GCSE MARKING SCHEME

SUMMER 2018

GEOGRAPHY SPECIFICATION B
COMPONENT 1
C112U10-1

INTRODUCTION

This marking scheme was used by WJEC for the 2018 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

GCSE GEOGRAPHY B COMPONENT 1

SUMMER 2018 – MARK SCHEME

Instructions for examiners of GCSE Geography when applying the marking scheme

1 Positive marking

It should be remembered that learners are writing under examination conditions and credit should be given for what the learner writes, rather than adopting the approach of penalising him/her for any omissions. It should be possible for a very good response to achieve full marks and a very poor one to achieve zero marks. Marks should not be deducted for a less than perfect answer if it satisfies the criteria of the mark scheme.
GCSE Geography marking schemes are presented in a common format as shown below:

This box contains the sub-question

The columns to the right indicate the assessment objective(s) targeted by the question and its mark tariff.

3 (a) (i) Describe the location of the island of Lefkada.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit two simple statements based on map evidence. Credit accurate use of compass points max 1 Credit accurate use of scale line max 1	In western Greece (1) In Ionian Sea (1) north of Cephalonia (1) 275km (+/-10) from Athens (1) 280km (+/-10) from Thessaloniki (1)					2	**2**

This box contains the rationale i.e. it explains the principles that must be applied when marking each sub-question. The examiner must apply this rationale when applying the marking scheme to the response.

This box contains the candidates' expected responses for point-based marking. For some sub-questions, those with a closed question, this box will indicate the only response that is acceptable. For more open ended sub-questions this box will illustrate a number of likely responses that are credit worthy. It may be that this list will be extended at the examiner's conference after actual scripts have been read. For banded mark schemes this box contains indicative content. For further details see below under Banded mark schemes Stage 2.

2 Tick marking

Low tariff questions should be marked using a points-based system. Each credit worthy response should be ticked in red pen. The number of ticks must equal the mark awarded for the sub-question. The mark scheme should be applied precisely using the expected outcomes box as a guide to the responses that are acceptable. Do not use crosses to indicate answers that are incorrect. If the candidate has not attempted the question then the examiner should strike through the available dotted lines with a diagonal line.

3 Banded mark schemes

Banded mark schemes are divided so that each band has a relevant descriptor. The descriptor for the band provides a description of the performance level for that band. Each band contains marks. Examiners should first read and annotate a learner's answer to pick out the evidence that is being assessed in that question. **Do not use ticks** on the candidate's response. Once the annotation is complete, the mark scheme can be applied. This is done as a two stage process.

Stage 1 – Deciding on the band

When deciding on a band, the answer should be viewed holistically. Beginning at the lowest band, examiners should look at the learner's answer and check whether it matches the descriptor for that band. Examiners should look at the descriptor for that band and see if it matches the qualities shown in the learner's answer. If the descriptor at the lowest band is satisfied, examiners should move up to the next band and repeat this process for each band until the descriptor matches the answer.

If an answer covers different aspects of different bands within the mark scheme, a 'best fit' approach should be adopted to decide on the band and then the learner's response should be used to decide on the mark within the band. For instance if a response is mainly in band 2 but with a limited amount of band 3 content, the answer would be placed in band 2, but the mark awarded would be close to the top of band 2 as a result of the band 3 content.

Examiners should not seek to mark candidates down as a result of small omissions in minor areas of an answer.

Stage 2 – Deciding on the mark

Once the band has been decided, examiners can then assign a mark. During standardising (marking conference), detailed advice from the Principal Examiner on the qualities of each mark band will be given. Examiners will then receive examples of answers in each mark band that have been awarded a mark by the Principal Examiner. Examiners should mark the examples and compare their marks with those of the Principal Examiner.

When marking, examiners can use these examples to decide whether a learner's response is of a superior, inferior or comparable standard to the example. Examiners are reminded of the need to revisit the answer as they apply the mark scheme in order to confirm that the band and the mark allocated is appropriate to the response provided.

Indicative content is also provided for banded mark schemes. Indicative content is not exhaustive, and any other valid points must be credited. In order to reach the highest bands of the mark scheme a learner need not cover all of the points mentioned in the indicative content but must meet the requirements of the highest mark band. Where a response is not creditworthy, that is contains nothing of any significance to the mark scheme, or where no response has been provided, no marks should be awarded.

