

GCSE

Geography B

Unit B563/02: Key Geographical Themes (Higher Tier)

General Certificate of Secondary Education

Mark Scheme for June 2015

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

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

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Annotations

Annotation	Meaning
BP	Blank Page – this annotation must be used on all blank pages within an answer booklet (structured or unstructured) and on each page of an additional object where there is no candidate response.
✓	Correct response
×	Incorrect response
NBOD	Benefit of the doubt not given
~	Information omitted
?	Unclear
	Open bracket
]	Close bracket
DEV	Development
EG	Example/reference
PLC	Relevant place detail
L1	Level 1
L2	Level 2
L3	Level 3
J	Just

MARK SCHEME

Q	uesti	ion	Answer/Indicative content	Mark	Guidance
1	а		Peak discharge is higher in 2010 PD is 90 cumecs in 2010 and 40 cumecs in 1980/ 50 cumecs higher in 2010 PD occurs more quickly in 2010/ shorter lag time PD occurs after 6 hours in 2010 and 14 hours after in 1980/ 8 hours quicker in 2010	3	3 x 1 (✓) Need comparison No credit for rising/falling limb, base flow or rainfall Accept answers from 1980 point of view Credit 'only' as comparison Reserve 1 mark for data (needs cumecs)
	b	i	Increase in tarmac / concrete surface \checkmark so more impermeable surfaces \checkmark (dev) which results in less infiltration \checkmark (dev), so increased surface run-off \checkmark (dev) Increase in number of drains \checkmark which take water from surface quicker to river \checkmark (dev) so lag time reduced \checkmark (dev) so river level/ discharge rises quickly \checkmark (dev) Less trees / deforestation \checkmark so less interception/water soaked up \checkmark (dev) so water gets to river more quickly \checkmark (dev) Less trees / deforestation \checkmark so nothing to stop rainfall hitting ground \checkmark (dev) which causes soil erosion \checkmark (dev) then soil is deposited in river \checkmark (dev) which reduces capacity of river channel \checkmark (dev) Building on flood plain /close to river \checkmark so homes more at risk (dev)	4	 4 x 1 1 mark for each valid explanation (✓) Need comparison/reference to change Accept answers which refer to 1980 Don't credit ref to straightened channel / urbanisation 1 mark for each valid development which must be coherently linked to the explanation identified (DEV) Can go up to 3 dev marks with one basic idea 3 marks max for 'basic' ideas (i.e. without development), There must be development of one idea to gain 4 marks max. The development can relate to different ideas. Do not credit the same development twice.
	b	ii	Heavy/ prolonged/ intense rainfall ✓ which saturates ground so water cannot infiltrate ✓ (dev) which results in overland flow ✓ (dev) Snowmelt ✓ which results in large amount of water entering the river <u>at the same time</u> ✓ (dev)	4	 2 x 2 1 mark for each factor identified (✓) 1 mark for each valid explanation which must be coherently

Question	Answer/Indicative content	Mark	Guidance
	Answermaticative contentSteep slopes / relief \checkmark which produces quicker run-off \checkmark (dev)Impermeable rocks \checkmark so water cannot infiltrate and runsoff surface quickly \checkmark (dev)High drainage density \checkmark so rainwater from catchment areaquickly taken to river / reaches river at the same time \checkmark (dev)Low bridges \checkmark so debris gets caught/acts like dam \checkmark (dev)No dredging of the river \checkmark so build up of silt reduceschannel capacity \checkmark (dev)Straightening the river/channelisation \checkmark increases floodrisk downstream \checkmark (dev)Ploughing downslope \checkmark so more run-off from surroundingfields \checkmark (dev)		Inked to the factor identified (DEV) Can accept ref to deforestation/ impermeable surfaces if not already credited in b(i) Don't credit failed flood defences (e.g. levees) The development can relate to different factors. Do not credit the same development twice.
c	Methods such as: Build / strengthen embankments / levees / make banks higher ✓ to prevent river overflowing/ increase capacity ✓ (dev) Straighten river course / cut off meanders ✓ to take water away more <u>quickly</u> ✓ (dev) Build a dam across river ✓ to control water flow ✓ (dev) Afforestation / plant trees / vegetation ✓ to soak up water / increase interception ✓ (dev) Deepen / widen channel/dredging ✓ to accommodate more water ✓ (dev) Build flood barriers alongside river ✓ to hold more water in river channel ✓ (dev)	4	 2 x 2 1 mark for each method identified (✓) 1 mark for each valid explanation which must be coherently linked to the method identified (DEV) The development can relate to different methods. Do not credit the same development twice. Credit methods of prevention and response to flooding
	 Build tidal barrier across estuary ✓ to prevent inflow of sea water ✓ (dev) Construct diversionary spillways / overflow channels ✓ to divert excess water ✓ (dev) Widen / higher bridges_over the river ✓ to prevent water 		

damming up behind debris ✓(dev) Develop management strategy on floodplain ✓ to control / plan new house building ✓(dev) Flood plain zoning ✓ so less valuable land use is next to river ✓(dev) Wash lands/flood meadows ✓ allows water to flood into	
d i Impacts such as: Forced to move Unable to get house insurance 4 4 x 1	nark for each valid impact (\checkmark)

