Exam practice: Answers

Introduction
Marks will be awarded on your examination papers in two different ways. For most of the questions you will receive a tick for each point you make that is a correct response to the question. That means you should be able to judge how much to write when answering the question. In the answers below, these marks are shown in brackets [ ]. However, on some of your, usually, but not always, higher tariff, questions (those with a larger number of marks), you will be marked only on the quality of your response as opposed to the amount you write. This is known as ‘levels of response’ marking. Your examiners will use a mark scheme with three, four or five different levels or bands. Each of these bands will describe the level of performance you will need to show to get into it. In each case the bottom band will give ‘0’ marks and will be used if you write nothing the examiners feel is relevant to the question. Bands above this will be called bands 1, 2, 3 and 4. Questions with a tariff of 4 will have two bands, those worth 6 marks will have three bands and those worth 8–12 marks will have four bands. Assuming you write something of value, your examiners will apply such a mark scheme by working upwards through the bands to first decide which band your answer has risen to and then how well it rests within that level. So, in the mark scheme below, if your answer is judged to be near the top of the Band 2 descriptor, you will be given 4 marks. Your examiner won’t tick your work at all but will just put a mark in the right-hand margin of your paper. In all ‘levels’ marked questions below, only the descriptor for the highest band has been given. As you are always aiming for the highest possible mark, that is the band you will be trying to attain.

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<th>Band</th>
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<tr>
<td>3</td>
<td>5–6</td>
<td>Elaborated statements which demonstrate a clear understanding of the links between the varying rock types of the UK and their resistance to erosion.</td>
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<tr>
<td>2</td>
<td>3–4</td>
<td>Elaborated statements which demonstrate an understanding of the links between the varying rock types of the UK and their resistance to erosion.</td>
</tr>
<tr>
<td>1</td>
<td>1–2</td>
<td>Simple valid statements which demonstrate a general understanding of how different types of the UK have different resistances to erosion.</td>
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<tr>
<td>0</td>
<td></td>
<td>Award 0 marks if the answer is incorrect or wholly irrelevant.</td>
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As you can see, you must be aiming for the upper part of the top band when answering this type of question. In the other examples below, I have added the descriptor for only that band.

1 Urban and rural processes and change in the UK

Page 15
Study the map in Figure 1.

a) Describe the distribution of asylum seeker applications in Europe during 2015. [3] [AO4] You are looking for patterns shown by the sizes of the circles. Start by recognising a broad band of high numbers of asylum claims stretching through central Europe from Sweden, through Germany and into Hungary [1]. To both the east and west of this there are fewer asylum claims [1], especially to the east [1]. You are not being asked to explain anything.

b) Explain why asylum seekers moving into an area might put pressure on a city’s services. [3] [AO2] This question is asking you to explain the effects of a change in the population of a city. It is not asking you to refer to the places on the map. Look to give well-elaborated statements. These could focus on the
economic pressures created by an increase in the city’s population. For example, the lack of school places resulting in a need to build or extend schools and employ more teachers, or similar statements about healthcare and the increased requirement for health facilities and doctors/nurses. Similar statements could be made about pressures placed on housing. You could also explore the socio-economic difficulties of the city’s services having to cater for a variety of languages and the social effects of the grouping of minority populations in certain parts of the city.

For example:
- A rapid increase in the population of an area will increase the demand for services that will require greater staffing and input of funds [1].
- More asylum seekers in an area is likely to increase the number of children having the city’s main language as a second language, requiring an input of specialist linguists to the city’s schools [1].
- Asylum seekers could put pressure on a city’s housing stock, possibly resulting in greater need to build social housing [1].

Page 20
Study the map in Figure 4.
a) Describe the pattern shown on the map. [3]
[AO4] In the north-west, Scotland had a price drop [1]. South of this the trend was from a small price rise in the north and west (of 1–3%) increasing south-eastwards to the highest increases (of between 9% and 12%) in the extreme south-east [1]. An exception to this general trend is Northern Ireland [1].

b) Suggest why the ability to migrate between UK regions depends on where a person lives. [3]
[AO3.1] Although you may draw on map evidence to help your explanation, the question isn’t actually asking you to do this. Acceptable answers, using just your understanding of regional differences in UK house prices (not percentage increases as shown on the map), will be sufficient. You must also explain and not just state patterns.
A person wishing to migrate from a low to a high housing cost area will either have to find additional money/borrow a higher mortgage to move to a house of the same quality/size [1], or they will have to consider moving into a lower-quality/smaller house [1].
Migrating from a higher to a lower cost area will have the opposite effect. This will release money, giving the owner greater disposable income/the opportunity to pay off a mortgage [1]. Some take this opportunity to move out of a higher-priced location to fund their retirement in a cheaper area [1].

Page 21
Study both the graph in Figure 5 and map in Figure 4.
a) Compare the pattern of changes in car use with that of house price trends. [3]
[AO4] This is an extremely challenging question in that it asks you to make comparisons between two sources: one a map and the other a graph. In addition, the graph further subdivides the information into two different groups of car users. This is as difficult as the skill of describing resources is likely to get.
The relationship between the numbers of cars used and house prices shows an increase in percentage of cars driven in those parts of England having the lowest percentage house price increases and a reduction in percentage of cars driven in those places with the highest price increases [1]. This is especially true in London, where the percentage of cars driven reduced by more than 7% [1]. All parts of the country show a reduction in the percentage of car passengers. The pattern isn’t as pronounced as the number of cars being driven, but London, an area of high house price rises, has the lowest percentage reduction of car passengers [1].

