	Balanced response with good details and a range of impacts; likely to be well exemplified. Does assess the impacts on people and the environment and likely to recognise positives and negatives. Carefully structured. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are very rare.

Question Number	Question	
3a	Explain how the three scenarios shown could have very different consequences for biodiversity. (10)	
	Indicative content	
<p>The graph shows how humanity's ecological footprint exceeded earth's biocapacity in the mid 1980s (ecological deficit) and has since increased toward using the resources of 1.5 earth's i.e. use of resources that cannot be sustained. The three scenarios are likely to have different consequences for biodiversity:</p> <p>Business as usual</p> <ul style="list-style-type: none"> Continued depletion of biological resources such as deforestation and its knock on effects for species. Overfishing leading to falling fish stocks and disrupted marine food webs. Unsustainable use of coral reefs; mangrove destruction for aquaculture. Some may argue that this scenario will make climate change worse so this will lead to indirect ecosystem degradation. Credit reference to extinction. <p>Stabilisation</p> <ul style="list-style-type: none"> In this scenario resource use stabilises but above biocapacity. Biological resources already lots do not recover. This implies continued but slower degradation of biocapacity. Some might argue some areas will be conserved but others slowly deplete. <p>Return to credit</p> <ul style="list-style-type: none"> This scenario should have a positive impact on biodiversity, but eco credit is not achieved until 2040 by which time some ecosystems and species could be lost forever. More sophisticated answers might argue that active restoration might be needed as ecosystems may not 'recover' on their own. This could lead to recovery in some places. Indirect impacts should reduce over time. <p>Credit other acceptable explanations Max 4 for one scenario only.</p>		
Level	Mark	Descriptor
Level 1	1-4	A few general ideas on scenarios. Structure is poor or absent. Geographical terminology is rarely used with accuracy. There are frequent grammar, punctuation and spelling errors.
Level 2	5-7	Covers 2 scenarios with some details or 3 in less detail; some linkage to biodiversity and impacts. Structure is satisfactory. Geographical terminology is used with some accuracy. There are some grammar, punctuation and spelling errors.
Level 3	8-10	Detailed coverage of all three scenarios with good linkage to the impacts on biodiversity; may address direct / indirect impacts. Structure is good. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are rare

Question Number	Question	
3b	Using named examples, assess the advantages and disadvantages of two contrasting strategies for managing biodiversity. (15)	
	Indicative content	
<p>Strategies may come from across the spectrum and can be at any scale i.e. local, national or global and must be linked to managing biodiversity.</p> <ul style="list-style-type: none"> • Biosphere reserves / Zoning frameworks • Sustainable management e.g. Campfire • International frameworks such as CITES and IWC, Hotspots • National Park • Restoration • Ex Situ strategies e.g. zoos, versus In Situ. • Top down /bottom up <p>Examples should be used to illustrate the strategies.</p> <ul style="list-style-type: none"> • Examples might come from marine areas such the Great Barrier Reef or St Lucia Marine Management Area, or terrestrial ecosystems. • For each example used there should be advantages and disadvantages. • A structure might be used such as soc/eco/env and there may be an overall judgement of success from better candidates i.e. which approach works best. • Details will depend on the exact examples chosen. • At the top end there should be some overview of how effective strategies have been i.e. assessment. The answer could consider why some strategies are more successful than others. <p>Credit other acceptable ideas.</p> <p>NB Max 11 for a very good assessment of one strategy only.</p>		
Level	Mark	Descriptor
Level 1	1-4	A few general ideas on management; areas or contrast not clear or a brief description of one approach. Structure is poor or absent. Explanations are over simplified and lack clarity. Geographical terminology is rarely used with accuracy. There are frequent grammar, punctuation and spelling errors.
Level 2	5-8	Uses two examples / strategies; adv /disadv unbalanced and lacking details. Structure is satisfactory. Explanations are clear, but there are areas of less clarity. Geographical terminology is used with some accuracy. There are some grammar, punctuation and spelling errors.
Level 3	9-12	Two contrasting strategies with examples and some adv / disadv for both but may be partial in places; implied assessment and some details. Structure is good. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are rare.
Level 4	13-15	Two contrasting strategies supported by detailed exemplification; balance of adv /disadv for both; likely to have an overview assessment. Carefully structured. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are very rare.

