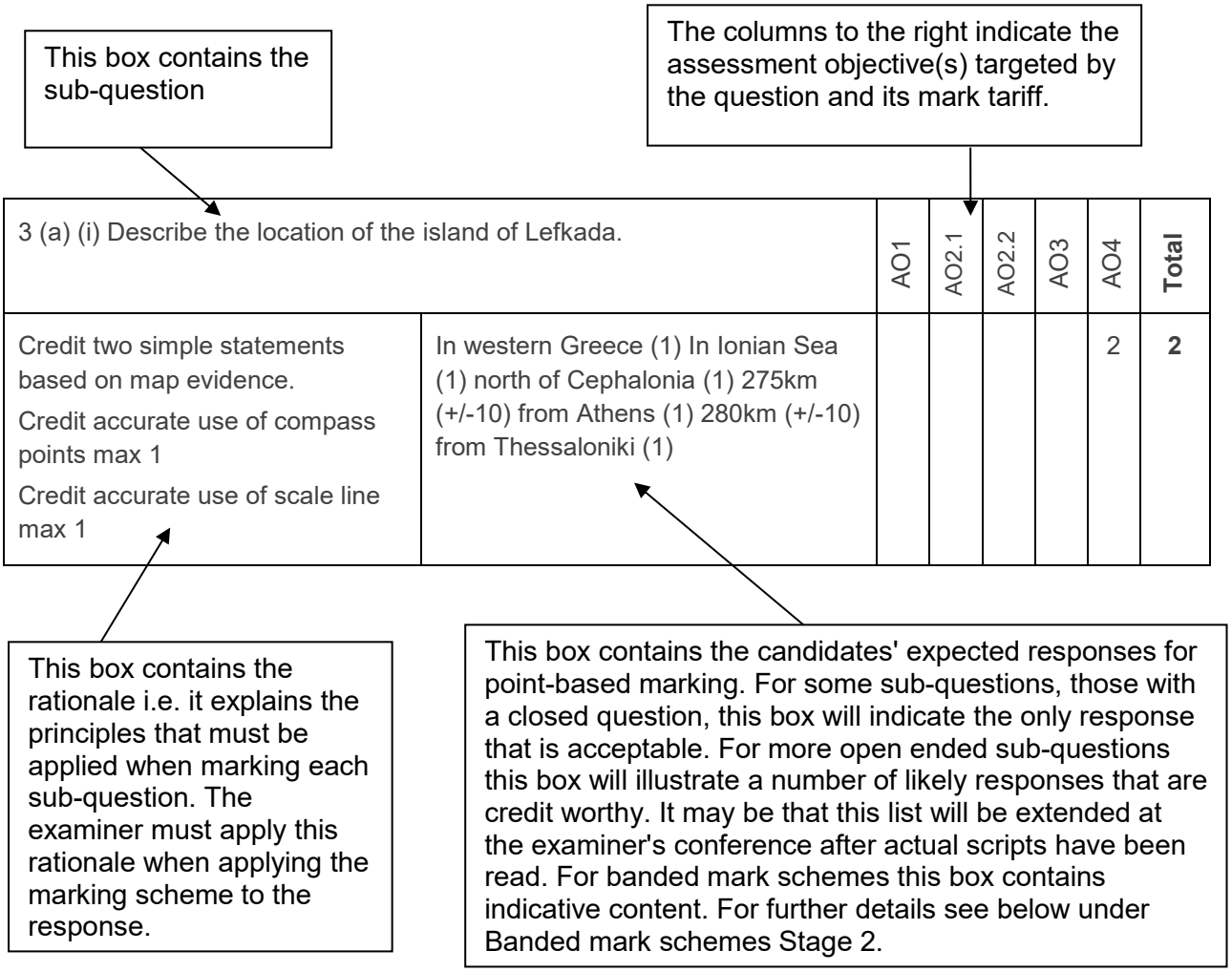
COMPONENT 2 – MARK SCHEME

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:



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.