b) Suggest two reasons for the differences in changes in car use between London and Wales. [4]
[AO3.1] A reduction in rural public transport could mean that some rural dwellers are left with no alternative but to use their cars for the journey to work [1]. Meanwhile, improvements in public transport in London encourage commuters to leave their cars at home [1]. Increased costs of urban driving, such as the London Congestion Charge zone charges, may discourage driving to work [1], while travel within rural areas does not attract these additional costs [1].
‘It is only possible to create a sustainable community by improving its transport system.’ To what extent do you agree with this statement? Make use of evidence from these pages in your answer. [8]

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| 4    | 7–8  | Exceptional application of knowledge and understanding:  
  • Comprehensive chains of reasoning provide sophisticated analysis.  
  • Balanced and coherent appraisal draws together wider geographical understanding of the issue to justify the decision made. |

This question homes in on one of the criteria that are considered as being important to the development and maintenance of a sustainable urban community. Seven such criteria are shown in the book and are exemplified using the city of Nottingham. You are expected to answer the question using evidence from an urban community you have studied (including Nottingham, if you wish).

A few questions you may consider:
  • To what extent are the other six criteria dependent on a well-developed transport system?
  • Remove each of the other six criteria in turn. How would the removal of each affect the sustainability of the urban community you have studied?
  • In conclusion, is any one criterion more important than the other six?

Page 28

a) List three night-time problems for city-centre residents. [3]
[AO1] You are being asked to list, so all you need to do is make three brief statements, such as the possibility of night crime, and anti-social behaviour such as drunkenness [1], street violence [1] and noise pollution [1].

b) Explain why residents may still wish to live in these areas. [3]
[AO2] You are being asked to explain, so your statements need to fully convey the elaborated ‘why’ of the decision. Such factors can include being near to place of employment in the CBD, so reducing the cost/time to commute to work [1], and the proximity of city-centre entertainment, so easy/cheap access and no need to worry about late-night transport home [1]. A reason could also be related to the responses to part (a). City-centre apartments are well protected from crime by the installation of sophisticated access systems and monitoring equipment [1].

Page 29

[AO3.1]
Suggest why the Peak District National Park is the most heavily used in England and Wales. Use only evidence from Figure 11. [4]
You are being asked to analyse information shown on the map to reach a conclusion.
The Peak District National Park is the only NP to be surrounded by major cities [1], which means a nearby large urban population that is looking for rural areas to visit for recreation [1].
A large number of motorway links increases accessibility of the park to both private vehicles and buses or coaches [1], making it possible to make day trips from distant cities such as Bristol and London [1].

Page 31

[AO3.1]
Annotate Figure 13 to help explain changes to the footpath with time. [4]
You are being asked to demonstrate your understanding of process by annotating the diagram. Annotation is different from labelling in that it is asking you to explain through the statements you make from top to bottom:
  • Diagram 1: Arrow pointing to central part of section, ‘Trampling by feet has reduced depth of plants’ [1].
2 Urbanisation in contrasting global cities

Page 32

a) Write three sentences that describe the distribution of the top global cities. [3]
[AO4] You are only being asked to list, so stick to simple statements.
1. Most are in countries with the highest global infrastructure ranking [1].
2. Most are in North America and Europe [1].
3. The only continent without any in the top 25 is Africa [1].

b) Explain their distribution. [4]
[AO3/1] The explanations you will use will depend upon your answers to question (a).
1. Most of the criteria required by global cities depend upon a high level of connectivity with other places [1].
   To do so the city will need to be well linked to other global cities and itself be within a country with a high infrastructure ranking, giving it strong connections with the area around it, its 'hinterland' [1].
2. North America and Europe are two continents that include countries that are traditionally at the forefront of infrastructure developments and have relatively stable governments [1], enabling all five global city criteria to be strongly developed [1].
3. Many African countries have gained independence from European countries since the 1950s. They have had little time to develop infrastructures and a political stability that suit their needs as independent countries [1], so offer little to support the growth of global cities [1].

3 A global perspective on development issues

Page 41

a) Describe the pattern of poverty in rural areas of India. [2]
[AO4] There is a general tendency for rural poverty to increase from south-west to north-east [1]. However, the poorest state is an exception to the overall pattern as it is in east central India [1].

b) How similar is the pattern of poverty in urban areas? [3]
[AO4] There is a similar pattern in urban areas [1], although the percentage living in poverty is generally lower [1]. An exception is a state on the east central coast where both rural and urban poverty is between 0% and 10% [1].

c) Explain the differences you have described in question 2. [3]
Your answer to this question will depend upon your responses to question (b). However, it is likely that it would include the following ideas:

- In general, rural areas have poorer employment opportunities than urban areas, meaning a greater proportion in poverty [1].
- Many rural areas have lost their younger people to migration, leaving an ageing population unable to generate enough income for survival [1].
- States with lower urban poverty rates may be generally economically richer and have managed to connect and develop many of their rural areas, reducing their poverty levels [1].
Page 42
Study Figure 11.
a) Compare the actual changes shown between 1980 and 2010 with those predicted between 2010 and 2025. [3]
[AO4] The numbers in each group fluctuate before 2010 [1], when both Greater China and emerging markets excluding China rose at the expense of developed regions [1]. This trend was expected to be much more rapid between 2010 and 2025 [1].

b) Explain two reasons for the projected changes shown in the graph. [4]
[AO3.1] Read the question carefully. It’s asking you to explain why the proportions of head offices has changed with time and not the more usual question of why MNCs set up factories in China and other emerging markets.
Companies from developed regions have taken the manufacturing technology to other regions [1] and this technology has formed the basis for the rapid growth of local companies [1]. Companies that have their head offices close to emerging markets can better respond to changes in demand [1], so are able to meet its needs before foreign-based companies [1].