Question Number	Question	
4a	Suggest reasons why this data has been used to produce the superpower index. (10)	
	Indicative content	
<p>The data relate to population, GNP, TNCs, oil reserves and patent filings. There should be some comment on how useful the data is in terms of:</p> <ul style="list-style-type: none"> • Population –could be linked to size of economy to some extent; human resources (potential workforce) are important and small countries may not be able to become powerful. May be commented on as one of the least useful as USA comes out 4th. • GNP – reflects wealth which is a source of power as it allows a country to exert global influence e.g. militarily, or invest in technology • TNCs reflect global influence and perhaps linked to cultural globalisation through brands; ability to invest abroad and influence governments; huge source of profits to reinvest at home • Oil reserves reflect energy independence although wealth may mean supplies can be ensured in other ways by importing or investing in alternatives. • Patents – reflects level of technology, education and R&D investment <p>Some candidates may see 'missing' data and may provide alternatives / additions to the data chosen such as:</p> <ul style="list-style-type: none"> • Military power / weapons / defence spending • Cultural power (hard to measure) how globalised a country is • Memberships of international organisations <p>Credit this approach if it suggests ways of making the index more relevant. Do not credit the idea of weighting etc as the question is about data choice.</p> <ul style="list-style-type: none"> • Credit other acceptable reasons 		
Level	Mark	Descriptor
Level 1	1-4	Largely descriptive; comments on what the index shows. Structure is poor or absent. Geographical terminology is rarely used with accuracy. There are frequent grammar, punctuation and spelling errors.
Level 2	5-7	Some ideas and some attempt to explain the relevance of the data but coverage is partial. Structure is satisfactory. Geographical terminology is used with some accuracy. There are some grammar, punctuation and spelling errors.
Level 3	8-10	Range of ideas which explain the value of the data and covers most parts of index; may suggest alternatives. Structure is good. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are rare

Question Number	Question
4b	Explain how theories , such as Dependency Theory and World Systems Theory, can contribute to an understanding of changing patterns of global power. (15)
	Indicative content

Expect candidates to outline the two theories:

Dependency Theory:

- AG Frank and others – essentially developed countries keep developing nations in a state of underdevelopment by controlling terms of trade.
- Low value commodity exports move to MEDCs while high value goods move to the developing world.
- Control of debt, high-skill migration (brain drain), SAPs and control of innovation by TNCs (patent royalties) might all be used as evidence to support this theory.
- Some might compare earlier direct colonial control with dependency, arguing for neo-colonialism i.e. more subtle control but the same result.
- On the other hand the rich / poor world of dependency theory may seem over simplistic and clearly some countries (Japan, the BRICS) have moved out of dependency.
- Some might cite the fact that powers have declined in the past (USSR, UK) as evidence that the theory over-simplifies the world.

World Systems theory (analysis or approach)

- Related to dependency theory but is a three way division between core, semi-periphery and periphery.
- Some may see this as more realistic in a world with the EU/USA, NICS/BRICs and developing world.
- Expect candidates to fit nations / groupings into this broad model.
- Credit linkage to the idea of globalisation, and semi-periphery being exploited as a workshop to produce cheap hi-tech goods for the core.

Credit the use of other theories / models, such as:

- **Rostow's** take-off model / modernisation theory – could be related to the rise of the BRICs especially China and Brazil
- **Mackinder's Heartland theory** - essentially historical, but could be related to the cold war battle for control of Europe, and more modern arguments about Eastern European membership of NATO/location of US missile defence sites.
- **Friedman's core periphery model** – might be used to explain how core countries keep themselves 'on top' by diverting resources (human and physical) from the periphery.

Some might comment that many NICs that have developed have done so due to support/aid from the USA e.g. Japan, South Korea, Taiwan.

NB Max 11 for a good explanation of how one theory can help understanding of changing patterns of power.

Level	Mark	Descriptor
Level 1	1-4	Limited ideas on theory; cursory outlines in a descriptive account. Structure is poor or absent. Explanations are over simplified and lack clarity. Geographical terminology is rarely used with accuracy. There are frequent grammar, punctuation and spelling errors.
Level 2	5-8	Some attempt to outline theories with some detail and link to the world today but limited depth. Structure is satisfactory. Explanations are clear,

		but there are areas of less clarity. Geographical terminology is used with some accuracy. There are some grammar, punctuation and spelling errors.
Level 3	9-12	Theories stated and clearly linked to patterns of power / influence; the differences between the theories are clear; some evidence / examples. Begins to consider contribution to explaining patterns. Structure is good. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are rare.
Level 4	13-15	Theories explained and linked to changing patterns of power; assessment of how applicable / useful each is. Carefully structured. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are very rare.