Theme 1, Question 1

Q1 (a) Study Fig 1.1. (i) India is an example of a NIC. What does NIC stand for? Tick (✓) **one** of the definitions below.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit this response only.	Newly industrialised company: Newly industrialised country: ✓ Non-industrialised country:	1					**1**

Q1 (a) (ii) The table contains six statements about Fig 1.1. Only three are correct. Tick the **three** correct statements.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit these responses only. One mark for each correct response.						3	**3**

	Tick (✓) three
Children aged 0-14 form the largest age groups in both India and the UK.	
India has more females than males in the 10-14 age group.	
The UK has more females than males aged 75 and over.	✓
The UK has a greater proportion of its population aged over 70 than India.	✓
There are 63 million people aged 0-4 in India.	
There are approximately 4 million people aged 0-4 in the UK.	✓

Q1 (b) (i) Calculate the difference between male and female literacy in 1981.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit correct response only for one mark. Accept response placed in the table. No working out required.	29. (1)					1	**1**

Q1 (b) (ii) What has happened to the difference between male and female literacy?		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit one valid statement. Allow use of figures.	Gone down / Reduced / By 11% (1)					1	**1**

Q1 (b) (iii) Give **one** reason why improving adult literacy rates would benefit countries like India.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
This question targets the concept of levels of development. Credit one mark for a valid statement and up to one mark for its development. Do not allow a mark for defining adult literacy.	A high literacy rate means more workers can be employed in high technology jobs (1) which earn more money for the country (1)		2				**2**

Q1 (b) (iv) Give **one** economic indicator that is used to measure a country's level of development.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit one valid statement with one mark.	Possible answers include : GNI (Gross National Income) GNP (Gross National Product) PPP (Purchasing Power Parity) GDP Inflation level % unemployment Economic structure of employment Do NOT allow HDI as it is not just economic.	1					**1**

<table>
<tr><td colspan="2">Q1 (c) (i) Describe the pattern of imports and exports of one NIC you have studied.</td><td>AO1</td><td>AO2.1</td><td>AO2.2</td><td>AO3</td><td>AO4</td><td>Total</td></tr>
<tr><td>Use a banded mark scheme. Work upwards from the lowest band.

<table>
<tr><th>Band</th><th>Mark</th><th>Band descriptor</th></tr>
<tr><td>2</td><td>3-4</td><td>Elaborated statements which demonstrate detailed knowledge of trade pattern.
Clear reference should be made to figures/goods/country of imports <u>and</u> exports.</td></tr>
<tr><td>1</td><td>1-2</td><td>Simple statements which demonstrate knowledge of imports or exports.
Reference may be made to figures/goods/country of imports <u>or</u> exports.
Response may be more generic than specific.</td></tr>
<tr><td></td><td>0</td><td>Award 0 marks if answer is incorrect or wholly irrelevant.</td></tr>
</table>

If incorrect or no country = 0 marks</td><td>Must be a NIC – do not allow LIC. (Apply professional judgement. Use list on page 29 of the specification as a guide.)
Named
e.g. China imports services from the UK. China imported £1.2 billion of goods from the UK and exported £3.9 billion of goods.
Should refer to specific named imports and exports between countries.</td><td>4</td><td></td><td></td><td></td><td></td><td>4</td></tr>
</table>

Q1 (c) (ii) Explain why the UK needs to import and export goods.	AO1	AO2.1	AO2.2	AO3	AO4	**Total**
This question targets AO2.1 the concept of interdependence.		6				**6**

Use a banded mark scheme. Work upwards from the lowest band.

Band	**Mark**	**Band descriptor**
3	5-6	Thorough and elaborated understanding of a range of reasons for <u>both</u> imports and exports includes chains of reasoning.
2	3-4	Elaborated understanding of the reasons for <u>both</u> imports and exports. May lack balance.
1	1-2	Simple, valid statements that demonstrate a basic understanding of imports/exports. May only refer to imports or exports.
	0	Award 0 marks if answer is incorrect or wholly irrelevant.

Do not penalise if answers refer to services rather than goods.

Responses should demonstrate an understanding of the reasons for imports and exports.
Trade can be in the form of services such as tourism or financial

Points may include:
UK cannot produce all the goods it needs such as raw materials and some food such as iron ore, coffee, tea, bananas.