Page 47
[AO4]
Describe the changed trade between the UK and India shown on the graph in Figure 17. [3]
You will be credited for each correct statement you make that, between them, cover the period from 2004 to 2014.
There was a balance between imports and exports in 2004. Since then, trade has fluctuated [1]. At all times between 2004 and 2014 the UK’s imports have always been higher than its exports [1]. Both import and export of goods has always been greater than those of services [1].

Page 50
[AO3 (2)]
In the problem-solving paper, Unit 2 of your examination, you will be asked to assess the views of different groups of people and then give your own, justified, opinions. Use this opportunity to practise. Read the information above about the aid provided by CIDA as well as the quotations below:

- ‘... if you ask a Malian farmer what he needs, he will tell you he needs a plough, a pair of oxen and water to irrigate his fields. He will not tell you that he needs genetically modified seed.’ (Ibrahim Coulibaly, Malian farmer.)
- ‘Biotechnology will be the key to providing more food and other agricultural commodities from less land and water in the twenty-first century.’ (Mokombo Swaminathan, Indian geneticist.)

With which view do you agree? Use detailed information from pages 48–50 and your own knowledge to help you explain why. [12]

This question is asking you to critically consider how agricultural communities should be encouraged to support themselves in future. There isn’t a single correct answer to the question and you will not be marked according to the decision you make. Either choice gives you access to the full range of marks. Whatever information you choose to use to answer the question, the route you take should be similar to that described below:

1. Explain what you think are the good and bad points of the route proposed by Ibrahim Coulibaly. Always justify each point you make and try to back it up with reference to examples either given on pages 48–50 or from your own studies. Don’t just describe your examples but use them to help justify your argument.
2. Do the same for the route forward described by Mokombo Swaminathan.
3 Write a concluding paragraph to summarise your decision by briefly explaining why the choice you have made is better than the one you have rejected.
### 1 Coasts and coastal management

**Page 51**

[AO3 (1)]

**Explain the pattern shown by Figure 1. Use only evidence from this page. [6]**

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<td>4</td>
<td>10–12</td>
<td>The student writes a comprehensive response that:</td>
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<td>• reaches a substantial decision that includes a clear justification for the choice made</td>
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<td></td>
<td>• provides consistently detailed elaboration throughout that is substantiated by a range of evidence from pages 48–50</td>
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<td>• provides effective comparison of the two options</td>
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<td></td>
<td>• applies wider geographical knowledge and understanding to effectively back up the chain of reasoning</td>
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Don’t just describe what you see on the maps. You are being asked to analyse the relationship between Figures 1 and 2 to help explain the pattern shown on Figure 1.

In general terms, the coastal rocks become less resistant to erosion the further south and east a coastline is located. Large areas of coast in the north and west are of igneous and metamorphic origin – igneous, created by the solidifying of molten magma/lava, and metamorphic, transformed by extremes of heat and pressure. This results in rocks of high resistance. The older two groups of sedimentary rocks are also found in these areas and, being quite well consolidated, form coasts of average resistance. The younger, poorly consolidated sediments form the weak and very weak coasts of the south and east and a stretch of the coast of northern England.

**Page 55**

[AO3 (1)]

‘Some stretches of the Holderness coast are considered more valuable to people than others.’ Support this statement using evidence from the map and graph in Figure 7. [4]

As with the previous question, you will need to attempt to bring some form of meaning to the evidence of the two resources in order to target the question you have been asked.

The stretches of coast suffering no erosion at all must be ones that are being protected from the sea. For that to happen, there must be settlements or industrial sites there that people feel it is worthwhile to spend large sums of money to protect – such places as Bridlington and Hornsea. Stretches of coast considered less valuable are left unprotected to erode more speedily than the ‘valuable’ places that have been protected.

**Page 58**

[AO3 (1)]
Explain why erosion has increased at point X on the map in Figure 9 since the creation of the protection scheme. [4]
A four-part continuum answers this question and also helps to explain the more rapid erosion of the unprotected coastal stretches referred to in the answer above.
1. The groyne just north of point X traps sand and stops it drifting southwards [1].
2. The coast south of the groyne is starved of sand [1].
3. Existing sand is still carried south from point X by longshore drift, lowering the level of the beach [1].
4. The reduced sand barrier allows waves to hit the coast with greater impact, increasing the erosion rate [1].

Part 60
[AO3 (3)]
Study the information on pages 55–60. How should the local government respond to the issue of coastal erosion along the Holderness coast?
- Approach 1: adopt a policy of retreat the line.
- Approach 2: adopt a policy of hold the line using hard engineering methods.
- Approach 3: adopt a policy of hold the line using soft engineering methods.

Draft a letter to the East Riding of Yorkshire Council. Explain why your chosen option or options should be adopted. Justify your decision by referring to information on these pages and your own knowledge. Your ability to spell, punctuate and use grammar and specialist terms accurately will be assessed in your answer to this question. [12+4]
This is a question like that on page 50 in which you are asked to consider a number of options and then justify your choice of what should be done. In this case, it is not just a straight choice between two alternatives but you are asked to consider three different approaches. It also gives you the opportunity to create your own set of priorities.
Approach 1 should only be selected on its own. However, you may select either Approach 2 or Approach 3 in isolation or decide that a combination of these approaches would be better.
Whatever your decision, do not write a simple description of a plan. Your examiner is interested in why you have chosen your particular approaches, so you will need to justify them in relation to those you have rejected.
Follow a sequence similar to that described on page 50.