Question	Answer/Indicative content	Mark	Guidance	
d ii	Coastline is being built up / deposition is taking place Constructive waves/ swash is greater than backwash Contains features such as spit, bar, tombolo, beach	2	2 x 1 (✓)	
е	Case study: coastline management	9	Case study will be marked using 3 levels:	
	 Indicative content Coastline may be from any location or at any scale Methods used to manage coastal erosion may include soft or hard engineering or managed retreat Conflicts could be short-term or long-term, such as cost of management methods for local / national government, cost of maintenance of hard engineering methods, visual impact of hard engineering methods, restriction of access to beach, loss of sand replenishment further down the coastline, disruption to properties where erosion of coastline is allowed, loss of compensation as a result of managed retreat, impact on the environment etc. 		 Annotate with L3, L2 or L1 at the end of the answer Use DEV in the answer to show development Use PLC to indicate place specific detail at Level 3 Note carefully: Answer consistently meets the criteria for the level Award mark at top of level Answer meets the criteria but with some inconsistency Award mark at middle of level Answer just meets the criteria for the level Award mark at bottom of level 	
	Level 3 (7–9 marks) A comprehensive and place specific answer including well developed ideas which both describe the management methods and describe the conflicts caused.		 Level 3 A key discriminator of an answer at the top of Level 3 is place detail Full level 3 answer needs three well developed ideas plus relevant place-specific detail, (such as place names, financial costs). Well developed ideas which make a comprehensive answer (i.e. describe methods and conflicts caused) = bottom of Level 3 	

Question	Answer/Indicative content	Mark	Guidance
	Level 2 (4–6 marks) Demonstrates sound knowledge through developed ideas which describe the management methods and/or describe the conflicts caused		A comprehensive answer + place-specific detail = top of Level 3 Level 2 A key discriminator of an answer at the top of Level 2 is that descriptions of management methods and/or conflicts caused are developed. Full level 2 needs three developed ideas plus a named example of a coastline area.
			Could be a combination of method and conflict combined to give the developed idea
	Level 1 (1–3 marks)		Level 1
	Demonstrates limited knowledge through simple / undeveloped ideas which describe the management methods and/or describe the conflicts caused		Full level 1 needs three simple ideas plus a named example of a coastline area. Credit name of coastline area, at bottom of level if no other relevant idea
	0 marks No evidence submitted or the response does not address the question.		
	Spelling, punctuation and grammar (SPaG) are assessed using the separate marking grid on page 21.	3	

Quest	ion	Answer/Indicative content	Mark	Guidance
2 a	i	9204 or 9205	1	 (✓) Accept first answer only if more than one grid reference given No credit for 6 figure reference
a	ii	Modern/ new/ semi-detached/ detached houses/ large/ high quality Low density housing/ housing spread out Drives/ space for car/ off street parking/garage Gardens / green areas/ trees/ vegetation Winding/ curved roads/ cul-de-sac	2	2 x 1 (✓) Don't credit estate/ open space/ sloping land/ quiet/ few people Don't credit negatives such as 'not terraced houses' or 'no shops'
b		Ideas such as: Regeneration/ refurbishment of existing buildings may be a cheaper option \checkmark which will preserve the local community \checkmark (dev) Residents of houses will be forced to leave their homes/ don't want to leave \checkmark but they have always lived there / they don't want change \checkmark (dev) Community will be broken up \checkmark so fear of isolation / loss of neighbours/friends \checkmark (dev) There will be less houses available \checkmark so more pressure on housing market \checkmark (dev) Current houses are affordable/ newer housing will be more expensive \checkmark which existing residents will not be able to afford \checkmark (dev) Residents will have to move out of the area \checkmark so they will have to travel further to work / to shop in CBD \checkmark (dev) Local businesses will lose customers \checkmark so will have to close \checkmark (dev) Existing businesses forced to move \checkmark so local jobs lost \checkmark (dev) Road closures during redevelopment \checkmark causes traffic disruption \checkmark (dev)	4	 4 x 1 1 mark for each valid suggestion (✓) 1 mark for each valid development which must be coherently linked to the suggestion identified (DEV) Only credit 1 DEV for each suggestion 3 marks max for 'basic' ideas (i.e. without development), there must be development of one idea to gain 4 marks max. The development can relate to different ideas. Do not credit the same development twice.