By buying goods from abroad the UK can purchase cheaper goods, with a wider choice or of better quality.
UK exports include cars, machinery, petroleum, medical and surgical instruments.

Q1 (d) (i) Study Fig 1.3. Describe the pattern of Fairtrade export countries and Fairtrade import countries. Use evidence from Fig 1.3 only.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit up to **three** simple valid statements each worth one mark. Max 2 marks if answers only refer to either export or import countries. Max 2 for list Qualification of pattern required for 3rd mark	Export countries are located in the continents of South America/Africa/Asia. (1) Import countries are located in North America/Europe/Australasia. (1) Many export countries lie between the Tropics of Cancer and Capricorn (1) whereas the import countries are in higher latitudes.(1) Qualification statement of pattern (1) e.g. Uneven, mainly, mostly…					3	**3**

Q1 (d) (ii) Give **two** features of Fairtrade.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit up to two valid statements, each for one mark.	Fairtrade Foundation begun in 1992. (1) Fairtrade mark guarantees a better deal for farmers. (1) They have more security (1) can plan ahead.(1) They may work as a co-operative. (1) They may be able to borrow money (1) to invest in new technology. (1) Fair price (1) They may receive a Fairtrade Premium (1) which can be used for local projects. (1) Any appropriate Fairtrade product (1)	2					**2**

Q1 (e). 'Long-term development aid is more effective than short-term emergency aid.' Use the information in Figs 1.4-1.6 to help you decide how far you agree with this statement. Justify your decision.	AO1	AO2.1	AO2.2	AO3	AO4	**Total**
				8		**8**

Use a banded mark scheme. Work upwards from the lowest band.

Band	Mark	Band descriptor
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 to justify decision.
3	5-6	Thorough application of knowledge and understanding. • Chains of reasoning provide elaborated analysis. • Balanced appraisal draws together wider geographical understanding to support decision.
2	3-4	Sound application of knowledge and understanding. • Some connections provide valid but limited analysis. • Limited appraisal uses wider geographical understanding to support decision.
1	1-2	Some basic application of knowledge and understanding. • Basic level of meaning ascribed to the information/issue. • Limited and weak appraisal uses some wider geographical understanding to support decision.
	0	Award zero marks if answer is incorrect or wholly irrelevant.

This question requires candidates to synthesise links between different areas of knowledge and understanding and apply this understanding to analyse novel information that requires judgement. All elements of AO3 are targeted.

Responses should apply their knowledge and understanding to the issue of aid and evaluate the relative importance of both short-term and long-term aid. They should make a judgement supported by a rationale.

<u>Long-term development aid</u> might include

- Has a longer lasting impact and is therefore sustainable.
- Projects such as in Fig.1.5 are effective because they can use simple technology provided at relatively low cost but can improve the lives of whole communities.
- Projects like those shown have a wide impact such as clean water can lead to improved health.
- Education projects like Fig 1.6 are effective because they introduce modern technology which gives future generations the ability to help develop their country socially & economically.
- Projects such as those in Fig 1.5 and 1.6 can be funded by NGO's and governments over a period of time so a country can plan for its future.

<u>Short-term emergency aid</u> might include

- Effective because it is a response to a crisis such as Typhoon Haiyan.
- Has more of a short term impact than development aid.
- Aid sent by countries such as the UK is important because it can be targeted at the immediate needs of vulnerable people such as food and shelter.
- May be organised by NGO's which can be seen as more impartial, especially in areas that are politically sensitive.
- Effective because the affected country may not be able to provide the necessary specialist equipment or expertise so support like that in Fig 1.4 means more lives could be saved.

After awarding a level and mark for the geographical response, apply the performance descriptors for spelling, punctuation and the accurate use of grammar (SPaG) and specialist terms that follow.