Question Number	Question
5a	Explain some of the human and environmental consequences of the mobile phone life cycle. (10)
	Indicative content

There are a wide range of possibilities – do not expect full coverage of the resource but there should be a good range in L2 and L3.
Consequences can be positive or negative.

	Human	Environmental
INPUTS	Jobs (+); possible health impacts for mining (-).	Landscape and pollution issues; mine waste, land loss (-).
Manufacture	Jobs (+) but could be low paid in China (-); waste impacts on human health; poor worker conditions (-).	Waste impacts on ecosystems; climate change; carbon footprints (-).
Distribution	Jobs. Might make the point that it is a growing industry with high product turnover (+).	Energy use and impacts from transport (-).
Texts	Keeping people connected; possible positive uses in the developing world (hazards warning; access to market prices) (+).	
Health	Details of concerns especially for children; credit base station impacts (-)	
Disposal	Serious concerns about ID theft; financial issues (-)	Landfill issue, waste and toxins leaking into environment (see inputs) (-)
Reuse	Leapfrogging using reused mobiles; Contribution to development if sent to developing world (+).	
Recycling		Positive impacts of recycling; reduction in resource use (+).

Note that there is text on Figure 5, and candidates need to go beyond this to develop their own ideas not simply lift-off.

Credit other acceptable suggestions.

NB Max 7 for either human or environmental consequences.

Level	Mark	Descriptor
Level 1	1-4	A few ideas; relies on lift-offs from figure; unbalanced. Structure is poor or absent. Geographical terminology is rarely used with accuracy. There are frequent grammar, punctuation and spelling errors.
Level 2	5-7	Range of explanations which build from figure 5, for both people and environment; some balance but variable depth. Structure is satisfactory. Geographical terminology is used with some accuracy. There are some grammar, punctuation and spelling errors.
Level 3	8-10	Balanced; explanations building from Figure 5 to introduce own ideas; good details which is likely to recognise positive as well as negative consequences. Structure is good. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are rare

Question Number	Question
5b	Using examples, assess the contribution technology might make to improving the environment and peoples' quality of life. (15)
	Indicative content

Technology refers to tools, systems and processes which are invented by humans. A large range of examples could be used from a broad range of technological fields but these need to be linked to quality of life and the environment (natural or built):

	Environment	Quality of life
Energy technology	Renewable sources reduce pollution (<i>but issues of cost, reliability, difficulties with some future technologies such as hydrogen</i>)	Energy links to the development process - jobs, income, well-being (<i>but impact of biofuels on food prices; nuclear safety issues</i>)
Water technology	Conservation strategies, use of grey water, rainwater harvesting reduces problem of over-use (<i>cost issues</i>)	Improving sanitation and health; water supply for farming (<i>but needs upscaling</i>)
Transport technology	Hybrids, hydrogen, alternative fuels or increased efficiency to reduce emissions (<i>but costly and not fully developed</i>)	Linked to environmental health in cities; reduced pollution levels.
Farm technology	Potential of GM to reduce inputs (<i>but GM controversy</i>)	Switch to organic – health benefits. Food security through GR / GM + incomes, health. (<i>but controversial</i>)
Geoengineering technology	To tackle global warming or land degradation (<i>but high cost / issues of will it work? / unforeseen consequences</i>)	Reduces environmental degradation, and social impacts of this.
Medical technology	(Disposal of medical waste)	Such as new drug treatments, vaccinations – might be related to Polio, Aids, TB. (<i>Cost / access issues</i>).

Assessment could be for individual examples, or by comparing examples and suggesting which fields of technology have the most potential.

Alternative answers are possible arguing that reliance on technology 'got us into this mess' and a different approach is needed.

Some might argue that technology does not improve quality of life / environment; this is acceptable but answers will need some balance.

Credit other acceptable ideas.

NB Max 11 for a good assessment of the contribution to **either** environment **or** quality of life.