Question	Answer/Indicative content	Mark	Guidance
	Noise/dust/air pollution ✓ which causes stress/ upsets local residents ✓ (dev) Demolition of landmark/ historic buildings ✓ so loss of heritage/culture ✓ (dev)		
с	Ideas such as:	4	2 x 2
	Near/next to motorway(A627M)/ <u>main</u> road(A663)/ \checkmark which will give a larger catchment area/ gives easier <u>access</u> to customers/ deliveries/ workforce/people \checkmark (dev) Large area of land \checkmark so plenty of space for large shops/ wider range of shops/ parking/ expansion \checkmark (dev) Large population/lots of houses in local area \checkmark so lots of customers/ workers/people to go shopping \checkmark (dev) Edge of town \checkmark so land is cheaper \checkmark (dev) Flat land \checkmark so easier to build on \checkmark (dev)		 mark for each reason identified (✓) mark for each valid explanation which must be coherently linked to the reason identified (DEV) The development can relate to different reasons. Do not credit the same development twice.
d	Ideas such as : Customers go to shop at new shopping centre/customers move away from CBD ✓ Businesses move to new edge of town location ✓ so leads to shop closures / empty shops in CBD ✓ (dev) so area becomes run down/'death of High Street' ✓ (dev), which may lead to vandalism/ graffiti ✓ (dev) CBD adapts to compete with new shopping area ✓ by pedestrianisation/ new indoor shopping centre / refurbishment of existing shops/environment ✓ (dev) Leads to a change in focus in the CBD ✓ so more houses / leisure buildings are built ✓ (dev) Transport links to CBD are improved ✓ through an integrated bus/rail/tram network ✓ (dev) Change in types of shops located in the CBD ✓ with more independent retailers/short-lease shops/charity shops ✓ (dev)	4	 4 x 1 1 mark for each valid explanation (✓) 1 mark for each valid development which must be coherently linked to the explanation identified (DEV) Can credit up to 3 DEVs for one effect 3 marks max for 'basic' ideas (i.e. without development), there must be development of one idea to gain 4 marks max. The development can relate to different reasons. Do not credit the same development twice.

Question	Answer/Indicative content	Mark	Guidance
e i	 Reduced congestion in CBD ✓ so more pleasant environment ✓ (dev) Birth rate is <u>higher</u> in Uganda or LEDC/ <u>lower</u> in UK or MEDC Life expectancy is <u>higher</u> in UK / <u>lower</u> in Uganda/ people live to over 100 in UK but less than 90 in Uganda 	2	2 x 1 (✓) Must have comparison
e ii	Uganda Supported by family \checkmark because of cultural traditions/ no state support / pensions \checkmark (dev) Children/ old people have to work \checkmark to provide for themselves/ families \checkmark (dev) Supported by government/ foreign aid / charities \checkmark which build schools / clinics / immunisation schemes \checkmark (dev) UK Supported by government/ taxes \checkmark through pensions / child support payments / heating subsidies etc \checkmark (dev) Supported by voluntary organisations/ charities \checkmark through help such as clothing / meals/ community transport etc \checkmark (dev) Access to nursery/schools/ hospitals/ health care services/ retirement homes \checkmark due to greater economic development \checkmark (dev) Supported by family \checkmark such as grandparents doing childcare/ elderly parents moving in with family \checkmark (dev)	4	 4 x 1 1 mark for each valid explanation (✓) 1 mark for each valid development which must be coherently linked to the explanation identified (DEV) 3 marks max for 'basic' ideas (i.e. without development), there must be development of one idea to gain 4 marks max. Reserve 1 mark for each country Don't double credit same answer for UK and Uganda Don't need comparative answer