Band	Marks	Performance descriptions
High	4	• Learners spell and punctuate with consistent accuracy • Learners use rules of grammar with effective control of meaning overall • Learners use a wide range of specialist terms as appropriate
Intermediate	2 - 3	• Learners spell and punctuate with considerable accuracy • Learners use rules of grammar with general control of meaning overall • Learners use a good range of specialist terms as appropriate
Threshold	1	• Learners spell and punctuate with reasonable accuracy • Learners use rules of grammar with some control of meaning and any errors do not significantly hinder meaning overall • Learners use a limited range of specialist terms as appropriate
	0	• The learner writes nothing • The learner's response does not relate to the question • The learner's achievement in SPaG does not reach the • threshold performance level, for example errors in spelling, punctuation and grammar severely hinder meaning

End of Question 1

Theme 2: Changing Environments

Q2 (a) Rivers erode by a number of different processes. (i) Read the 'heads and tails' definitions below. Add the number of the correct tail to the boxes below.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit these responses only. One mark for each correct response.	A=2 (1) B=4 (1) C=3 (1) D=1 (1)	4					**4**

Q2 (a) (ii) Study Fig 2.1, A waterfall in the UK. Label the key features of the waterfall. Choose the correct phrases from the box below.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit one mark for each correct label.	TL=overhanging rock (1) BL=fallen debris (1) TR=gorge (1) BR=plunge pool (1)	4					**4**

Q2 (b) Study Fig 2.2. (i) Complete Fig 2.2 by adding the following information.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit one mark for accurate drawing of bar. Does not have to be shaded in.	Accurate drawing on the graph. Hours from start of storm: 3 Rainfall in mm: 11					1	**1**

Q2 (b) (ii) Calculate the total rainfall that fell during the storm shown in the hydrograph. Show your working in the space below.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit this response only for one mark. Credit one mark for correct working. Allow max one mark if no working is shown.	48 (1) 4+8+11+15+10 (1)					2	**2**

Q2 (b) (iii) Some key features of the storm hydrograph have been labelled on Fig 2.2. Complete the table below by adding the correct letter from Fig 2.2. One has been done for you. One feature in the table is incorrect.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit one mark for each correct response.	<table><tr><th>Feature</th><th>Letter from diagram</th></tr><tr><td>Rising limb</td><td>B</td></tr><tr><td>Flood level</td><td></td></tr><tr><td>Falling limb</td><td>D</td></tr><tr><td>Peak discharge</td><td>C</td></tr><tr><td>Baseflow</td><td>A</td></tr></table>					3	**3**

Q2 (b) (iv) Calculate the lag time (difference in hours between peak rainfall and peak discharge). Show your working in the space below.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
. Credit one mark for correct working. Allow max one mark if no working is shown.	4 (1) 8-4 (1) Also accept 5 (1) 8-3 (1) Accept anything between 3.0 and 4.0					2	**2**

Q2 (b) (v) Explain **one** physical factor, other than rainfall, which causes lag times to vary.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit one mark for a valid factor and one mark for an elaboration.	Examples may include: Vegetation (1) slows infiltration and increases lag time (1) Soil type (1) rock type (1) if porous/permeable increases lag time (1) Slope of the land (relief) (1) steep slopes reduce lag time (1) Evaporation rates (1)			2			**2**

Q2 (c) Explain why urbanisation can increase the risk of river flooding.	AO1	AO2.1	AO2.2	AO3	AO4	**Total**
This question targets understanding of the interrelationship between human activity and river processes.			6			**6**

Use a banded mark scheme. Work upwards from the lowest band.

Band	**Mark**	**Band descriptor**
3	5-6	A sophisticated response where the candidate shows a clear understanding of fluvial processes through relevant chain(s) of reasoning, including the correct use of terms.
2	3-4	Elaboration in the response shows understanding. May have a chain in reasoning
1	1-2	Valid but basic points are made with no elaboration.
	0	Award 0 marks if answer is incorrect or wholly irrelevant.

Likely to include some of the following points:
Urbanisation usually involves using concrete and tarmac which create impermeable surfaces so water gets to rivers faster
Infiltration is reduced and surface run-off increased so water gets to rivers quicker.
Rapid increase in discharge leads to a bank full situation and flooding.
Urbanisation may also involve cutting down trees/reducing exposed soil which reduces interception and infiltration.
Water may be put back into rivers from factories and towns so discharge will increase.
Gutters and drains take water away from towns and into rivers much more quickly than natural processes.
Drains and pipes may not be able to cope with sudden torrential downpours leading to increased surface run-off.

Q2 (d) Study Fig 2.3 and 2.4 Evaluate the opinion shown in Fig 2.4.	AO1	AO2.1	AO2.2	AO3	AO4	**Total**
				8		**8**

Use a banded mark scheme. Work upwards from the lowest band.

