

Geography

Advanced GCE

Unit **F763**: Global Issues

Mark Scheme for January 2013

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

© OCR 2013

Annotations

Annotation	Meaning
	Unclear.
	Omission mark.
	Issue identified (Section A).
	Strategy identified (Section A).
	Irrelevant, a significant amount of material that does not answer the question.
	Level one.
	Level two.
	Level three.
	No examples.
	Rubric infringement.
	Highlighting an issue eg irrelevant paragraph. Use in conjunction with another stamp eg  or  .
	Point has been seen and noted.
	Evaluative point/paragraph.

Questions	Answer	Marks	Guidance
<p>1 to 6</p>	<p>Candidates should receive credit for a particular issue identified in the resource or a broader generic issue. However, this latter issue must originate from the resource, such as secondary impacts of hazards. Strategies must be appropriate to the particular issue identified for Levels 2 and 3.</p> <p>Balance between issue and strategies—given that ONE issue is required but STRATEGIES are to be included, most responses can be expected to have a balance of about quarter/three quarters issue/strategies.</p> <p>The inclusion of only ONE strategy will not reach Level 3 and is unlikely to go beyond bottom of Level 2.</p> <p>But this can not be prescriptive as the precise balance is likely to vary.</p> <p>Some responses will inter-mix issue and strategies, meaning that the response must be read carefully to disentangle the two. If communication is clear then this will help inform the Level.</p> <p>Annotate in the margin as follows;</p> <p> for issue</p> <p> for each strategy</p>		<p>For each question in Section A:</p> <p>AO1 Knowledge and understanding accounts for 4 marks. AO2 Analysis, interpretation and evaluation accounts for 4 marks. AO3 Investigate, conclude and communicate accounts for 2 marks.</p> <p>Level 3 (9–10 marks) Substantial knowledge and authoritative understanding of the appropriate issue. Clear application of relevant knowledge and understanding to the question set including the evaluation of appropriate management strategies. Clear structure and organisation. Communication is clear with maps, diagrams, and statistics, if appropriate. Accurate use of geographical terms.</p> <p>Level 2 (5–8 marks) Sound knowledge and understanding of the appropriate issue. Sound application of relevant knowledge and understanding to the question set including the evaluation of appropriate management strategies. Sound structure and organisation. Communication is generally effective with maps, diagrams, and statistics, if appropriate. Geographical terms are mainly used effectively.</p> <p>Level 1 (0–4 marks) Poor knowledge and understanding of the appropriate issue. Limited application of relevant knowledge and understanding to the question set including the evaluation of appropriate management strategies. Poor structure and organisation. Much inaccuracy in communication and limited and/or ineffective use of geographical terms.</p>

Question	Answer	Marks	Guidance
1	<p>‘What are the hazards associated with mass movement and slope failure?’ is one of the Questions for Investigation in this Option. The physical disturbance of equilibrium is explicitly mentioned which is what this resource highlights with its inclusion of water content and speed of movement are explicitly mentioned in the Spec. A response which has a focus on a single mass movement type eg solifluction or mud flow is appropriate as is one which considers a range of mass movements.</p> <p>Indicative Content</p> <p>Possible geographical issues include:</p> <p>Physical issues;</p> <ul style="list-style-type: none"> • Contrasting speeds of mass movements • Role of increasing water content and calibre of particles • Some high velocity events do not involve water <p>Human issues;</p> <ul style="list-style-type: none"> • Slow mass movements have different issues for human activities compared to high; more difficult to predict high velocity events eg rock fall • Human activities as causal factors in some mass movements eg deforestation leading to debris slides and flows. <p>Possible management strategies:</p> <ul style="list-style-type: none"> • The distinction between short and long term strategies is welcome and sensible • Reduce the risk eg reforestation; terracing; artificial slope drainage; hard engineering such as bolting, netting; hazard mapping of likely flows and slides; land use zoning to place activities out of harms way • Solifluction – insulated ice pads protecting permafrost from melting; flexible pipe connections to allow for movement • Evacuation/warnings 	10	<p>The issue identified can be either purely physical or human. Clearly the two sets of factors interact and so candidates have no shortage of material to draw from.</p>

Question	Answer	Marks	Guidance
2	<p>One of the prominent themes running through this Option is that environments are subject to constant change as the physical conditions and human activities operating on them change. Land degradation exemplifies this extremely well with both physical and human factors involved. It must be remembered that candidates are not required to study land degradation specifically; the resource acts as a stimulus for the issue of changing environments. It also picks up on the idea that impacts of human activity vary with location. The question of sustainable management of environments is also a theme of this Option.</p> <p>Indicative Content</p> <p>Possible geographical issues include:</p> <p>Physical issues;</p> <ul style="list-style-type: none"> • Effect of intense rainfall on degraded land • Natural vegetation type eg semi-arid environments more at risk from erosion (wind + water) • Some locations more susceptible than others eg loess <p>Human issues;</p> <ul style="list-style-type: none"> • Many areas at risk are in LEDCs; link with population growth • MEDCs also have areas at risk; link with development pressures • Some farming practices more likely to cause land degradation than others • Salinisation – a good example of an unintended way human activities can pose an environmental threat • Over-cultivation and or over-grazing • Deforestation exposing soil • Inappropriate application of fertilisers, herbicides can lead to degradation. <p>Possible management strategies:</p> <ul style="list-style-type: none"> • Changing farming practices eg re-introduction/extension of fallow period; green manures; winter planting to give vegetation cover to protect soil; appropriate irrigation; planting of wind breaks; stone walls along contours; reforestation • Population policies to reduce pressure on land; migration away from areas of high pressure eg Indonesia's trans-migration policy. 	10	<p>The issue identified can be either purely physical or human. Clearly the two sets of factors interact and so candidates have no shortage of material to draw from.</p> <p>It is also clear that land degradation is a global problem, found in LEDCs and MEDCs – this point a likely Level 3 indicator.</p>