Question	Answer/Indicative content	Mark	Guidance
f	Case study: population management	9	Case study will be marked using 3 levels: Annotate with L3, L2 or L1 at the end of the answer
	Country may be LEDC or MEDC where management is limiting or promoting population growth		Use DEV in the answer to show development Use PLC to indicate place specific detail at Level 3
	Attempts could focus on influencing the country's birth rate and people's attitudes to having children which may include family planning, tax incentives, health care/education incentives, government policy, incentives to have more children etc. Sustainability of the strategies could include reference to health/quality of life of women, improved health for babies/children, long-term effects on population numbers, long-term effects on individual family attitudes etc.		Note carefully: Answer consistently meets the criteria for the level Award mark at top of level Answer meets the criteria but with some inconsistency Award mark at middle of level Answer just meets the criteria for the level Award mark at bottom of level
	Level 3 (7–9 marks) A comprehensive and place specific answer including well developed ideas which both describe the attempts to manage natural population change and explain how sustainable the management strategies have been.		 Level 3 A key discriminator of an answer at the top of Level 3 is place detail Full level 3 answer needs three well developed ideas plus relevant place-specific detail, (such as specific policies, population data). Well developed ideas which make a comprehensive answer (i.e. describe attempts and explain sustainability) = bottom of Level 3 A comprehensive answer + place-specific detail = top of Level 3

Question	Answer/Indicative content	Mark	Guidance
	Level 2 (4–6 marks)		Level 2
	Demonstrates sound knowledge through developed ideas which describe the attempts to manage natural population change and/or explain how sustainable the management strategies have been.		A key discriminator of an answer at the top of Level 2 is that description and/or explanation are developed Full level 2 needs three developed ideas plus a named
			example of a country.
	Level 1 (1–3 marks)		Level 1
	Demonstrates limited knowledge through simple / undeveloped ideas which describe the attempts to manage natural population change and/or explain how		Full level 1 needs three simple ideas plus a named example of a country
	sustainable the management strategies have been.		Credit name of country, at bottom of level if no other relevant idea
	0 marks No evidence submitted or the response does not address the question.	3	
	Spelling, punctuation and grammar (SPaG) are assessed using the separate marking grid on page 21.		

C	uestion	Answer/Indicative content	Mark	Guidance
3	a	Volcanoes are: On or near plate margins / boundaries On d <u>estructive</u> / <u>convergent</u> plate boundary In <u>two</u> clusters In S.E. Asia/ Indonesia In Central America/ Caribbean In the tropics	3	3 x 1 (✓) Boundary /Cluster = ^ Not on the coast/ on the equator No credit for negative ideas
	b	People do not think volcano will erupt / think volcano is dormant/ think eruption will not affect them Not monitored/ no scientific data Eruptions are unpredictable / unexpected Precautions / responses may not be in place/ no preparations Eruptions are often violent	2	2 x 1 (✓) No credit for ref to farming/tourism etc No credit for reference to dangers of active volcanoes, such as lava erupts
	C	Ideas to be shown and labelled on diagram: Continental plate & Oceanic plate Plates converging/ moving towards each other Convection currents Denser/ oceanic plate is subducted beneath lighter/ continental plate or labelled subduction zone Plate melts Melting creates magma Pressure of magma builds beneath earth's surface Magma escapes through crustal weakness/ rises up the volcano	4	 4 x 1 1 mark for each idea shown on diagram (✓) No credit for diagram alone or direction arrows or convection circles without text If no diagram do not credit any written notes
	d	Use a seismograph/ seismometer ✓ to record tremors ✓(dev) Use GPS instruments/tiltmeter ✓ to monitor ground	4	2 x 2 1 mark for each method described (\checkmark)

Question	Answer/Indicative content	Mark	Guidance
	 bulging/swelling ✓ (dev) Monitor gases escaping from volcano ✓ Change in composition/ more sulphur in gases ✓ (dev) Heat screening/ thermal imaging/ measure temperature of lava ✓ increase in temperature indicates magma from rising volcano ✓ (dev) Measure temperature / density/ acidity of water flowing off the volcano ✓ increase in temperature / density/ acidity indicates imminent eruption ✓ (dev) Look at past history of eruption ✓ to identify patterns of activity which indicate a future eruption ✓ (dev) Changes in animal behaviour ✓ 		1 mark for each valid explanation which must be coherently linked to the description (DEV)
e	 Attracts tourists ✓ which creates jobs in hotels / gift shops / as tour guides ✓ (dev) so increases standard of living /money into local economy ✓ (dev) Volcanic soils are fertile / rich in minerals ✓ which produces high yields / supports intensive farming ✓ (dev) therefore more food available to sell/feed family ✓ (dev) Geothermal energy ✓ provides electricity/ hot water ✓ (dev) Minerals contained in lava ✓ such as silver/ diamonds/ copper/ sulphur ✓ (dev) which creates jobs in mining ✓ (dev) 	4	 4 x 1 1 mark for each benefit described (√) 1 mark for each valid explanation which must be coherently linked to the description (DEV) 3 marks max for 'basic' ideas (i.e. without development), there must be development of one idea to gain 4 marks max. Can credit up to 2 DEVs for one benefit The development can relate to different benefits. Do not credit the same development twice.