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| 4    | 10–12| The candidate writes a comprehensive response that:  
      - reaches a substantial decision that includes a clear justification for the choice of option or options made  
      - provides consistently detailed elaboration throughout that is substantiated by a range of evidence from pages 55 to 60  
      - provides effective comparison of the options  
      - applies wider geographical knowledge and understanding to effectively back up the chain of reasoning |

Don’t forget that there are certain questions where you will be tested for your ability to express yourself through written English. Pay particular attention here to spelling, punctuation and your ability to use geographical terms effectively. These abilities are worth a maximum of 4 marks on final ‘problem-solving’ questions like this.

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| High | 4    | Learners spell and punctuate with consistent accuracy  
      - Learners use the rules of grammar with effective control of meaning overall  
      - Learners use a wide range of specialist terms as appropriate |
2 Rivers and river management

Page 63
a) Compare the annual regime of the River Dyfi with the rainfall pattern. [3]
[AO4] This question asks you to match the hydrograph of the river with monthly precipitation figures. First you may recognise a general pattern in which high and low discharge rates correspond to similar highs and lows of precipitation [1]. This shows a period in spring and summer when both are low [1]. It’s possible to further recognise that following a period of storms and heavy rain in early February, discharge rates rose to a high for the year of just over 200 cumecs in mid-February [1].

b) Explain why there are differences between the two patterns. [3]
[AO2] Remember that after falling and being intercepted by the ground, the rain will take different routes before entering streams and rivers as runoff (see page 61). Your response should show that you understand this.
The general pattern of high levels of discharge following high rates of precipitation can be accounted for by flows such as throughflow and groundwater flow [1] that delay the movement of water into rivers and streams [1]. However, it is difficult to be sure of the relationships on this graph as although the discharge line reflects daily changes, the bars for precipitation are monthly totals and do not show when the rain fell during each month [1].

Page 67
1. Draw a graph to show the composition of the Mekong Delta floodwater. [3]
[AO4] You could show these figures as a pie chart. To do this accurately you would need to convert each percentage to the number of degrees of a full circle (360 degrees) each source takes up. In Components 1 and 2 of the examination you would be given a circle marked with percentage divisions for you to complete. However, if you chose to show information using a pie chart in Component 3, you would be expected to complete the whole pie chart yourself. You would need to use a pair of compasses to draw the circle and a protractor to help you complete the divisions accurately.
An alternative method would be to use a divided bar graph – a single horizontal bar divided according to the percentages you need to show. Use a bar that is 10 cm long. This means that every 1 mm on the bar represents 1% and is therefore easy to construct.

2. Give two advantages of your choice of graph. [2]
[AO4] It is likely that a question about advantages or disadvantages of ways of showing data will appear somewhere in your geography exam.
Both pie charts and divided bars are useful when showing information that can be readily converted to a percentage. Both give an immediate impression of the data being shown. The divided bar has an additional advantage of being easy to measure to find accurate percentages.

Page 70
[AO3 (3)]
Which of these three options would you have chosen to protect Attenborough? Consider the social and economic costs and benefits on people in the village and on settlements further downriver. Choose from:
• option 1 on the map
• option 2 on the map
• option 3, to use ‘natural’ methods higher in the river catchment.
Draft a letter to Nottinghamshire County Council. Explain why your chosen solution should be a priority. Justify your decision using information from these two pages. [12+4]
Your ability to spell, punctuate and use grammar and specialist terms accurately will be assessed in your answer to this question.
This is the third opportunity offered in MRN to practise completing a problem-solving activity. It is similar to that on page 60 in that it gives you three options to consider. However, unlike that previous task, it asks you to
make a definite choice as to which one should be the priority. Your approach should be similar to that described below.
1. **Explain** what you think are the good and bad points of your chosen option. Make sure that the balance is heavily in favour of selecting this option. Always justify each point you make and try to back it up either with reference to information given on pages 68–70 or with examples from your own studies. Don’t just describe your examples but use them to help justify your argument.
2. Do the same for the two options you do not consider to be your first priority.
3. Write a concluding paragraph to summarise your decision by briefly explaining why the choice you have made is better than those you have rejected.

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* provides effective comparison of the three options  
* applies wider geographical knowledge and understanding to effectively back up the chain of reasoning |

#### 3 Weather and climate

**Page 77**  
[AO4]  
**Look at Figure 1 on page 111. Describe the distribution of areas where drought is a problem.** [2]  
You are being asked to describe distribution, so don’t just concentrate on one area like the Sahel. Look at the overall world picture and don’t offer any explanation. Many are around the Tropics of Cancer and Capricorn [1], although they extend north into temperate zones of both Asia and North America, and similarly south in South America/there is an area around the Equator in East Africa [1].

**Page 78**  
[AO3 (1)]  
**Add the numbers of the following statements to suitable places on Figure 5.**  
a) Heating of the Earth creates low pressure. The air rises.  
b) Air travels back towards the Equator at low levels.  
c) Air loses heat, becomes more dense and sinks.  
d) The air reaches the troposphere and spreads north and south.** [2]  
The sequence is, 1 at low level at the Equator; 4 at the top of the diagram between the Equator and each of the tropics; 3 at the top of the diagram at the two tropics; 2 at low level between the two tropics and the Equator.  
All four correct = 2 marks.  
2 or 3 correct = 1 mark.

#### 4 Climate change – cause and effect

**Page 81**  
[AO3 (2)]  
‘Global warming is the result of human activity.’ To what extent do you agree with this statement? Justify your decision. [8]
You are being asked to investigate evidence around the global warming debate. While you are expected to evaluate the different pieces of evidence, you are not being asked to seek or prioritise solutions as in a problem-solving task.