Band	Mark	Band descriptor
4	7-8	Exceptional application of knowledge and understanding. • Comprehensive chains of reasoning provide sophisticated evaluation and analysis. • Balanced and coherent appraisal draws together wider geographical understanding.
3	5-6	Thorough application of knowledge and understanding. • Chains of reasoning provide elaborated evaluation and analysis. • Balanced appraisal draws together wider geographical understanding.
2	3-4	Sound application of knowledge and understanding. • Some connections provide valid but limited evaluation and analysis. • Limited appraisal used wider geographical understanding.
1	1-2	Some basic application of knowledge and understanding. • Basic level of meaning ascribed to the information/issue. • Limited and weak appraisal uses some wider geographical understanding.
	0	Award zero marks if answer is incorrect or wholly irrelevant.

This question requires candidates to synthesise links between different areas of knowledge and understanding and apply this understanding to analyse novel information that requires judgement. All elements of AO3 are targeted. Responses should apply their knowledge and understanding to the issue of floods and evaluate the relative importance of both views.

<u>View</u>

Agree

- Does not involve spending public money which could be used elsewhere such as for health and education.
- Storm Desmond was a 1 in 100 year event, so may not happen again in people's lifetime.
- Evidence suggests that even flood defences can fail in exceptional circumstances as shown in Fig 2.3

Disagree

- Does not take into consideration the value of people's lives and property in the Lake District.
- Households and businesses such as the Glenridding Hotel will find it very hard or very expensive to insure their property.
- Does not consider the economic or environmental implications of a flood. The article suggests that this is a popular tourist destination, so local economy could suffer if nothing is done.
- Does not take into consideration the human impact of living with uncertainty, especially for those affected in 2015.

End of Question 2

Theme 3: Environmental Challenges

Q3 (a) Study Fig 3.1. It shows some of the many pressures put on global water resources. (i) Complete the sentences that follow using four words or phrases from the text box below.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit these responses only. One mark for each correct response.	agriculture (1) GNI(1) more (1) footprint (1)	4					**4**

Q3 (a) (ii) Give **one** reason why water security is important to all countries.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
This question assesses understanding of the concept of water security. Credit one mark for a valid statement and one mark for an elaboration.	A country needs enough clean water supplies (1) for sanitation/drinking/ agriculture/industry (1)		2				**2**

Q3 (a) (iii) For a **named** place, describe how the problem of water supply has been managed.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit up to 4 valid statements, each for 1 mark. Or 2 elaborated statements (1+1)(1+1) (1+1+1) Maximum of 2 marks if no place is clearly identified. Credit responses that use a whole country, region or locality. Allow references to solutions to the problem of desertification in a named place, such as magic stones.	Water is supplied from river/reservoir (1) Water is abstracted from the ground (1) Water is transferred from a place (1) Water is managed at the local scale (1) for example by rainwater harvesting (1)	4					**4**

Q3 (b) (i) Study Fig 3.2. Name the only country that uses over 700 m^3/year per person and less than 10% of water use is in homes.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit this response only.	Egypt (1)					1	**1**

Q3 (b) (ii) Select an appropriate technique from the choice below to represent the data for % water use in Fig 3.2. Explain why your chosen technique is the most appropriate.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit up to 4 valid statements, each for 1 mark. Or 2 elaborated statements (1+1)(1+1) No mark for ticking the box. If a line graph is chosen award no marks. Credit positives (+) and negatives (-) Use professional judgement.	<u>Line Graph</u> (-)Not an appropriate choice because the data is discrete. (-) Line graphs should only be used with continuous data. <u>Bar graph</u> (+)Would show the differences between countries (-) but would need to have one for each type of use which makes interpretation difficult. (+)Could use divided/proportional bar graphs to show the different uses. <u>Pie charts</u> (+)Show percentages clearly. (+) Simple to construct and would enable comparison. (+)Could be located on a world map to give a spatial dimension. (-) no raw data. <u>Triangular graph</u> (+)Would be an appropriate choice as it would use each water sector as a single axis. (-)Difficult to draw and interpret. (-) It is probably not as clear as pie charts.					4	**4**

Q3 (c) (i) Study the two satellite images in Fig 3.3 and 3.4.They show a lake (in blue) which is shrinking due to evaporation and increasing demand for water. Describe how Lake Chad has changed. Use measurements in your answer.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit three valid statements each for one mark. Max 2 marks if figures not used. Allow figures based on understanding of scale. Allow any reasonable measurement for distance. Only accept 35 years for change of time.	Reduced in size (1) in 35 years(1) Used to extend from Niger in the N to Cameroon in the S (1) Area of open water reduced (1) by approximately 75% (1)					3	**3**

Q3 (c) (ii) Explain why over abstraction of water causes problems for both people and the environment.	AO1	AO2.1	AO2.2	AO3	AO4	**Total**
This question targets understanding the concept of over abstraction of water.		6				6

Use a banded mark scheme. Work upwards from the lowest band.