Part A

(a) Study the maps on **page 2** of the separate Resource Folder. They show the location of Bauchi state which is a region of Nigeria. (i) Name the continent in which Nigeria is located.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit this response only.	Africa (1)	1					**1**

(ii) Circle the correct answer in the sentence below:		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit this response only.	North-east (1)					1	**1**

(iii) Give **two** more statements about the location of Bauchi state.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit up to **two** valid statements, each with one mark. Credit accurate use of compass and / or scale. **Do not** credit: • near to / below / surrounded by / next to • the location of Bauchi City as opposed to Bauchi state.	SE of Kano (1) South of Jigawa (1) South west of Yobe (1) closest point is 130km (+/- 10km) (1) South west of Lake Chad (1) closest point is 75km (+/- 10km) south of Niger (1)					2	**2**

(b) Study Graph 1 below. It shows the semi-arid climate of Bauchi state. (i) Complete the Graph 1 using the following information.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit accurate completion of temperature line. The candidate must fully complete the temperature line on the graph to gain the mark available.	Accept a 37°C mark half way between the 35 and 40°C lines (1)					1	**1**

(ii) Use information from Graph 1 to complete the sentences below:		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit one mark for each correct response (allowing tolerances for first and third blank space). Both months should be correct for the fourth blank space.	Allow 270-280mm (1) August (1) Allow 8 - 10 °C (1) November to March (1)					4	**4**

(iii) Contrast this hot semi-arid climate with the climate of the UK. Identify **four** differences.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit up to **four** valid comparative statements, each with one mark. Statements must be **comparative** i.e. they must consider differences between the Savanna and Temperate Maritime climates, using sentence connectives.	Bauchi state has two distinct seasons **whereas** the UK has four distinct seasons (1) Temperature range is 9°C in Bauchi state **but** in the UK it tends to be greater than this / double / twice as much / ***accept between 15-20***°C (1) The warmest period (may be expressed as summer) is February – April **compared** to the UK when it is June- August (1) The peak temp in Bauchi is in April **whereas** in the UK it is in July / August (1) There is an obvious wet / dry season in Bauchi from May to October **whereas** in the UK there is rainfall all year (1) London has about the same amount of rainfall per month **whereas** Bauchi has extremes of rainfall across months (1)	4					**4**

(c) Desertification is a problem in Bauchi state. The main causes are climate change, deforestation and farming methods used by some farmers. (i) Tick (✓) the correct meaning of desertification in the table below.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit this response only.	The process by which fertile land turns into desert (1)	1					**1**

(ii) Some scientists think that the burning of fossil fuels is making drought in Bauchi state worse. Use words from the box below to complete the sentences that follow.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit these responses only.	Oil (1) Greenhouse gases (1) Greenhouse effect (1) Drier (1)	4					**4**

(d) Desertification can also occur when trees are removed (deforestation). Study Diagram 2 below. (i) Place each letter for the following processes in its correct box on Diagram 2. One box will remain empty.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit these responses only. The box below the roots should remain empty. **Do not** credit if letters A or B are placed in more than one box.	Letter **A** in the empty box in the tree (1) Letter **B** in the empty box on the surface of the soil (1)	2					**2**

(ii) Explain why deforestation damages soils.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit up to **two** valid statements each with one mark (to max 2). For **either** valid statement, credit a valid *explanation* for one additional mark (1+2 or 2+1). **Or** credit one valid statement that is explained by a chain of reasoning (1+1+1).	Soil dries out (1) *because protection from the sun's heat has been removed (1) so can be blown/washed away /eroded more easily as it is dust (1)* No roots to bind the soil (1) *so soil is lost (1) through wind erosion / sheet erosion / gullying (1)* Less evapotranspiration leads to less water in the cycle (1) *so less precipitation (1) leads to drier soil (1)* Leaves no longer fall (1) *so less organic matter to decompose (1) so soil becomes infertile (1)*		3				**3**