Question	Answer	Marks	Guidance
3	<p>In the section of this option under Question for Investigation ‘In what ways do human activities create climate hazards?’ candidates are required to consider how human activities may create particular climatic hazards. They are required to study either photochemical smog or acid rain so the resource caters for that choice.</p> <p>Indicative Content</p> <p>Possible geographical issues include:</p> <p>Physical issues;</p> <ul style="list-style-type: none"> • factors leading to the formation of either photochemical smog or acid rain • impact of acid rain on ecosystems eg forests and freshwater; enhanced weathering of exposed rock, especially limestones • factors leading to the formation of anticyclonic conditions • heatwaves • dust storms in certain locations <p>Human issues;</p> <ul style="list-style-type: none"> • smog – reduction in air quality linked with an increase in respiratory problems in particular but general health as well; reduction in visibility (smog + dust) and impacts on transport eg air traffic • acid rain – impact on economic value of ecosystems eg forestry and fishing; accelerated weathering of buildings especially concerning historic ones eg Taj Mahal • extreme heat and its effect on health <p>Possible management strategies:</p> <ul style="list-style-type: none"> • Smog – long-term measures to reduce output of contributing gases eg nitrous oxides from vehicle emissions for example; short-term measures involving health care • Acid rain – long term measures to reduce output of contributing gases eg sulphur dioxide from power stations for example; short term measures involving adding basic material to lakes to reduce acidity • Extreme heat – short-term measures eg air conditioning on underground mass transit networks; hospitals prepared for additional admissions especially of elderly. <p>Where both long and short term responses included likely to indicate top of Level 2+ response.</p>	10	The issue identified can be either purely physical or human. Clearly the two sets of factors interact and so candidates have no shortage of material to draw from.

Question	Answer	Marks	Guidance
4	<p>One of the Questions for Investigation is ‘What factors affect the supply and use of resources?’ The resource showing an abandoned mine prompts candidates to think about the influence of physical and socio-economic factors both in terms of supply and demand; the Specification makes specific reference to factors changing through time.</p> <p>Indicative Content</p> <p>Possible geographical issues include:</p> <p>Physical factors;</p> <ul style="list-style-type: none"> • Exhaustion of commercially viable reserves • Difficult geological conditions encountered • Legacy of polluted land and water, visual intrusion on landscape <p>Human factors;</p> <ul style="list-style-type: none"> • Changing market conditions • Resource substituted by another • Reduction in demand • Changing technology • Political factors eg withdrawal of rights to mine • Socio-economic impacts on local population <p>Possible management strategies:</p> <ul style="list-style-type: none"> • Investment into overcoming physical factors • Acceptance of un-economic conditions so stopping supply but with amelioration of socio-economic impacts as a possible top of Level 2+ point • Controlling production so that exhaustion delayed • Planning responses eg regional aid and cleaning of polluted land before redevelopment 	10	<p>Candidates are required to study at least two resources including one non-energy resource. Their comments may therefore, not fit neatly to a mineral context but nevertheless, appropriate comments about resource supply and use can reach full marks.</p>

Question	Answer	Marks	Guidance
5	<p>One of the questions for investigation in this option is ‘How can Governments evaluate and manage the impact of globalisation?’</p> <p>The text introduces the idea of winners and losers from the globalisation process and that different governments have different responses.</p> <p>Indicative Content</p> <p>Possible geographical issues include:</p> <ul style="list-style-type: none"> • Globalisation is making more and more locations interdependent, but... • Wealth created as result of globalisation spatially uneven • Social impacts of globalisation spatially uneven and can be positive and negative • Governments can find themselves unable to cope with effects of globalisation such as trade issues <p>Possible management:</p> <ul style="list-style-type: none"> • Protect vulnerable industries in LEDCs against cheap imports from MEDCs with tariffs and quotas • Gain agreement for MEDCs to withdraw subsidies on exports that may undermine some economic activities in LEDCs • More even spread of FDI • Aid packages for LEDCS to assist in education and training of their workforce to allow them to develop manufacturing + service industries • Governments joining in various types of associations eg EU, NAFTA • Management of migration flows • Support for local culture eg government support of regional arts groups 	10	<p>Issue and strategies should be national scale as this is the context of the resource but comments about trans-national groupings such as EU and NAFTA are appropriate, representing as they do the combined efforts of governments.</p> <p>The Specification requires the study of at least one country in terms of the management of the impacts of globalisation so we must be sensitive in our expectation of the breadth of strategies.</p>

Question	Answer	Marks	Guidance
6	<p>The focus of this option is on inequalities, their patterns, causes and implications for communities and the environment. A question for investigation is ‘To what extent is the development gap increasing or decreasing?’</p> <p>The resource highlights the inequalities in tangible matters (economic growth, wealth) as well as in attitudes (denial, consumerism).</p> <p>Indicative Content</p> <p>Possible geographical issues include:</p> <ul style="list-style-type: none"> • The fundamental issue of the widening Development gap, seen most acutely in sub-Saharan Africa • The resource implies an uneven distribution of inputs in the global economic system (rowing) compared to the outputs (wealth and profits) • Role of current economic crisis ‘sinking’ the western world and needing the emerging economies to help revive the world economy <p>Possible management strategies:</p> <ul style="list-style-type: none"> • Encourage more development aid/projects which are sustainable. Roles of UN, World bank, IMF, EU, and individual governments • Role of WTO in promoting trade on terms which only advantage MEDCs + NICs • Role of FairTrade organisation and other NGOs • Fair trade agreements • Policies to revive economy either national scale or trans-national 	10	<p>Issues and strategies should reflect the global scale of development and inequalities of the cartoon.</p> <p>Interpretation of a cartoon can take many forms and we must be open to a very wide range of possible responses. Each answer must be taken on its individual merit although there are some fundamental issues and strategies here.</p>