Band	**Mark**	**Band descriptor**
3	5-6	Thorough and elaborated understanding of the problems caused by over abstraction. Includes chain(s) of reasoning. Refers to impacts on **both** people and environment.
2	3-4	Elaborated understanding of the problems caused by over abstraction for both people and environment. May lack balance.
1	1-2	Simple, valid statements that demonstrate a basic understanding of the problems. May only refer to a single impact and lacks elaboration.
	0	Award 0 marks if answer is incorrect or wholly irrelevant.

Responses could refer to named examples such as Lake Chad, Mediterranean coastline resorts or UK rivers.

<u>People</u>

Leads to unreliable sources of water for people or they have to use unsafe supplies.
Desalinisation is an expensive alternative as is piping in water from elsewhere.
If reservoir levels are reduced it may have an impact on tourism and leisure activities.

<u>Environment</u>

Negative impact on ecosystems such as wetland birds and fish species.
Lakes may seasonally disappear.
In areas of high evaporation, may lead to salinization of soils.
Sinking water tables can affect river discharge patterns.
Modifies the habitat of rivers by altering width, depth and velocity.
May affect water quality as pollutants are not diluted as much.
May lead to reduction in dissolved oxygen levels which affects fish such as salmon.

Q3 (d) Many ecosystems are under threat from human activity. Study Figs 3.5, 3.6 and 3.7. In 2016 the government of Peru ordered that the pipeline should be temporarily closed. Should the pipeline be re-opened? Consider the possible social, environmental and economic impacts of your decision.	AO1	AO2.1	AO2.2	AO3	AO4	**Total**
				8		**8**

Use a banded mark scheme. Work upwards from the lowest band.

Band	Mark	Band descriptor
4	7-8	Exceptional application of knowledge and understanding. • Comprehensive chains of reasoning provide sophisticated analysis. • Fully balanced and coherent appraisal draws together wider geographical understanding to justify decision.
3	5-6	Thorough application of knowledge and understanding. • Chains of reasoning provide elaborated analysis. • Balanced appraisal draws together wider geographical understanding to support decision.
2	3-4	Sound application of knowledge and understanding. • Some connections provide valid but limited analysis. • Limited appraisal used wider geographical understanding to support decision.
1	1-2	Some basic application of knowledge and understanding. • Basic level of meaning ascribed to the information/issue. • Limited and weak appraisal uses some wider geographical understanding to support decision.
	0	Award zero marks if answer is incorrect or wholly irrelevant.

This question requires candidates to synthesise links between different areas of knowledge and understanding and apply this understanding to analyse novel information that requires judgement. All elements of AO3 are targeted.
Responses should apply their knowledge and understanding to the issue of ecosystems under threat and evaluate the relative importance of social, environmental and economic implications of the pipeline. They should then make a decision about the statement which is supported by a rationale.
Social impacts might include

- Their food source is contaminated so have to look for alternatives.
- They may have to move away so their whole culture could be adversely affected.
- Increased conflict between indigenous people and the government who may not benefit from the pipeline and want it permanently shut.

Environmental impacts might include

- Catastrophic effect on plants and animals.
- Rare species could become extinct.
- Problem has not been contained and will spread through flooding.
- Leaks occur on a regular basis suggesting poor maintenance and likely to happen again.
- Oil will seep into the soil causing even more damage.
- Take a long time to recover.

Economic impacts might include

- Country losing money while pipeline is closed.
- Will also lose money if the extension is not built.
- Peru is an LIC so needs the money from oil to develop.
- Ecuador will also suffer if it is not re-opened.
- Some job losses if pipeline closes – may be very little alternative employment in a rainforest area.
- If water remains polluted, local fishermen will lose trade.
- Could discuss the possibility of fines if it happens again.

End of Question 3