Level	Mark	Descriptor
Level 1	1-4	A few ideas of a descriptive nature outlining some technological ideas / innovations but with little detail. Limited link to QoL/ Env. Structure is poor or absent. Explanations are over simplified and lack clarity. Geographical terminology is rarely used with accuracy. There are frequent grammar, punctuation and spelling errors.
Level 2	5-8	Some range of technologies discussed; may have a narrow theme and tend to be just stated; unbalanced on QoL/Env. Structure is satisfactory. Explanations are clear, but there are areas of less clarity. Geographical terminology is used with some accuracy. There are some grammar, punctuation and spelling errors.
Level 3	9-12	Range of ideas and technologies which are linked to QoL / Env – likely to have some balance; begins to assess perhaps individually. Structure is good. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are rare.
Level 4	13-15	Range of ideas and some detail / examples which are linked to QoL and Env; balanced; detailed assessment; may provide an overview. Carefully structured. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are very rare.

SECTION B

Resource Booklet. Please note the following:

The first suggested website on Morocco's tourism development strategy Vision 2010 was available during the pre-release phase but the website was updated after this date and some of the details on Plan Azur were not available. The information could easily be found elsewhere on the web.

The WWF suggested website on ecoregions was available, but the website was updated after this date perhaps making the information on ecoregions harder to find via that website. The information could easily be found elsewhere on the web.

The information on the green area within Figure 2 is not entirely accurate. **Note** that the original data for **Morocco** was accurate.

Percentage (%) of employment in:					
Agriculture	1	11	8	45	12
Industry	62	28	63	20	47
Services	37	61	29	35	41

Accurate data e.g. from the CIA World Factbook:

Percentage (%) of employment in:					
	LIB	TUN	ALG	MOR	MAU
Agr	17	18.3	14	44.6	50
Ind	23	31.9	13.4	19.8	20
Serv	59	49.8	72.6*	35.5	40

- (*combined construction and public works 10%, trade 14.6%, government 32%, other 16%). Other data sources may have been used by students e.g. WRI. World Bank etc.
- Credit **use / interpretation** of the data as it stands in Figure 2.
- Credit the use of other data from research.

Be wary of students arguing about the data's accuracy as this is unlikely to be answering the question.

This data is most likely to be referred to in **Q6a** and possibly **Q6b**.

Brief summary of recent events in the countries of the Maghreb:

The protests in the Maghreb, and the wider Arab region, are different depending on which country is examined but there are some common threads namely:

- *Protests against autocratic rulers: many ruled for decades using 'state of emergency' powers.*
- *Protests against high unemployment.*
- *Protests against lack of housing, rising fuel and food prices.*

Libya	Protests began in Feb 2011 against the Gadaffi regime, especially in the East. This has escalated into an ongoing civil war, virtually shutting the country off and ending oil production. The UN passed resolution 1973 in March authorising a no-fly zone. Since then the USA and latterly NATO has led a bombing campaign against Gadaffi's forces. Some Arab states e.g. Qatar have been involved in this.
Tunisia	Street protests began in Dec 2010 and became increasingly violent. Protests focussed on the rule of President Ben Ali, unemployment, food prices and corruption. Ben Ali fled on 14 th January 2011. The country has an interim government and relative calm has returned.
Algeria	Protest began here in December 2010 and continued in the New Year; some reforms have been promised.
Morocco	There were pro-democracy rallies in February 2011. Protests have continued, sporadically, since. A bomb exploded in a crowded tourist café in Marrakech in May.
Mauritania	There have been some relatively minor protests here.

Reference to these wider issues is most likely in:

Q6a: perhaps arguing that tourists will be put off, so tourism is perhaps not a good strategy.

Q6c: the direction for the Maghreb given the heavy involvement of European countries / NATO and the involvement of some Middle Eastern states; note that some Africans e.g. Jacob Zuma, have tried to mediate in Libya.

Question Number	Question
6a	Outline the strengths and weaknesses of Morocco's decision to use tourism as a major development strategy. (14)
	Indicative content

The region as a whole, including Morocco, has much to offer tourists such as:

Strengths	Weaknesses
<ul style="list-style-type: none"> • World Heritage sites and interesting visitor attractions. • An ideal climate. • Long coastlines. • Morocco is close to a key European market and little further from the UK than Spain for instance. • Tourism is relatively easy to set up compared to major manufacturing as it needs limited infrastructure beyond hotel complexes and airports. • The country's Plan Azur/ Vision 2010 is very large, modern and prices are likely to be competitive (recent shift towards all inclusive) • Plan Azur does rely on private investment not borrowing and debt. • The development of an Open Skies agreement with the EU seems to be a positive move and it has led to increased flight from low cost operators, some of which are Moroccan. 	<ul style="list-style-type: none"> • Security concerns (the recent bomb in Marrakech notably) with the region which may put people off visiting. • Tourism is fickle / volatile and effected quickly by recession. • Morocco is heavily reliant on tourism income now (Figure 7), should it become even more so? • Regionally (Figure 7) growth has been slowing and tourism growth seems very cyclical in the region. • The global recession, not really mentioned in the Resources, undermines tourism as a development strategy as holidays are one of the first things consumers cut back on. • Control of resort development seems to be in the hands of western TNCs and this raises issues of leakage (View 1). • The jobs created are low wage and low skill – will this attract workers back from overseas? • One potential resort has yet to find an investor. • Some airlines are not Moroccan – leakage issues. • Some might argue that mass tourism, especially in more traditional urban locations may actually ruin the very culture / heritage the country tends to be known for.

Credit comment on environmental concerns and impacts which are directly related to developing tourist sites. Credit other relevant points.

Some might use a soc / eco / env structure for strengths and weaknesses.

Synoptic linkages

Unit 4 Consuming the rural landscape

Unit 1 Globalisation

Unit 2 Crowded Coasts

Level	Mark	Descriptor
Level 1	1-4	A few general ideas, descriptive and reliant on resources provided. Very narrow focus and unbalanced. Structure is poor or absent. Explanations are over simplified and lack clarity. Geographical terminology is rarely used with accuracy. There are frequent grammar, punctuation and spelling errors.
Level 2	5-7	Some range of ideas but not in depth; unbalanced strengths / weaknesses. Structure is satisfactory. Explanations are clear, but there are areas of less clarity. Geographical terminology is used with some accuracy. There are some grammar, punctuation and spelling errors.
Level 3	8-11	Good range of ideas with some balance between strengths and weaknesses and some details provided: structure is good. Some reference to synoptic links. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are rare.
Level 4	12-14	Range of detailed ideas with balance between strengths / weaknesses; likely to take an overview. Carefully structured. Strong synoptic links. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are very rare.

Question Number	Question	
6b	To what extent does environmental change threaten economic development and ecological wellbeing in the Maghreb?(12)	
Indicative content		
<p>Environmental changes mentioned could include:</p> <ul style="list-style-type: none"> • Overuse of groundwater, sometimes fossil, leading to lower water availability, saltwater incursion and possibly salinisation of farmland. • Desertification, which threatens the southern edge of the coastal strip (Fig 11) • Loss of ecosystems / biodiversity is key ecoregions. • Climate change might be mentioned from research (synoptic). <p>There are a number of ways these environmental concerns could have impacts on the region:</p> <ul style="list-style-type: none"> • Unsustainable groundwater use and long term depletion is leading to high cost measures to ensure supply e.g. desalination plants and schemes such as Libya's great man-made river project. • Water scarcity is a growing issue; some might say a critical issue as the region has physical water scarcity – links to the MDG. How can Morocco's tourism expansion be supported by water? Desalination is costly and may rely on fossil fuels (further pollution). • Desertification is a growing threat to ecosystems and irrigated farmland (food supply / food security); urbanisation and tourism development may worsen what is already a severe problem in many areas. Climate change may make the problem even worse. • Ecosystems are under threat (Fig 11) and this may begin to affect tourist numbers if degradation continues and is a direct threat to ecosystem wellbeing. • Urbanisation leading to loss of land (ecosystems) and pollution, especially if associated with slum type housing – creating unsustainable urban spaces. • Credit other issues from research such as water pollution, local or urban air pollution and over fishing, plus ref to wider issues such as the MDG and sustainable development. <p>NB the issues discussed must have an environmental slant.</p> <ul style="list-style-type: none"> • Credit other acceptable points <p>Synoptic linkages Unit 3 Water conflicts Unit 3 Biodiversity under threat Unit 4 Life on the margins Unit 1 Climate change</p>		
Level	Mark	Descriptor
Level 1	1-4	General comments on env issues, lacks link to ecological wellbeing/ dev. Structure is poor or absent. Explanations are over simplified and lack clarity. Geographical terminology is rarely used with accuracy. There are frequent grammar, punctuation and spelling errors.
Level 2	5-8	Some range of ideas which cover a range of concerns with some balance between ecological wellbeing and economic development. Structure is satisfactory. Some reference to synoptic links. Explanations are clear, but there are areas of less clarity. Geographical terminology is used with some accuracy. There are some grammar, punctuation and spelling errors.