Question	Answer	Marks	Guidance
7	<p>Flood risk is explicitly mentioned in the Specification with both river and coastal flooding to be studied. It is, however, possible to reach top of Level 3 in the AOs through a detailed consideration of one of these two types of flooding. Indeed, as with many answers in this paper, breadth or depth of approach is equally valid.</p> <p>Indicative Content</p> <p>A Key Idea in the Specification is that flood risk reflects a combination of physical and human factors. There should, therefore, be substantial support for this assessment, both in theoretical terms and through exemplification. Evaluation comes from assessing how these two sets of factors and individual factors within each set, vary from place to place. There is also an interesting debate to be had when discussing how and why flood risk alters through time.</p> <p>Physical factors include: Climate and weather patterns; relief eg altitude and slope angle; geology; drainage regime; drainage density; vegetation; tidal range; shape of coastline; sea level change; tsunami risk.</p> <p>Human factors include: Changes in land-use eg urbanisation, farming practices, deforestation/aforestation; economic influences; political influences eg land-use zoning.</p> <p>There is a wide range in the scale of flood risk with one possible indicator of a Level 3 response being one that appreciates similarities and differences between the causes of floods at different scales.</p>	30	<p>AO1 Knowledge and understanding</p> <p>Level 3 (8–9 marks) Substantial knowledge and authoritative understanding of both physical and human factors involved in flood risk. Causes and effects are convincing. There is secure use of detailed exemplification.</p> <p>Level 2 (5–7 marks) Sound knowledge and understanding of physical and human factors. Some responses might be assessed at this level if they offer a particularly uneven account of either physical or human. Cause and effect is evident but not always convincing. There is some use of exemplification.</p> <p>Level 1 (0–4 marks) Poor knowledge and understanding of physical and human factors. Cause and effect not understood well. There is little exemplification. Some responses might only describe one set of factors.</p> <p>AO2 Analysis, interpretation and evaluation</p> <p>Level 3 (14–17 marks) Clear and convincing analysis and evaluation of the various risk factors. There is effective evaluation of the relative significance of the factors, both physical and human, with a balanced coverage of the two sets.</p> <p>Level 2 (8–13 marks) Some analysis and evaluation of the various risk factors. Some evaluation of the relative significance of the factors, both physical and human, although likely not to be balanced between the two sets.</p>

Question	Answer	Marks	Guidance
			<p>Level 1 (0–7 marks) Limited analysis and evaluation of the various risk factors. Little or no attempt to evaluate the relative significance of any of the factors, physical and human.</p> <p>AO3 Skills and communication</p> <p>Level 3 (4 marks) Clear structure and organisation, including a clear conclusion. Communication is clear with authoritative use of grammar and spelling and accurate use of geographical terms. Maps, diagrams and statistics are used effectively, if appropriate.</p> <p>Level 2 (3 marks) Sound structure and organisation, including a limited conclusion. Communication is generally effective although errors in grammar and spelling and some inaccurate use of geographical terms are likely to be present. Maps, diagrams and statistics are not used effectively.</p> <p>Level 1 (0–2 marks) Basic structure and organisation, with no attempt at a conclusion. Communication is ineffective with errors in grammar and spelling and little use of geographical terms or their inaccurate use. Maps, diagrams and statistics are not used.</p>

Question	Answer	Marks	Guidance
8	<p>This is a wide ranging evaluation in this Option and requires a focus on the nature of the range of impacts earth hazards bring. In this context, vulnerability is an interesting concept as it encourages us to appreciate the impacts which people experience, in this case any impacts arising from mass movements and slope failure, volcanoes and earthquakes and flooding, both river and coastal. There are some interesting possibilities for candidates to discuss. For example the short-term high intensity impact of a high magnitude earthquake versus longer term lower intensity such as some volcanic eruptions eg Hawaii.</p> <p>Indicative Content</p> <p>It is important that we are open to the ways candidates classify primary/secondary. This is most likely to be in the form of short and long-term impacts. The Spec asks that some specific earth hazard events and locations susceptible to earth hazards are investigated so we can expect some effective exemplification.</p> <p>Responses might consider points such as the scale of the hazard including the energy involved; urban/rural locations; LEDC/MEDC; upland/lowland; degree of predictability.</p> <p>It is very important that we recognise the broad scope of this question and so a Level 3 response does not need to include reference to every type of earth hazard. However, a focus on just one, volcanoes or flooding for example, is likely to be rather self-limiting as regards effective knowledge, understanding and in particular, evaluation.</p>	30	<p>AO1 Knowledge and understanding</p> <p>Level 3 (8–9 marks) Substantial knowledge and authoritative understanding of the various types of impacts of earth hazards. There is secure use of detailed exemplification.</p> <p>Level 2 (5–7 marks) Sound knowledge and understanding of the various types of impacts of earth hazards. Some responses might be assessed at this level if they offer a particularly uneven account of either primary or secondary impacts. There is some use of exemplification.</p> <p>Level 1 (0–4 marks) Poor knowledge and understanding of the various types of impacts of earth hazards. There is little exemplification. Some responses might only describe one set of impacts.</p> <p>AO2 Analysis, interpretation and evaluation</p> <p>Level 3 (14–17 marks) Clear and convincing analysis and evaluation of the various impacts, economic, social and environmental. There is effective evaluation of the relative significance of the impacts, both primary and secondary, with a balanced coverage of the two sets.</p> <p>Level 2 (8–13 marks) Some analysis and evaluation of the various impacts, economic, social and environmental. Likely to be an unbalanced coverage of these three. Some evaluation of the relative significance of the impacts, both primary and secondary, although likely not to be balanced between the two sets.</p>

Question	Answer	Marks	Guidance
			<p>Level 1 (0–7 marks) Limited analysis and evaluation of the various impacts, economic, social and environmental. Likely that only one of these three will be discussed. Little or no attempt to evaluate the relative significance of any of the impacts, either primary or secondary.</p> <p>AO3 Skills and communication</p> <p>Level 3 (4 marks) Clear structure and organisation, including a clear conclusion. Communication is clear with authoritative use of grammar and spelling and accurate use of geographical terms. Maps, diagrams and statistics are used effectively, if appropriate.</p> <p>Level 2 (3 marks) Sound structure and organisation, including a limited conclusion. Communication is generally effective although errors in grammar and spelling and some inaccurate use of geographical terms are likely to be present. Maps, diagrams and statistics are not used effectively.</p> <p>Level 1 (0–2 marks) Basic structure and organisation, with no attempt at a conclusion. Communication is ineffective with errors in grammar and spelling and little use of geographical terms or their inaccurate use. Maps, diagrams and statistics are not used.</p>