Question	Answer/Indicative content	Mark	Guidance
f	Primary effects: Strong winds / winds which are over 200km/hour Flying debris Heavy / intense rainfall Storm surge / storm pushes sea water towards land Creates wall of water which can be up to 5 m high People are killed/injured Buildings/ homes/ businesses are damaged/ destroyed Transport infrastructure/ roads/ bridges/ railways are damaged/ destroyed Power lines damaged/ destroyed Landslides Trees uprooted Flooding of farmland/ towns/ crops destroyed Communications/ phone lines/ mobile networks disrupted Water supplies contaminated Secondary effects: Diseases/ cholera/ typhoid Lack of food/ malnutrition/ starvation/ increased food prices Cost of repair/ construction Unemployment/ lose jobs No electricity Lack of clean water Difficult to travel/ get aid to areas Looting/ disorder Homelessness Stress/ grief/ depression Insurance claims Decline of economy Loss of habitat	4	4 x 1 1 mark for each valid effect (✓) No DEV Reserve 1 mark for primary and 1 mark for secondary effects Candidate doesn't need to specify primary or secondary

Question	Answer/Indicative content	Mark	Guidance
g	Case study: climatic hazard event in an LEDC	9	Case study will be marked using 3 levels:
	 Indicative content Climatic hazard must be a drought or tropical storm which must be located in an LEDC. Allow a related climatic hazard such as flooding. Methods used to reduce the impact could include monitoring, prediction, evacuation planning, education, building structures, defences, water management schemes, water transfer schemes, emergency response, long term aid etc. Can credit methods before, during, and after the hazard Assessment of the success of these methods could be considered as environmental, economic or social. Can credit the idea that there are few impact reduction methods in place. Level 3 (7–9 marks) A comprehensive and place specific answer including well developed ideas which both describe the methods used to reduce the impact and assess how successful the methods are.		Annotate with L3, L2 or L1 at the end of the answer Use DEV in the answer to show development Use PLC to indicate place specific detail at Level 3 Note carefully: Answer consistently meets the criteria for the level Award mark at top of level Answer meets the criteria but with some inconsistency Award mark at middle of level Answer just meets the criteria for the level Award mark at bottom of level Level 3 A key discriminator of an answer at the top of Level 3 is place detail Full level 3 answer needs three well developed ideas plus relevant place-specific detail, (such as place names, costs). Well developed ideas which make a comprehensive answer (i.e. describes methods and assesses their success) = bottom of Level 3 A comprehensive answer + place-specific detail = top of Level 3

Question	Answer/Indicative content	Mark	Guidance
	Level 2 (4–6 marks)		Level 2
	Demonstrates sound knowledge through developed ideas which describe the methods used to reduce the impact and/or assess how successful the methods are.		A key discriminator of an answer at the top of Level 2 is that description of methods and/or assessment of their success are developed
			Full level 2 needs three developed ideas plus a named example of an LEDC or place in an LEDC with an appropriate climatic hazard
			A developed answer which focuses on a climatic hazard in an MEDC cannot gain full level 2 credit.
	Level 1 (1–3 marks)		Level 1
	Demonstrates limited knowledge through simple / undeveloped ideas which describe the methods used to reduce the impact and/or assess how successful the methods are		Full level 1 needs three simple ideas plus a named example of an LEDC or a place in an LEDC with an appropriate climatic hazard
			Credit name of LEDC and appropriate climatic hazard at bottom of level if no other relevant idea
	0 marks No evidence submitted or the response does not address the question.	3	An answer which focuses on a tectonic hazard cannot be credited
	Spelling, punctuation and grammar (SPaG) are assessed using the separate marking grid on page 21.		

Spelling, punctuation and grammar (SPaG) assessment grid

High performance 3 marks
Candidates spell, punctuate and use rules of grammar with consistent accuracy and effective control of meaning in the context of the demands of the question. Where required, they use a wide range of specialist terms adeptly and with precision.
Intermediate performance 2 marks
Candidates spell, punctuate and use rules of grammar with considerable accuracy and general control of meaning in the context of the demands of the question. Where required, they use a good range of specialist terms with facility.
Threshold performance 1 mark
Candidates spell, punctuate and use rules of grammar with reasonable accuracy in the context of the demands of the question. Any errors do not hinder meaning in the response. Where required, they use a limited range of specialist terms appropriately.
0 marks
0 marks should be awarded when:
The candidate writes nothing.
The candidate's response bears no relation to the question.
The candidate's achievement in SPaG does not reach the threshold performance level, for example errors in spelling, punctuation and grammar severely hinder meaning.

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