Level 3	9-12	Balanced, detailed range of issues and how they could impact on economic development and ecological wellbeing; assesses severity/ judges extent of problems. Structure is good. Explanations are always clear. Synoptic. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are very rare.
---------	------	--

Question Number	Question
6c	The Maghreb is at a political and economic crossroads . Evaluate the costs and benefits of the possible directions it could take for its future development. (14)
	Indicative content

The idea of a 'crossroads' implies that the region is at a turning point in some way. The **signpost** at the start of the resources points to 3 directions. One answer approach would be to assess these 3 directions:

- **EU:** pulled towards the EU by the Barcelona process and the Union for the Mediterranean; strong ties with some EU countries e.g. France; increased tourism and trade flows connect the region to Europe, **but** the idea of a Med Union does not sit well with all EU countries.
- **Middle East:** greater participation in the Arab world through GAFTA; strong religious ties to the Middle East. Libya and Algeria are oil rich OPEC members, **but** the Middle East region is a troubled one and oil prices volatile.
- **Africa** – pressures for African integration (the AU / CSSS) **but** the Maghreb is more developed than most of the rest of Africa in terms of urbanisation and income. Some argue that the region has **little in common** with SSA (culture, religion, problems)

An alternative direction could be internal:

- **Regional stability** – Arab Maghreb Union could lead to further regional integration and perhaps improved cross border trade and joint decision making **but** tense relations and internal squabbles might continue if the AMU is not reinvigorated (recent events relevant here).

Another approach is to consider types of development that could occur in the region:

- Continued reliance on commodity exports, or attempt to diversify economic base by encouraging FDI by TNCs, **but** perhaps becoming dependent on low skill jobs.
- Many young and skilled workers have emigrated and the region relies heavily in remittances – it could be argued it needs to develop its own economic sectors **but** this is costly and difficult (loans from World Bank etc, **but** debt issues)
- Greater dependency on sending workers abroad and relying on remittances, **but** this is vulnerable to recessions and fails to develop home grown skills.
- Investment in education and skills to increase employment among young males, and females, **but** this requires cultural as well as economic change.
- Further tourism development (regional focus) which has costs and benefits; might argue for more indigenous development of tourism, or ecotourism.
- Further developments in energy i.e. oil in Libya, Algeria or even renewables e.g. solar exports to Europe.
- Credit the idea that different countries in the region need to take different development paths.
- Credit other relevant 'directions'

Max 8 for one 'direction' only. For L4 the region should be considered, not just ideas for individual countries.

Synoptic linkages

Unit 1 Migration and trade blocs / country groupings

Unit 1 Some linkage to globalisation

Unit 3 Superpowers /EU

Level	Mark	Descriptor
Level 1	1-4	Largely focussed on one aspect, such as which trade grouping to join; generalised. Explanations are over simplified and lack clarity.

		Geographical terminology is rarely used with accuracy. There are frequent grammar, punctuation and spelling errors.
Level 2	5-7	Some range of ideas related to different directions but likely to be unclear on costs and benefits. Structure is satisfactory. Explanations are clear, but there are areas of less clarity. Geographical terminology is used with some accuracy. There are some grammar, punctuation and spelling errors.
Level 3	8-11	Range of ideas and some details; costs and benefits for several directions but may be unbalanced. Begins to evaluate. Some synoptic links. Structure is good. Explanations are generally clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are very rare.
Level 4	12-14	Range of detailed ideas for the region in terms of directions; evaluation of costs versus benefits; likely to provide an overview. Likely to mention political and economic aspects. Strong synopticity. Structure is good. Explanations are always clear. Geographical terminology is used with accuracy. Grammar, punctuation and spelling errors are very rare.

Further copies of this publication are available from
Edexcel Publications, Adamsway, Mansfield, Notts, NG18 4FN

Telephone 01623 467467

Fax 01623 450481

Email publication.orders@edexcel.com

Order Code UA027996 June 2011

For more information on Edexcel qualifications, please visit
www.edexcel.com/quals

Pearson Education Limited. Registered company number 872828
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE

Ofqual




Llywodraeth Cynulliad Cymru
Welsh Assembly Government