Question	Answer	Marks	Guidance
9	<p>One of the Questions for Investigation in this Option is ‘What are the main components of ecosystems and how do they change over time?’ Associated with this is the Key Idea that there are a number of physical and human components and that these interact.</p> <p>Indicative Content</p> <p>Human components/activities should receive a wide interpretation, including agriculture, forestry, settlement, transport, industry, mineral extraction. Human components tend to modify natural ecosystems. These may be deliberate such as firing grassland/moorland to improve quality of young vegetation or inadvertent such as the introduction of alien species into an area. There is an effective discussion to be had here regarding the degree to which human components operate in positive (eg conservation) or negative ways; in the main the role is a negative one. The main ecological effects are, reduction in biodiversity; reduction in energy flows; shortening of food chains and reduction in complexity of food webs; reduction in NPP and biomass; greater instability within the ecosystem due to less complex structure.</p> <p>There is also the opportunity for responses to consider species re-introduction in areas where human components had previously been responsible for their loss; wolves in Yellowstone and beavers in Scotland for example. The role of conservation is an interesting one here and offers a welcome change from the ‘doom and gloom’ often served up in the context of this topic.</p> <p>Supporting material for discussion is not in short supply and local examples are also welcome here.</p>	30	<p>AO1 Knowledge and understanding</p> <p>Level 3 (8–9 marks) Substantial knowledge and authoritative understanding of the operation of human factors on ecosystem change. There is secure use of detailed exemplification.</p> <p>Level 2 (5–7 marks) Sound knowledge and understanding of the operation of human factors on ecosystem change. There is some use of exemplification.</p> <p>Level 1 (0–4 marks) Poor knowledge and understanding of the operation of human factors on ecosystem change. There is little exemplification.</p> <p>AO2 Analysis, interpretation and evaluation</p> <p>Level 3 (14–17 marks) Clear and convincing analysis and evaluation of the relative role of human components in ecosystem change.</p> <p>Level 2 (8–13 marks) Some analysis and evaluation of the relative role of human components in ecosystem change.</p> <p>Level 1 (0–7 marks) Limited analysis and evaluation of the role of human components in ecosystem change.</p>

Question	Answer	Marks	Guidance
			<p>AO3 Skills and communication</p> <p>Level 3 (4 marks) Clear structure and organisation, including a clear conclusion. Communication is clear with authoritative use of grammar and spelling and accurate use of geographical terms. Maps, diagrams and statistics are used effectively, if appropriate.</p> <p>Level 2 (3 marks) Sound structure and organisation, including a limited conclusion. Communication is generally effective although errors in grammar and spelling and some inaccurate use of geographical terms are likely to be present. Maps, diagrams and statistics are not used effectively.</p> <p>Level 1 (0–2 marks) Basic structure and organisation, with no attempt at a conclusion. Communication is ineffective with errors in grammar and spelling and little use of geographical terms or their inaccurate use. Maps, diagrams and statistics are not used.</p>

Question	Answer	Marks	Guidance
10	<p>A Question for Investigation in this Option is ‘How can physical environments be managed to ensure sustainability?’ This question focuses on the evaluation of methods of management with explicit reference to the role of conservation.</p> <p>Indicative Content</p> <p>Candidates are explicitly required to study at least one example of sustainable environmental management of a located physical environment to illustrate ways in which management can be exercised in a variety of ways, such as conservation. The interpretation of conservation of an environment can be in any or all of the chosen example, landscape features as well as elements of the ecosystem, for example.</p> <p>Weaker responses are likely to consist of simple narratives of schemes such as national parks, with descriptions of the methods of management. For example descriptions of the measures in place at Arches National Park or the Great Barrier Reef. Some of these might score quite well in AO1 but probably not go higher than Level 1 in AO2. The higher level answers will evaluate the relative significance of management techniques, linking them explicitly to the chosen example(s). Given the requirement to study a located example we can expect some convincing exemplification.</p> <p>Any discussion which considers conservation as distinct from preservation is likely to be a Level 3 response in AO2 if not AO1 as well. Preservation implies protection from any form of use, whereas conservation incorporates the element of sustainable utilisation.</p>	30	<p>AO1 Knowledge and Understanding</p> <p>Level 3 (8–9 marks) Substantial knowledge and authoritative understanding of conservation and other ways of managing one or more physical environments. There is secure use of detailed exemplification.</p> <p>Level 2 (5–7 marks) Sound knowledge and understanding of conservation and other ways of managing one or more physical environments. There is some use of exemplification.</p> <p>Level 1 (0–4 marks) Poor knowledge and understanding of conservation and other ways of managing one or more physical environments. There is little exemplification.</p> <p>AO2 Analysis, interpretation and evaluation</p> <p>Level 3 (14–17 marks) Clear and convincing analysis and evaluation of the role of conservation of the chosen physical environment(s).</p> <p>Level 2 (8–13 marks) Some analysis and evaluation of the role of conservation of the chosen physical environment(s).</p> <p>Level 1 (0–7 marks) Limited analysis and evaluation of the role of conservation of the chosen physical environment(s).</p>

Question	Answer	Marks	Guidance
			<p>AO3 Skills and communication</p> <p>Level 3 (4 marks) Clear structure and organisation, including a clear conclusion. Communication is clear with authoritative use of grammar and spelling and accurate use of geographical terms. Maps, diagrams and statistics are used effectively, if appropriate.</p> <p>Level 2 (3 marks) Sound structure and organisation, including a limited conclusion. Communication is generally effective although errors in grammar and spelling and some inaccurate use of geographical terms are likely to be present. Maps, diagrams and statistics are not used effectively.</p> <p>Level 1 (0–2 marks) Basic structure and organisation, with no attempt at a conclusion. Communication is ineffective with errors in grammar and spelling and little use of geographical terms or their inaccurate use. Maps, diagrams and statistics are not used.</p>