The alternative to global warming being the result of human activity is that it is a natural phenomenon beyond the influence of people. You are asked ‘to what extent’ you agree with the statement. This gives you the option of saying either ‘Yes, it is wholly the result of human activity’ or ‘No, it is wholly the result of natural occurrence beyond the influence of people’. There is the third option, though, that, after weighing up the evidence, concludes that both have a role to play.

State what you think in your opening sentences, then analyse carefully the evidence supporting the alternative views before summarising the reasons for your own stated view.

Warning: do not just quote evidence. For example, ‘Figure 1 shows a clear pattern of change over 400,000 years.’ Don’t assume that by just stating this, in whatever detail you give, you have said enough – you must tie this into the judgements you are making.

Make the link between the pattern and the likelihood of the influence of human activity for the period of the graph in order to support the judgement you are making.

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**Page 84**

[A03 (1)]

**Why might countries like the Maldives and India have different attitudes to climate change? Use only evidence from the boxes above to support your answer.** [3]

You are restricted in this question. Just use evidence from the source; do not import any other facts you may know. However, you are not being asked to describe the evidence but to use it to interpret responses of the two countries. Make sure you give a balanced response by looking at the effects on both places.

• The Maldives are concerned about the negative environmental effects of global warming, whereas India is concerned about the negative economic effects of restricting the emission of greenhouse gases [1].
• Increased sea level is likely to reduce income from tourism in the Maldives in the short term, resulting in unemployment [1]. Being uninhabitable by 2085 would result in homelessness and the need to migrate to another place [1].
• Reducing greenhouse gas emissions would reduce electricity generation, which would cause less manufacturing and a weaker balance of trade [1]. Cutting back on methane creation would reduce food supplies, resulting in greater malnutrition [1].

**1 How ecosystems function**

**Page 89**

**Study the food web above.**

a) **Complete the food web to show that: zebras eat grasses.** [2]

[AO4] In this case I’ve allowed 1 mark for drawing an arrow between grasses and zebra and another for drawing an arrowhead pointing towards the zebra. That has been done to emphasise that drawing a line is not sufficient. However, the whole process would be worth only 1 mark in the exam; no arrowhead therefore means no mark at all.

b) **Complete the following food chain:**

grasses → __________________ → __________________ → ___________________. [2]
[AO4] There are only two possible completions:
- grasses > baboon > cheetah > lion
- grasses > baboon > cheetah > hyena.

c) Explain why the food web would alter if acacia trees were to die out. [6]
[AO3 (1)] You are being asked not just to describe a continuum but also to offer an explanation for it.
If acacia trees were to die out, giraffes and baboons would lose a source of food [1]. This would place greater
pressure on grasses and increase competition for the other primary consumers, rhinoceros and zebra,
resulting in an overall reduction in the primary consumers [1]. A knock-on effect would be likely to reduce the
numbers of secondary consumers, cheetahs, and tertiary consumers, lions and hyenas, due to lack of food [1].
Fewer acacia trees would result in less shade for the ground, which would dry out more, making it more
difficult for grass growth [1]. A reduction in grass cover and weakened root structures would open the soil to
greater wind and rain erosion [1], so future desertification would be a possibility [1].

Page 90
Study Figure 5 on page 91.
a) What percentage of the area of the photograph is green space? Underline the correct answer: 35% 55%
75%. [1]
[AO4] 55% [1].

b) Name the ecosystem found at grid reference 055922. [1]
[AO4] Deciduous woodland [1].

c) Describe three benefits ecosystems could bring to people in this housing area. [3]
[AO2] This is a very tight question. You must not only give three characteristics but also describe them in terms
of being a benefit to people who live nearby. You could take your benefits from those given in Figure 4, but
make sure you quote ones that could be of benefit to locals in this suburban area.
- The trees could act as a form of noise reduction for people in nearby houses, allowing a more
peaceful way of life [1]. As an alternative, you could gain a mark for describing the similar aesthetic
value to locals.
- The woodland could be a source of recreation, for example dog walking, allowing exercise close to the
home [1].
- The woodland could be used by a local school to learn about ecosystems [1].

Page 94
[AO3 (2)]
‘It is not possible to successfully manage an ecosystem for a sustainable future.’ To what extent do you
agree with this statement? Use evidence from an ecosystem you have studied. [8]
This is a similar question to that asked on page 81. You are being asked to answer a question that could result
in a response that has one of two extremes – ‘It is possible to wholly manage an ecosystem for a sustainable
future’ or ‘It is impossible to manage an ecosystem for a sustainable future’. However, most would argue
somewhere between the two by illustrating the management constraints and possibilities using contextualised
information from an ecosystem they have studied. It could be an ecosystem studied in class or from the
Attenborough ecosystem described in this book.
As far as the question on page 81, state what you think in your opening sentences, then analyse carefully the
evidence supporting the alternative views before summarising the reasons for your own stated view.

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<th>Band</th>
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<td>4</td>
<td>7–8</td>
<td>Exceptional application of knowledge and understanding:</td>
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<td>• comprehensive chains of reasoning provide sophisticated analysis</td>
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<td>• balanced and coherent appraisal draws together wider geographical</td>
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<td>understanding of the issue to justify the decision made</td>
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2 Ecosystems under threat

Page 99
Study Figure 4.
a) Describe the location in Africa of the Ngorongoro Conservation Area. [2]
[AO4] You are expected to give two facts about the location of the conservation area. The question tells you that it is in the continent of Africa, so don’t use that as one of your answers.
   • The Ngorongoro Conservation Area is in the north [1] of Tanzania [1].
Alternatively:
   • It is in East Africa [1] in Tanzania [1].

b) Why might tourists be attracted to this conservation area? Use map evidence only. [3]
[AO3 (1)]
   • To visit Lake Empakaai in its crater [1].
   • To take part in water activities on Lake Manyara [1].
   • To canoe through the Okarien Gorge [1].
   • To hike in the Goal Mountains [1].

c) Suggest two ways in which Figure 4 could be improved to help you answer questions a) and b). [4]
[AO4] Two improvements to the map that would help you answer the questions:
   • Lines linking the whole continent to the map of Tanzania and the Ngorongoro area on the Tanzania map to the large-scale map showing the conservation area [1] would enable you to locate the conservation area more easily [1].
   • The inclusion of information about tourist facilities and attractions, possibly by colour coding them or showing in the key that italicised locations are tourist attractions [1], would help you recognise tourist features more quickly and consistently [1].