(e) Study the diagram on **page 3** of the separate Resource Folder. It shows some activities in Bauchi state that can lead to desertification. Choose **two** of these activities. For each activity explain why it may lead to desertification.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit up to **two** valid statements each with one mark (to max 2). For **each** valid statement, credit a valid *explanation* for one additional mark (2+2). No mark for naming the activity. Max 2 marks if only one activity is mentioned (the paper structure clearly indicates that two are required).	**Land clearance using fire:** fire destroys plant cover (1) *so exposes soil to heavy rain/ wind /sun / nutrients can more easily be washed away / nutrients are leached (1)* **Overgrazing:** animals eat vegetation plant cover (1) *so exposed to sun / dries up (1)* Animals trample / compact the soil (1) *so making it harder for rainfall to infiltrate soil (1)* **Overcropping:** plants compete for water (1) *so soil dries out quickly/ soil is easily eroded (1)* *OR* plants compete for nutrients (1) *so soil structure is damaged (1)* **Lack of fertilising:** soil loses fertility (1) *and soil structure is damaged leading to wind erosion (1)* **Not allowing land to rest:** land is never allowed to lie fallow /rest (1) *so nutrients are depleted faster than they are restored (1)*			4			**4**

(f) Bauchi is one of the poorest parts of Nigeria. Daily life for many people is always very challenging. Study the data in the table below. (i) Identify the patterns shown by the data in Table 3.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit up to **two** valid statements each with one mark. The emphasis is on recognising **patterns** as revealed by the data.	All three indices indicate that Bauchi is disadvantaged compared to Nigeria as a whole (1) Across all three indices, more than half of the population of Bauchi suffer from serious poverty related issues (1) The widest gap between Bauchi and Nigeria as a whole is in literacy levels (1)					2	**2**

(ii) Suggest how desertification may make the daily lives of people who live in Bauchi state even more challenging. Use information from Table 3.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Responses will apply understanding to a novel context when ascribing meaning to the development indicators in Table 3. Credit up to **two** valid statements each with one mark (to max 2). For **either** valid statement, credit a valid *explanation / development point* for one additional mark (1+2 or 2+1). **Or** credit one valid statement that is explained by a chain of reasoning (1+1+1).	Over half of Bauchi residents suffer food poverty, desertification will create even greater problems (1) *so less food may be available to eat (1) which will mean greater malnourishment (1) or possibly starvation (1)* Safe water is already limited, desertification will put even more pressure on water supplies (1) *as more water will be needed for crop irrigation (1)* Education to improve literacy rates will be even less of a priority (1) *as people will be focussed on survival first (1) so there will be fewer resources available to spend on education (1)*				3		**3**

End of Part A

Part B

Option 1: A solution at an international scale - the Great Green Wall (a) Study the map and information on **page 4** of the separate Resource Folder. (i) Give the length (between X and Y) and the mean width of the Great Green Wall.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit one mark for each correct response (allow tolerances as shown).	The length of the Great Green Wall from X to Y is 5,800km (+/- 150km) (1) The mean width of the Great Green Wall is 250km (+/- 25km) (1)					2	**2**

(ii) Explain why planting trees and shrubs may help prevent desertification.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit up to **two** valid statements each with one mark (to max 2). For **either** valid statement, credit a valid *explanation* for one additional mark (1+2 or 2+1). **Or** credit one valid statement that is explained by a chain of reasoning (1+1+1). **Do not** credit statements lifted from the resource **without extension**.	Bind the soil (1) *so reducing soil erosion (1)* Keep moisture in the soil (1) *so allows continued crop growth (1)* Provide organic material to the soil (1) *thereby keeping it fertile (1)* Stop the desert spreading southwards / acts as a barrier (1) *so fertile land/farmland is protected / food supplies protected (1)*		3				**3**