Question	Answer	Marks	Guidance
11	<p>A major topic for investigation in this Option is the ways tropical storms represent a hazard to people. Under the Key Ideas heading, environmental, social and economic impacts are explicitly mentioned and with one of the Key Concepts being 'The nature and impact of tropical storms vary with space, location and over time' we can expect some convincing exemplification.</p> <p>Indicative Content</p> <p>Candidates are expected to have studied the impacts of tropical storms on countries at either end of the development continuum, between rural and urban areas (which has implications of population density amongst other factors) and between coastal and inland areas. Also valid are comments regarding location within a tropical storm eg eye/periphery.</p> <p>Level 3 in AO2 requires clear and convincing analysis of impacts in different locations as suggested above with Level 3 in AO1 for those offering substantial exemplification. This could come from an evaluation of impacts in spatially distant places, Bangladesh and Japan for example. It is also possible to reach Level 3 looking at places closer together such as within the Caribbean and southern USA.</p>	30	<p>AO1 Knowledge and Understanding</p> <p>Level 3 (8–9 marks) Substantial knowledge and authoritative understanding of both physical and human impacts arising from tropical storms. There is secure use of detailed exemplification.</p> <p>Level 2 (5–7 marks) Sound knowledge and understanding of both physical and human impacts arising from tropical storms. There is some use of exemplification.</p> <p>Level 1 (0–4 marks) Poor knowledge and understanding of both physical and human impacts arising from tropical storms. There is little exemplification.</p> <p>AO2 Analysis, interpretation and evaluation</p> <p>Level 3 (14–17 marks) Clear and convincing analysis of the various impacts. There is effective evaluation of the relative significance of the impacts on different places with a balanced coverage of different types of places.</p> <p>Level 2 (8–13 marks) Some analysis and evaluation of impacts. There is some evaluation of the relative significance of the impacts on different places with a coverage of different types of places but this may be unbalanced.</p>

Question	Answer	Marks	Guidance
			<p>Level 1 (0–7 marks) Limited analysis and evaluation of impacts. There is little or no evaluation of the relative significance of the impacts on different places. There may be minimal, if any, attempt to analyse impacts on different places with candidates simply referring to one location.</p> <p>AO3 Skills and communication</p> <p>Level 3 (4 marks) Clear structure and organisation, including a clear conclusion. Communication is clear with authoritative use of grammar and spelling and accurate use of geographical terms. Maps, diagrams and statistics are used effectively, if appropriate.</p> <p>Level 2 (3 marks) Sound structure and organisation, including a limited conclusion. Communication is generally effective although errors in grammar and spelling and some inaccurate use of geographical terms are likely to be present. Maps, diagrams and statistics are not used effectively.</p> <p>Level 1 (0–2 marks) Basic structure and organisation, with no attempt at a conclusion. Communication is ineffective with errors in grammar and spelling and little use of geographical terms or their inaccurate use. Maps, diagrams and statistics are not used.</p>

Question	Answer	Marks	Guidance
12	<p>One of the Questions for Investigation in this Option is 'Why do the impacts of climatic hazards vary over time and location?' with the associated Key Ideas specifically mentioning long and short-term impacts. The Specification is also clear in its requirement to study '... how impacts can vary over short and long term time periods for at least two contrasting types of climatic hazard.'</p> <p>Indicative Content</p> <p>The immediate impacts of hazards such as tropical storms, blizzards and drought create emergency situations such as food shortages, lack of clean water and needs for urgent medical treatment and temporary shelter. Evaluation of 'how serious' these are should be clear in responses reaching into top of Level 2+ in AO2; Level 1 in AO2 are likely to be more narrative of examples than evaluative. Longer term effects are felt in such areas as the rebuilding of economies. The aftermath of a tropical storm makes for interesting discussion, in particular when this considers countries at different points along the development continuum; but then there is the example of Katrina. Longer term impacts of hazards such as severe drought (sub-Saharan Africa for example) can be permanent, for example land degradation, loss of water and soil resources. These can lead to the loss of sustainability of communities with the abandonment of land and lifestyle—rural-urban migration for example.</p>	30	<p>AO1 Knowledge and understanding</p> <p>Level 3 (8–9 marks) Substantial knowledge and authoritative understanding of both long and short-term impacts. There is secure use of detailed exemplification.</p> <p>Level 2 (5–7 marks) Sound knowledge and understanding of both long and short-term impacts, but not necessarily a balance between the two. There is some use of exemplification.</p> <p>Level 1 (0–4 marks) Poor knowledge and understanding of long and short-term impacts. There is likely to be considerable imbalance or the absence of one or other. There is little exemplification.</p> <p>AO2 Analysis, interpretation and evaluation</p> <p>Level 3 (14–17 marks) Clear and convincing analysis of long and short-term impacts. There is effective evaluation of their relative impacts.</p> <p>Level 2 (8–13 marks) Some analysis of long and short-term impacts. Some evaluation of their relative impacts.</p> <p>Level 1 (0–7 marks) Limited analysis of long and short-term impacts. Little or no attempt to evaluate the relative impacts.</p>

Question	Answer	Marks	Guidance
			<p>AO3 Skills and communication</p> <p>Level 3 (4 marks) Clear structure and organisation, including a clear conclusion. Communication is clear with authoritative use of grammar and spelling and accurate use of geographical terms. Maps, diagrams and statistics are used effectively, if appropriate.</p> <p>Level 2 (3 marks) Sound structure and organisation, including a limited conclusion. Communication is generally effective although errors in grammar and spelling and some inaccurate use of geographical terms are likely to be present. Maps, diagrams and statistics are not used effectively.</p> <p>Level 1 (0–2 marks) Basic structure and organisation, with no attempt at a conclusion. Communication is ineffective with errors in grammar and spelling and little use of geographical terms or their inaccurate use. Maps, diagrams and statistics are not used.</p>