3 Water resources and management

Page 101
[AO4]
Use information from the map and photos to describe the global inequality of access to water. [4]
Make sure you draw on evidence from each of Figures 3, 4 and 5 in your answer. Do not offer any other information drawn from your own knowledge.
The map shows that in parts of Africa and south-western Asia, more than 90% of water is used for agriculture [1], whereas in the northern parts of North America, Europe and Asia, the figure is less than 25% [1]. In rural areas of Lesotho, families must travel to collect small quantities of water from streams for daily use [1], whereas in remote parts of the USA, large quantities of water are provided for use on the farm and its land [1].

Page 102
Study Figure 7.
a) Describe the trend in population change between 1750 and 2015. Use figures in your answer. [3]
[AO4] You are not being asked to describe the full time span of the graph but just that from its start in 1740 to 2015. Don’t extend your answer into the predicted changes between 2015 and 2100. You are being asked about the trend in population change and not the trend in its growth rate. The question also asks you to use figures in your answer. This means that you won’t get full marks if you fail to do so.
There was an overall rise in world population between 1740 and 2015 [1], from 800,000 to 6 million [1]. Growth was steady until 1945, to just under 3 million, when it began to increase more rapidly [1].
b) Explain why the population change is expected to level out between 2015 and 2100. [3]
[AO3 (1)] You should not have attempted any explanation in part (a). Now is the chance to bring in some of your knowledge to help make sense of the information shown on the graph.
The graph shows that, after reaching a high of 2.1% in 1950, the annual growth rate has declined greatly and is expected to continue to do so to 0.1% by 2100 [1]. Despite improvements in healthcare leading to a drop in death rates [1], increased use of birth control and the need for fewer children resulting from increased urbanisation has led to birth rates being much lower than the death rate [1].

Page 107
[AO3 (2)]
In 2011, the then Mayor of London, Boris Johnson, wrote in the Daily Telegraph: ‘Since Scotland and Wales are on the whole higher up than England, it is surely time to do the obvious: use the principle of gravity to bring surplus rain from the mountains to irrigate and refresh the breadbasket of the country in the south and east.’ To what extent do you agree with him? Explain your reasons. [8]
This is another question like those on pages 81 and 94 where you are asked to use your knowledge to evaluate a situation, in this case a statement concerning the possibility of transferring large quantities of water from parts of the north and west of the United Kingdom to other parts of the country.
You will need to concentrate carefully on the quote. Underline each of its elements. Examine each of them for ways in which you agree and disagree, and explain why you feel that way in terms of the geography of the UK and the advantages and disadvantages you feel the proposal would bring to areas the water would be taken from and those it would go to.
Finally, look at the balance of your arguments. To what extent do you agree with the statement? Write a final paragraph explaining your balanced view.

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| 4    | 7–8  | Exceptional application of knowledge and understanding:  
• comprehensive chains of reasoning provide sophisticated analysis  
• balanced and coherent appraisal draws together wider geographical understanding of the issue to justify the decision made |

4 Desertification

Page 111
a) Describe the location of the Sahel. [2]
[AO4] This question is asking you to do what you were asked to avoid for the task on page 77. You are being asked to describe the location of one area where drought and desertification are a problem as opposed to the worldwide distribution of such areas. Give two simple locational statements.
• The Sahel is in north Africa [1].
• It lies between the Tropic of Cancer and the Equator [1].
• It is on the southern edge of the Sahara Desert [1].

b) Describe the trend in mean monthly rainfall for the rainy season between 1900 and 2013. [3]
[AO4] As you are being asked to describe the ‘trend’, ignore the information provided by the bars and concentrate on the line that ‘smooths out’ the changes.
Rainfall starts 4 mm below mean average rainfall (MAR) in 1900 [1] but slowly rises to a peak of 3 mm above (MAR) in 1945 [1]. It then falls more steeply to 10 mm below MAR in 1988 before rising again in 2013 [1].

c) Explain two effects of this difference in mean annual rainfall on people living in the Sahel. Use evidence from the photograph. [4]
[AO3 (1)] The main element of evidence in the photograph is accessed by reading its caption.
As mean annual rainfall has been below average in the Sahel in recent years, crop yields have reduced [1], meaning that more pasture land has had to be ploughed to try to make up these losses [1]. The photo shows that pasture land is already sparse. This, and its further reduction through ploughing, will cause cattle to become malnourished and die [1], reducing the wealth and restricting farmers’ diet. Conditions may force farming communities to migrate [1].

Problem solving

Part A

Page 118
(a) Study the map on page 1 of the separate Resource Folder. It shows the location of Fort McMurray.
(i) Name the continent in which Fort McMurray is located. [1] [AO1]
The correct answer of ‘North America’ is a test of your geographical knowledge as it is not given in the resource.

(ii) Fort McMurray is located in which province of Canada? Circle the correct answer. Saskatchewan / Quebec / Alberta [1] [AO4]
However, the answer to this question, ‘Alberta’, is a test of your ability to read the map.