(iii) Desertification is an international problem. Explain why it may be difficult for the Great Green Wall to solve the problem in this region of Africa.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
This question requires candidates to synthesise links when information on page 4 of the Resource Folder is analysed. Credit **one** valid statement (for 1 mark) and a valid *explanation/reason* for one additional mark.	The wall will have to be created across a huge area to stop the advance of the desert (1) *so the distance of over 5000 km make the project challenging (1)* At least 12 countries need to co-operate (1) *so not all may have the resources / willingness to get involved (1)* Virtually all the countries in this region are relatively poor (1) *so they may not have the resources to support the project (1)* Some of this area is troubled by conflict (1) *such a project needs settled times to carry out the work (1)*				2		**2**

Option 2: A solution at a large scale - the proposal to build the Kafin Zaki Dam. (b) Study the diagram and photograph on **page 5** of the separate Resource Folder. If it is built, the Kafin Zaki Dam will create a large reservoir. (i) Explain why building a dam may help reduce the local effects of desertification.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
Credit up to **two** valid statements each with one mark (to max 2). For **each** valid statement, credit a valid *explanation/ development* for one additional mark (2+2). **Or** one valid statement (1) and a second valid statement that is explained by a chain of reasoning (1+1+1). **Or** credit one valid statement that is explained by a chain of reasoning (1+1+1+1).	Irrigation of crops is possible (1) *reliable water supply allows crops 2 crops a year (1) so family is fed (1) and can have more to sell / cash crops (1) leading to greater income (1) more disposable income / invest back into the farm (1)* Irrigation water gives more possibility for crop growing (1) *there may be less reliance on livestock (1) which will reduce over grazing (1) and trampling of soils (1)* Dam controls flooding (1) *so crops are protected (1)* Fish means more balanced diet (1) *so healthier (1) able to work more (1) earn more income (1)*			4			**4**

(ii) The dam would have different effects on villages A, B and C. Which village would benefit most from the dam and why?		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
This question requires candidates to develop material beyond pure conceptual understanding when they develop lines of argument to: b) Analyse information on the diagram on page 5 d) Make a judgement. Credit up to **two** valid statements each with one mark (to max 2). For **each** valid statement, credit a valid *explanation/ development* for one additional mark (2+2). **Or** one valid statement (1) and a second valid statement that is explained by a chain of reasoning (1+1+1). **Or** credit one valid statement that is explained by a chain of reasoning (1+1+1+1). **Do not** credit <u>statements that are copied</u> from the Resource Folder. The justification may be based on advantages for the village selected or a comparison with benefits for one village compared to the others.	Employment will be created (1) *in fishing/ fish processing / market trading / farming (1)* <u>Reliable water supply</u> (do not credit) *which will be safer than wells/streams (1) so health will improve / child mortality will fall (1)* Water can be used for irrigation increase in farming income (1) <u>HEP could be installed</u> (do not credit) *so electricity in homes / at work (1) which means homes can be lit at night (1) making them safer (1)* <u>2 or 3 crops a year</u> (do not credit) *so more jobs for farm labourers (1)* Cash crops (do not credit) *means more income for local farmers (1) which will be spent in the local economy (1)* <u>Fish added to diet</u> (do not credit) *so there will be less mal-nourishment (1)*				4		**4**

(iii) Give **one** reason why large scale water projects are controversial.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
This question assesses understanding of potential damage made by the process of water abstraction/water transfer on people, the economy or environment. Credit one valid statement that is explained by a chain of reasoning (1+1+1). Credit responses that show an understanding of the negative impacts of dam construction or water transfer schemes.	Large scale projects are expensive (1) *so money has to be borrowed (1) and country goes into debt (1)* Forced movement of people (1) *so breakup of villages (1) and compensation may be low (1)* High loss of water through evaporation (1) *so climate becomes even drier (1) and land becomes less fertile / eroded (1)*			3			**3**