Question	Answer	Marks	Guidance
13	<p>A Key Idea in this Option is that population is dynamic and changes in response to a number of factors, with demographic, social, economic and political being explicitly stated. The context of the question is set amongst LEDCs which gives candidates a great diversity of exemplification to select from. It is important that we accept any scale of analysis, not simply the national although this is likely to predominate. Trans-national, eg sub-Saharan Africa, as well as intra-national patterns and processes are welcome.</p> <p>Indicative Content</p> <p>Natural increase is a fundamental demographic factor in causing population change amongst LEDCs. We can expect to read much secure knowledge and understanding of various aspects of fertility and mortality, with the top of Level 2+ responses in AO1 appreciating the diversity of experience amongst countries labelled as LEDCs. Indeed, the Level 3 responses might emerge by their identification of countries going through very different transitions to other LEDCs. There is much to be made of broad regional contrasts here between Latin America, Asia and Africa and then between countries within these regions.</p> <p>An interesting, if tragic, focus might be on those areas whose populations are suffering from extensive infection from HIV and Aids; some locations are witnessing natural decrease as opposed to natural increase.</p> <p>Discussions should also concern themselves with the role of migration and here some appreciation of where and why in- or out-migration occur is likely to indicate top of Level 2+ in AO2. The complete absence of migration as a factor will leave any such response in Level 2 in AO2.</p>	30	<p>AO1 Knowledge and understanding</p> <p>Level 3 (8–9 marks) Substantial knowledge and authoritative understanding of population change and the role of natural increase in LEDCs. There is secure use of detailed exemplification.</p> <p>Level 2 (5–7 marks) Sound knowledge and understanding of population change and the role of natural increase in LEDCs. There is some use of exemplification.</p> <p>Level 1 (0–4 marks) Poor knowledge and understanding of population change and the role of natural increase in LEDCs. There is little exemplification.</p> <p>AO2 Analysis, interpretation and evaluation</p> <p>Level 3 (14–17 marks) Clear and convincing analysis of the factors affecting population change in LEDCs. There is effective evaluation of their relative influence.</p> <p>Level 2 (8–13 marks) Some analysis of the factors affecting population change in LEDCs. Some evaluation of their relative influence.</p> <p>Level 1 (0–7 marks) Limited analysis of the factors affecting population change. Little or no attempt to evaluate their relative influence.</p>

Question	Answer	Marks	Guidance
	<p>Candidates studying this Option should have looked at the role migration plays in population change. There is a diversity of exemplar material to consider here such as economically motivated out-migration eg from Pakistan to the Gulf states; from many Caribbean islands to MEDCs such as UK; environmentally motivated migration eg in Sahel and their impacts on population change. It is also possible to discuss intra-national migration patterns eg rural to urban.</p>		<p>AO3 Skills and communication</p> <p>Level 3 (4 marks) Clear structure and organisation, including a clear conclusion. Communication is clear with authoritative use of grammar and spelling and accurate use of geographical terms. Maps, diagrams and statistics are used effectively, if appropriate.</p> <p>Level 2 (3 marks) Sound structure and organisation, including a limited conclusion. Communication is generally effective although errors in grammar and spelling and some inaccurate use of geographical terms are likely to be present. Maps, diagrams and statistics are not used effectively.</p> <p>Level 1 (0–2 marks) Basic structure and organisation, with no attempt at a conclusion. Communication is ineffective with errors in grammar and spelling and little use of geographical terms or their inaccurate use. Maps, diagrams and statistics are not used.</p>

Question	Answer	Marks	Guidance
14	<p>'How can resources be defined and classified?' is one of the Questions for Investigation in this Option. Candidates are expected to have considered the variety of ways of doing so including by source use and extent of renewability.</p> <p>Indicative Content</p> <p>There is no single one agreed definition of a resource and so we must be open to a variety of interpretations from candidates. The crucial aspect is, as ever, in Section B of this paper, how effective is a discussion's evaluation? The less convincing responses are likely to offer what is essentially a descriptive answer to questions such as, what is a resource?; what is the difference between renewable and non-renewable resources?; how can resources be classified?; how does technology influence resource definition?; and what is the significance of society to resource definition?. Not all these are expected to be in an essay but the Level 3 responses in both AOs 1 and 2 are likely to consider several of these issues.</p>	30	<p>AO1 Knowledge and understanding</p> <p>Level 3 (8–9 marks) Substantial knowledge and authoritative understanding of the ways resources might be defined and classified. There is secure use of detailed exemplification.</p> <p>Level 2 (5–7 marks) Sound knowledge and understanding of the ways resources might be defined and classified. There is some use of exemplification.</p> <p>Level 1 (0–4 marks) Poor knowledge and understanding of the ways resources might be defined and classified. There is little exemplification.</p> <p>AO2 Analysis, interpretation and evaluation</p> <p>Level 3 (14–17 marks) Clear and convincing analysis of the issue of defining and classifying resources. There is effective evaluation of the relative merits and demerits of the ways.</p> <p>Level 2 (8–13 marks) Some analysis of the issue of defining and classifying resources. There is some evaluation of the relative merits and demerits of the ways.</p> <p>Level 1 (0–7 marks) Limited analysis of the issue of defining and classifying resources. Little or no evaluation of the relative merits and demerits of the ways.</p>

Question	Answer	Marks	Guidance
			<p>AO3 Skills and communication</p> <p>Level 3 (4 marks) Clear structure and organisation, including a clear conclusion. Communication is clear with authoritative use of grammar and spelling and accurate use of geographical terms. Maps, diagrams and statistics are used effectively, if appropriate.</p> <p>Level 2 (3 marks) Sound structure and organisation, including a limited conclusion. Communication is generally effective although errors in grammar and spelling and some inaccurate use of geographical terms are likely to be present. Maps, diagrams and statistics are not used effectively.</p> <p>Level 1 (0–2 marks) Basic structure and organisation, with no attempt at a conclusion. Communication is ineffective with errors in grammar and spelling and little use of geographical terms or their inaccurate use. Maps, diagrams and statistics are not used.</p>

Question	Answer	Marks	Guidance
15	<p>The first Question for Investigation is ‘What is meant by the term ‘globalisation’ and why is it occurring?’ The Content accompanying this question explicitly mentions ‘cultural’ and so candidates studying this Option should have spent some time considering this particular aspect of the process of globalisation. The term ‘culture’ is a broad one and allows for much creativity on the part of candidates.</p> <p>Indicative Content</p> <p>There is no simple definition of globalisation and we must be open to the variety of approaches candidates are legitimately entitled to take here. Those responses that essentially disregard the question and offer a descriptive narrative of the economics of globalisation, probably solely in the context of TNCs, are unlikely to lift themselves out of Level 1 in AOs 1 and 2.</p> <p>The social/cultural dimensions of globalisation are diverse so again we must be open to the interpretations of candidates. The spread of western-style consumerism for example is an area suitable for discussion here. The creation of internationally recognised brands and images is significant here. Language is an important consideration in this discussion given its role at the heart of culture and the dissemination thereof.</p> <p>Level 3 responses are likely to be distinguished by their acknowledgement of the flows of culture not simply from ‘developed to the rest.’ Cuisine, music, art and literature for example flow increasingly freely around the globe and offer fascinating opportunities for consideration in this debate.</p> <p>There is a strong argument to be made that the ‘bottom line’ of globalisation is economic, with aspects such as levels of inter-continental trade, the role of bodies such as the World Bank and IMF, and the migration of</p>	30	<p>AO1 Knowledge and understanding</p> <p>Level 3 (8–9 marks) Substantial knowledge and authoritative understanding of the nature of globalisation and the role of culture in particular. There is secure use of detailed exemplification.</p> <p>Level 2 (5–7 marks) Sound knowledge and understanding of the nature of globalisation and the role of culture in particular. There is some use of exemplification.</p> <p>Level 1 (0–4 marks) Poor knowledge and understanding of the nature of globalisation and the role of culture in particular. There is little exemplification.</p> <p>AO2 Analysis, interpretation and evaluation</p> <p>Level 3 (14–17 marks) Clear and convincing analysis of the nature of globalisation and the role culture plays in it. There is effective evaluation of the role of culture.</p> <p>Level 2 (8–13 marks) Some analysis of the nature of globalisation and the role culture plays in it. There is some evaluation of the role of culture.</p> <p>Level 1 (0–7 marks) Limited analysis of the nature of globalisation and the role culture plays in it. There is little or no attempt to evaluate the role of culture.</p>