(iii) Give two more statements about the location of Fort McMurray. [2] [AO4]
You have already stated that it is in Alberta, so concentrate on Fort McMurray’s position in that province. Facts you could take from the map include it being in the northern part [1] of that province or ‘in an area of oil shales’ [1]. You may also choose to give its location in relation to another known place. It is 380 kilometres [1] north, north-west [1] of Edmonton, the provincial capital.

(b) Study Graph 1 on page 1 of the separate Resource Folder.
(i) Which Canadian source of oil was the most important in 2000? [1] [AO4]
Western Canadian conventional oil. You are not asked to give any more information so don’t be tempted to measure the quantity.

(ii) Use information from Graph 1 to complete the statements below.

Between 2008 and 2020 it is expected that in Canada conventional oil and ____________ will reduce production.

___________ is expected to rise between these years to a total of ____________ million barrels a day.
Show how you worked out this total. [4] [AO4]
There are 3 marks for providing the completion statements of: offshore oil [1], Oil sands production [1] and 3.5 (anything between 3.4 and 3.6).
The fourth mark is for the way in which you worked out your final answer. Show it as the higher figure on the graph for oil sands in 2020 minus its lower figure to give the actual forecast production; 4.3 – 0.8 = 3.5 [1].

(iii) One way in which Canada may benefit from the sale of oil is by getting money in the form of taxation. Explain why this may affect people’s quality of life. [4] [AO2]
Your answer must be tightly focused on explanation in relation to quality of life. Simple statements that don’t do this will not be credited. For example, ‘There is more money to spend on education’ is not enough. You would need to go on from that to say something like, ‘This means the chance of a future generation with improved qualifications [1], leading to a better job [1] and more disposable income to spend on the family [1], making them feel more secure [1].’
The question doesn’t say how many ways you should explore, so you may wish to look at more than just one as demonstrated above. For example, more money spent on an area’s infrastructure or on its health services.
(c) There is concern that an increase in extraction of oil from oil sands will cause greater water pollution.
i) Label the photograph to show two other types of pollution that may be caused during the extraction of oil from oil sands. [2] [AO1]
Label ‘air pollution’ [1] at one of the smoke plumes, and ‘land pollution’ or ‘soil pollution’ [1] at an area of the photo where the vegetation cover has gone.

(ii) Describe how water pollution may affect the natural environment. [5] [AO2]
You don’t need to know anything about the extraction of oil from oil shales to answer this question. It is asking for a response about water pollution in general terms. Also, don’t be tempted to explore any effects on people or the economy – you are only being asked about ‘environmental’ effects.
Water pollution is likely to create an environment in which some aquatic plant life (producers) will die out, leaving an absence of food for primary consumers in the aquatic food web [1]. A reduction in the number of primary consumers will have a knock-on effect further up the web [1], reducing biodiversity in the ecosystem [1]. The pollution is also likely to create undrinkable water for animals in land-based ecosystems [1], resulting in their migration or death, with negative effects similar to those on the aquatic web [1].

Part B

Page 118
Some social effects of the oil extraction industry

(a) Study News Article 1 in the separate Resource Folder.
(i) Choose from the news article one disadvantage and one advantage of growing up in Fort McMurray.
Explain your choice of each. [4] [AO2]
Disadvantages: crime, homelessness, shift working.
Advantages: increased cultural experiences in general or for one of theatre, arts, music and sports.
There is no credit for merely selecting the two features. There are 2 marks each for your explanation of the choices you make.

(ii) The growth of the oil industry has attracted a large number of migrants to Fort McMurray. Explain why this might be viewed with mixed feelings by the town’s original community. [5] [AO2]
You are being asked to demonstrate your understanding of both sides of an in-migration debate. What is it about people moving into an area that residents already living there may welcome and what will they be less happy about?

(b) Study the graph on page 119. Since about 2010 the price of oil has fallen sharply. Large numbers of workers in the industry have been laid off.
(i) Complete the graph using the following information.
• The average house price in Fort McMurray in 2010 was $675,000. [1] [AO4]
Correct completion of the graph involves using a ruler to help you complete a horizontal line at $675,000 for 2010 and filling the bar you have produced with the same shading as the other bars.

(ii) Use the information above to suggest why the changes shown may affect the housing market in Fort McMurray. [4] [AO3]
You are being asked to interpret the graph as having fluctuated between 2007 and 2009 and then shown a steady rise. This could prompt a number of valid explanatory suggestions.

Some environmental effects of the oil extraction industry

(c) Study the pie chart on page 119.
(i) Complete the pie chart to show the following information about greenhouse gas emissions.
• 37% came from electricity generation.
• 4% came from other industries. [2] [AO4]
There is 1 mark available for correct completion of the line separating the two segments and the second mark for indicating which is for ‘electricity generation’ and which for ‘other industries’.

(iii) To what extent might the ending of Alberta’s oil extraction impact on climate change? [4] [AO3]
This question is asking you to use information from the pie chart in order to form an opinion on the global impact on climate change. All opinions are valid as long as they are based on information provided in the pie chart and follow a logical continuum. Of course, you may also import relevant information from your own knowledge.
Although oil sands operations account for more than 18% of Alberta’s greenhouse emissions, this represents only 6.8% of Canada’s total emissions [1]. Canada is also just one country and there are others, such as the USA, India and China, which are much greater producers of greenhouse gases [1], so the effects of such a reduction could be minimal [1]. Some scientists argue that there isn’t a strong link between greenhouse gas production and climate change, while others disagree with that view, so the overall effects of such a reduction are unknown [1].