Option 3: A solution at a small scale – a proposal to fund a number of self-help projects for farmers. (c) Study the photograph and information on **page 6** of the separate Resource Folder. It shows a drip irrigation system that has been funded by a Non-Governmental Organisation (NGO). A number of small schemes like this have been set up in Bauchi state. (i) Explain why drip irrigation is used in hot semi-arid climates.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
This question assesses an understanding of the concept of the water cycle in relation to the processes of evaporation and evapotranspiration. Credit one valid statement that is explained by a chain of reasoning (1+1+1).	Water is only released where the plant is located (1) *slow release of water means that soil absorbs most of it (1) so more water gets to the plant roots/less lost to evaporation/evapotranspiration (1)*		3				**3**

(ii) Make use of information on **page 6** of the separate Resource Folder to suggest **one** long term benefit for local farmers of **this** project.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
This question requires candidates to apply their understanding to a novel context and develop lines of argument. Credit **one** valid statement that is elaborated by a chain of reasoning (1+1+1).	Soil condition will gradually improve (1) *so yields will be higher (1) and food security will improve (1).* Less water will be needed for irrigation (1) *so health will improve (1) because of improved water security (1).* Higher yields from irrigated crops (1) *will mean higher incomes for farmers (1) reducing poverty/reliance on aid (1).*				3		**3**

(iii) Explain why there are disadvantages to relying on a number of small scale self-help projects to solve the problem of desertification.		AO1	AO2.1	AO2.2	AO3	AO4	**Total**
This question assesses understanding of the concept of self-help. Credit up to **two** valid statements each with one mark (to max 2). For **each** valid statement, credit a valid *explanation* or *development point* for one additional mark (2+2). **Or** one valid statement (1) and a second valid statement that is explained by a chain of reasoning (1+1+1). **Or** credit one valid statement that is explained by a chain of reasoning (1+1+1+1).	Desertification covers too large an area (1) *there would need to be hundreds of small scale projects (1) NGOs don't have the resources for so many (1)* Local people may not have the skills (1) *commitment (1) to see the project through after the NGOs have left (1)* One of the root causes of desertification is climate change (1) *this is not addressed as part of this solution (1) small scale projects can't work if the water supply problems (drought) become worse (1)*		4				**4**

End of Part B

Part C

Write a letter to the government of Nigeria in which you advise on the order in which the three options should be carried out to reduce desertification in Bauchi state. In your letter you should: • rank the options in the order that you consider they should be carried out • justify your decision. You should take into account the social, economic and environmental sustainability of the options.	AO1	AO2.1	AO2.2	AO3	AO4	**SPaG**	**Total**
Use the descriptors in the banded mark scheme below. Work upwards from the lowest to the highest band. Award max band 1 if the planning page is complete but no letter has been written.				12		4	**16**

With reference to the target elements (a, b, c and d) of AO3, responses will:

a) Interpret information from the Resource Folder/Question Paper
b) Analyse that information
c) Evaluate the issue of desertification in Bauchi
d) Make a judgement by ranking the options.

Band	Mark	Descriptor
4	10-12	The candidate writes a comprehensive response that: • reaches a substantiated decision that includes a clear justification for the order of the three options • provides consistently detailed elaboration throughout that is substantiated by a range of evidence in the Resource Folder • provides effective comparison of the options • applies wider geographical knowledge and understanding to effectively substantiate the chain of reasoning.
3	7-9	The candidate writes a detailed response that: • reaches a decision that ranks and justifies the option order • provides detailed elaboration that is supported by evidence in the Resource Folder • provides some comparison of positive/negative features of the options • applies wider geographical knowledge and understanding to support reasoning.
2	4-6	The candidate writes a response that: • provides a decision that ranks and simply justifies the option order of *more than one option* • provides some elaboration that is supported by evidence in the Resource Folder • makes limited comparisons of positive/negative features of the options • applies some limited geographical knowledge/understanding.
1	1-3	The candidate writes a basic response that: • provides a simple but unsubstantiated decision • briefly explores some positive or negative features of one or more option.
	0	Award 0 marks if the answer is incorrect or wholly irrelevant.

Once a mark (out of 12) has been awarded for the geographical content, apply the performance descriptors for spelling, punctuation and the accurate use of grammar 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