Question	Answer	Marks	Guidance
	<p>manufacturing being significant influences. Level 3 responses will mention this aspect of globalisation as well as others, such as political, and will offer a fully discursive assessment.</p>		<p>AO3 Skills and communication</p> <p>Level 3 (4 marks) Clear structure and organisation, including a clear conclusion. Communication is clear with authoritative use of grammar and spelling and accurate use of geographical terms. Maps, diagrams and statistics are used effectively, if appropriate.</p> <p>Level 2 (3 marks) Sound structure and organisation, including a limited conclusion. Communication is generally effective although errors in grammar and spelling and some inaccurate use of geographical terms are likely to be present. Maps, diagrams and statistics are not used effectively.</p> <p>Level 1 (0–2 marks) Basic structure and organisation, with no attempt at a conclusion. Communication is ineffective with errors in grammar and spelling and little use of geographical terms or their inaccurate use. Maps, diagrams and statistics are not used.</p>

Question	Answer	Marks	Guidance
16	<p>TNCs are explicitly stated in Option B2 Globalisation. In particular the Spec. content states that their advantages and disadvantages to countries at either end of the development spectrum should be studied in the context of at least one TNC. This question restricts considerations to impacts in MEDCs. TNCs should not be solely seen in terms of manufacturing enterprises as there are good examples from both primary and secondary sectors – possible use of AS material here eg arid, cold, rural, energy and tourism topics.</p> <p>Indicative Content</p> <p>At the top end of AO1 we can expect substantial knowledge of the nature of TNCs and their impacts, both positive and negative. The country of origin of a TNC benefits from wealth creation via wages, taxes and overseas earnings, the latter point a possible Level 3 indicator in AO1. TNCs in MEDCs stimulate demand for skilled labour in management, research and high end manufacturing jobs such as aero-space. The MEDC also gains prestige and international recognition from the presence of TNCs, a statement very often of confidence in economic and political stability.</p> <p>The disadvantages tend to focus on the loss of employment and therefore wealth creation when a TNC moves aspects of its organisation overseas. There are plenty of real world examples for candidates to quote in support of this point. The higher level evaluations of disadvantages are likely to move beyond simply unemployment into the impacts that this has on local communities, especially where the local economy lacks diversification such as some of the former heavy engineering (eg ship-building) and textile locations. Level 1 responses in both AOs 1 and 2 are likely to focus primarily on the negative.</p>	30	<p>AO1 Knowledge and Understanding</p> <p>Level 3 (8–9 marks) Substantial knowledge and authoritative understanding of the advantages and disadvantages TNCs bring to MEDCs. There is secure use of detailed exemplification.</p> <p>Level 2 (5–7 marks) Sound knowledge and understanding of the advantages and disadvantages TNCs bring to MEDCs. There is some use of exemplification.</p> <p>Level 1 (0–4 marks) Poor knowledge and understanding of the advantages and disadvantages TNCs bring to MEDCs. There is little exemplification.</p> <p>AO2 Analysis, interpretation and evaluation</p> <p>Level 3 (14–17 marks) Clear and convincing analysis of the impacts TNCs can have on MEDCs. There is effective evaluation of their relative influence both positive and negative.</p> <p>Level 2 (8–13 marks) Some analysis of the impacts TNCs can have on MEDCs. Some evaluation of their relative influence both positive and negative.</p> <p>Level 1 (0–7 marks) Limited analysis of the impact TNCs can have on MEDCs. Little or no attempt to evaluate their relative influence both positive and negative.</p>

Question	Answer	Marks	Guidance
	<p>A possible indicator of a Level 3 response in AOs 1 and 2 is the positive impact of the loss of manufacturing from TNC out-migration in environmental quality. In terms of air, water, land and noise, many locations are improved through the closure of factories.</p>		<p>AO3 Skills and communication</p> <p>Level 3 (4 marks) Clear structure and organisation, including a clear conclusion. Communication is clear with authoritative use of grammar and spelling and accurate use of geographical terms. Maps, diagrams and statistics are used effectively, if appropriate.</p> <p>Level 2 (3 marks) Sound structure and organisation, including a limited conclusion. Communication is generally effective although errors in grammar and spelling and some inaccurate use of geographical terms are likely to be present. Maps, diagrams and statistics are not used effectively.</p> <p>Level 1 (0–2 marks) Basic structure and organisation, with no attempt at a conclusion. Communication is ineffective with errors in grammar and spelling and little use of geographical terms or their inaccurate use. Maps, diagrams and statistics are not used.</p>