(iii) Describe how climate change may affect people and environments. [4] [AO1]
You are being asked to use your own knowledge to give and describe possible effects of climate change, so you need to do more than simply write a list. You are also being asked about the effects on both people and the environment. Make sure that you cover both of these.
You will have many examples of your own, but the following are commonly studied possible responses.
Effects on people:
- A rise in sea levels could result in an increase in coastal flooding, placing more people at risk of loss of life and damage to property [1] and resulting in stress and financial difficulties [1].
- An increase in the number and severity of storms could cause damage to farmers’ crops [1], resulting in financial difficulties for the farmer and a general reduced food supply [1].
Environmental effects:
- Melting ice sheets reduce the habitats of animals such as polar bears [1], causing their numbers to drop and threatening their survival [1].
- Warming oceans and their increased acidity results in greater stress in coral communities [1], reducing their structural strength and putting them at risk of failure [1].

(iv) Describe how greenhouse gases may contribute to climate change. [4] [AO1]
This is a question demanding a response that demonstrates your knowledge of the processes that are the greenhouse effect. The answers are mainly to be found in the diagram on Figure 2 on page 81 of the book.
Short-wave energy passes into the atmosphere. Little is absorbed in the atmosphere [1].
Solar energy heats the Earth’s surface, which then radiates long-wave energy (heat) into the atmosphere [1].
Long-wave energy is absorbed by greenhouse gases in the atmosphere [1]. This increases overall global temperatures [1].

(d) Study Graph 2 in the separate Resource Folder.
(i) What were Alberta’s oil reserves estimated to be in 2011? [1] [AO4]
This appears to be an easy question but you will get nothing if you don’t give the full answer of 170.2 billion barrels.

(ii) Place the following areas of the world in rank order according to their oil reserves.
Africa; The Middle East; North America; Russia. [1] [AO1]
You are being asked to apply your knowledge of countries and continents to the places shown on the graph.
The rank order is Middle East > North America > Africa > Russia.

(iii) ‘Extracting oil from oil sands will provide sustainable long-term employment opportunities in Fort McMurray.’ Is this true? Use evidence from the graph to support your answer. [4] [AO3]
You are being asked to make a judgement based on graph evidence. However, it is difficult to predict changes in demand. You have already looked at this principle on page 47.
The graph shows that in 2011 Alberta had the third largest oil reserves in the world [1]. This suggests that there should be sufficient reserves to meet demand for the foreseeable future, meaning sustainable work opportunities [1]. However, meeting an increase in demand would result in a greater number of jobs over a shorter time period before reserves run out, removing job opportunities entirely [1]. A decrease in demand would reduce the need for the current number of workers but mean that reserves would last longer [1].

(iv) Describe how the multiplier effect operates in an area of ‘boom and bust’ fluctuating job opportunities. [6] [AO2]
The term ‘boom and bust’ refers to a situation in which demand fluctuates from being high at a particular time then dropping for a period of time before rising again, before dropping, etc., with the resultant changes in demand for a workforce.
During a period of high demand (boom), the positive multiplier will exist. Apply information from Figure 12 on page 43 to help explain its effects on a settlement like Fort McMurray. However, during times of low demand (bust), there will be a negative multiplier similar to that you shown in your response to Revision activity 1 on page 43.
You will need to finish your answer by stating that the constant change between boom and bust will create a great deal of uncertainty in the area, making long-term job opportunities unlikely.

Part C

Page 120
As with all final problem-solving questions, the key to your success is planning.
• Carefully consider the options. In this example you are asked to select one of the three options. In your exam you may be asked to make a yes/no decision or to prioritise three options.
• Don’t just use evidence for your decision from any viewpoints or facts given in the Resource Folder. Incorporate information from other parts of the paper and from your own wider knowledge and understanding.
• Always contextualise facts as part of the decision you are making. Don’t just ‘throw in’ a bank of facts, always use them as part of the explanation of the decision you are making.
• Work out a structure for your report. It should include:
  o a clear statement of your chosen decision  
  o a consideration of the advantages and disadvantages of the strategies you have rejected, with an emphasis on the disadvantages  
  o a consideration of the advantages and disadvantages of your chosen strategy, with an emphasis on the advantages  
  o a final statement briefly restating your chosen option.
• Throughout your report you should:
  o use elaborated responses  
  o ensure that you make ‘sustainability’ an integral part of your argument.

To reach the highest levels of the mark scheme you will need to:
• use simple statements and ideas as a starting point – exploring these will need to trigger more elaborations that enable you to demonstrate your full understanding of the issue
• consider the social, economic and environmental implications of your chosen strategy and those you have rejected
• import your own knowledge if it helps to support the views you are expressing
• consider both the short- and longer-term effects of your strategy
• write your report in a formal style – get straight to the point and don’t be tempted to waffle; you should not need more space than that provided in the question/answer booklet for your response
• write in your best possible English – your answer will receive a separate mark for the quality of the written English
• use relevant geographical terms wherever possible – their correct use will contribute to your mark for English.

Geographical content:

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| 4    | 10–12| The candidate writes a comprehensive response that:  
• reaches a substantial decision that includes a clear justification for the choice made  
• provides consistently detailed elaboration throughout that is substantiated by a range of evidence from the Resource Folder.  
• provides effective comparison of the three options  
• applies wider geographical knowledge and understanding to effectively back up the chain of reasoning |

Spelling, punctuation and the effective use of grammar and specialist terms:

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| High | 4    | • Learners spell and punctuate with consistent accuracy  
• Learners use the rules of grammar with effective control of meaning overall  
• Learners use a wide range of specialist terms as appropriate |