Question	Answer	Marks	Guidance
17	<p>One of the Key Ideas in this Option is 'In what ways do countries vary in their levels of economic development and quality of life?' The associated Content with this is that candidates should study different ways of measuring the level of development and quality of life, both quantitative and qualitative.</p> <p>Indicative Content</p> <p>Candidates studying this Option should have considered what is meant by development and that it involves much more than economic growth. The link between economic development and quality of life will have been discussed and in doing so, various measures of assessing these encountered. The Specification makes explicit reference to statistical analysis and case studies.</p> <p>There is a wide variety in the quantitative measures used to measure levels of development. GDP and GNP are perhaps the two most common, though with GNI increasingly being preferred. A possible indicator of Level 2+ in AO1 is an understanding that allowing for variations in the cost of living is important and so measures should be on the basis of purchasing power parity (ppp). Evaluation can be anticipated through comments about the informal sector being omitted from the official economic measures.</p> <p>There is a host of non-monetary quantitative measures useful to an assessment of development levels; energy consumption per capita; infant mortality and literacy rates are just a few. It is likely that most candidates will focus some discussion on the UN's Human Development Index (HDI) which offers much potential in terms of evaluation, especially when considering quality of life.</p> <p>Level 3 responses in both AOs 1 and 2 might consider qualitative measures such as media images so that social and cultural conditions in people's daily lives are explored.</p>	30	<p>AO1 Knowledge and Understanding</p> <p>Level 3 (8–9 marks) Substantial knowledge and authoritative understanding of different measures of levels of development and quality of life. There is secure use of detailed exemplification.</p> <p>Level 2 (5–7 marks) Sound knowledge and understanding of different measures of levels of development and quality of life. There is some use of exemplification.</p> <p>Level 1 (0–4 marks) Poor knowledge and understanding of different measures of levels of development and quality of life. There is little exemplification.</p> <p>AO2 Analysis, interpretation and evaluation</p> <p>Level 3 (14–17 marks) Clear and convincing analysis of different measures of levels of development and quality of life. There is effective evaluation of their relative merits.</p> <p>Level 2 (8–13 marks) Some analysis of different measures of levels of development and quality of life. Some evaluation of their relative merits.</p> <p>Level 1 (0–7 marks) Limited analysis of different measures of levels of development and quality of life. Little or no attempt to evaluate their relative merits.</p>

Question	Answer	Marks	Guidance
			<p>AO3 Skills and communication</p> <p>Level 3 (4 marks) Clear structure and organisation, including a clear conclusion. Communication is clear with authoritative use of grammar and spelling and accurate use of geographical terms. Maps, diagrams and statistics are used effectively, if appropriate.</p> <p>Level 2 (3 marks) Sound structure and organisation, including a limited conclusion. Communication is generally effective although errors in grammar and spelling and some inaccurate use of geographical terms are likely to be present. Maps, diagrams and statistics are not used effectively.</p> <p>Level 1 (0–2 marks) Basic structure and organisation, with no attempt at a conclusion. Communication is ineffective with errors in grammar and spelling and little use of geographical terms or their inaccurate use. Maps, diagrams and statistics are not used.</p>

Question	Answer	Marks	Guidance
18	<p>This Option, there is the explicit requirement to study the link between economic inequalities and social and environmental issues. The Content makes it clear that this question is to be set in the spatial context of one named region or city.</p> <p>Indicative Content</p> <p>The term region should be given a broad interpretation so that within sub-Saharan Africa is acceptable as is within a single country, for example Brazil or the UK. Global scale discussions are not appropriate and should receive at the maximum, top of Level 1 in both AO1 and 2. If more than one region/city discussed, mark all and allocate the best mark.</p> <p>Deprivation and poverty are found in all large cities and regions. The term 'socio-economic deprivation' indicates the assumption of linkage between economic and social inequalities and frequently there is the combination of factors in an index of multiple deprivation. There is a very strong argument that causes of multiple deprivation and resulting inequality is economic. Low wages, uncertainty of employment and part-time including seasonal working are significant factors promoting social and environmental issues. Mortality rates are closely associated with economic status and this too has implications for environmental issues. Low wages tends to result in poor quality housing (damp/inadequate heating and sanitation) which then leads to above average mortality. Such links can be seen in both MEDCs and LEDCs in both cities and regions.</p>	30	<p>AO1 Knowledge and Understanding</p> <p>Level 3 (8–9 marks) Substantial knowledge and authoritative understanding of the extent to which economic inequalities influence social and environmental issues. There is secure use of detailed exemplification.</p> <p>Level 2 (5–7 marks) Sound knowledge and understanding of the extent to which economic inequalities influence social and environmental issues. There is some use of exemplification.</p> <p>Level 1 (0–4 marks) Poor knowledge and understanding of the extent to which economic inequalities influence social and environmental issues. There is little exemplification.</p> <p>AO2 Analysis, interpretation and evaluation</p> <p>Level 3 (14–17 marks) Clear and convincing analysis of the extent to which economic inequalities influence social and environmental issues. There is effective evaluation of the role of economic inequalities.</p> <p>Level 2 (8–13 marks) Some analysis of the extent to which economic inequalities influence social and environmental issues. Some evaluation of the role of economic inequalities.</p> <p>Level 1 (0–7 marks) Limited analysis of the extent to which economic inequalities influence social and environmental issues. Little or no attempt to evaluate the role of economic inequalities.</p>

Question	Answer	Marks	Guidance
			<p>AO3 Skills and communication</p> <p>Level 3 (4 marks) Clear structure and organisation, including a clear conclusion. Communication is clear with authoritative use of grammar and spelling and accurate use of geographical terms. Maps, diagrams and statistics are used effectively, if appropriate.</p> <p>Level 2 (3 marks) Sound structure and organisation, including a limited conclusion. Communication is generally effective although errors in grammar and spelling and some inaccurate use of geographical terms are likely to be present. Maps, diagrams and statistics are not used effectively.</p> <p>Level 1 (0–2 marks) Basic structure and organisation, with no attempt at a conclusion. Communication is ineffective with errors in grammar and spelling and little use of geographical terms or their inaccurate use. Maps, diagrams and statistics are not used.</p>

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Customer Contact Centre

Education and Learning

Telephone: 01223 553998

Facsimile: 01223 552627

Email: general.qualifications@ocr.org.uk

www.ocr.org.uk

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored

Oxford Cambridge and RSA Examinations
is a Company Limited by Guarantee
Registered in England
Registered Office; 1 Hills Road, Cambridge, CB1 2EU
Registered Company Number: 3484466
OCR is an exempt Charity

OCR (Oxford Cambridge and RSA Examinations)
Head office
Telephone: 01223 552552
Facsimile: 01223 552553

© OCR 2012

