Cambridge IGCSE™

DEVELOPMENT STUDIES **0453/02**

Paper 2 **October/November 2020**

MARK SCHEME

Maximum Mark: 80

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the October/November 2020 series for most Cambridge IGCSE™, Cambridge International A and AS Level and Cambridge Pre-U components, and some Cambridge O Level components.

This document consists of **12** printed pages.

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

Question	Answer	Marks
1(a)(i)	Australia: High shading (diagonal not vertical shading) China: Low shading (horizontal or almost horizontal shading) 2 × 1 mark	**2**
1(a)(ii)	Brazil Kenya France India 4 correct – 2 marks 2/3 correct – 1 mark	**2**
1(a)(iii)	Ideas such as: South America has more areas of extreme risk; Africa has more areas of high risk; Africa has more areas of medium risk; South America has one area of low risk and Africa has none; South America has a greater range/more variety of risks; South America has (mainly) extreme and high, but Africa mainly high and medium; Africa has a lower risk overall/South America has a higher risk. = 0 Areas of no data; Similarities, 3 × 1 mark	**3**
1(b)	Satisfies the needs of today/allows current development/meets the needs of today/strong economy/income can be generated **(1)** So resources are not wasted/without impacting future generations/without destroying the natural environment/resources **(1)** 2 × 1 mark	**2**

Question	Answer	Marks
1(c)	Ideas such as: Removal of trees, which take in carbon dioxide; Burning of trees releases carbon dioxide; Carbon dioxide increases/builds up/forms layer; Incoming sun's rays/heat absorbed; Prevents heat escaping/traps heat; Temperatures increase/causes global warming/greenhouse effect; More extreme events or examples, e.g. hurricanes; Less transpiration/humidity; Reduction of/increase of rainfall/drought/change in rainfall patterns; Seasonal pattern of weather is changing/or example, e.g. summers lasting longer. = 0 Ozone; Lack of oxygen; Less evaporation; Increase in climate; Sun's rays have more intensity. 5 × 1 mark	5
1(d)(i)	Correct line plotted at 85% **(1)** Correct shading **(1)** 2 × 1 mark	2
1(d)(ii)	Commercial is for profit/sell/for money; Subsistence is to sustain family/feed family/to eat/consume/for own use; 2 × 1 mark	2
1(e)(i)	High: demand/market forces Decreasing impact: poverty 2 × 1 mark	2
1(e)(ii)	Small scale farming **1 mark** (reserved) Most factors/three factors/a lot of increasing impact; Most factors/three factors/ a lot of high impact/none are projected to have a low impact/all are high or medium. = 0 Commercial/agro-industry; Just listing the factors – needs some form of interpretation. 3 × 1 mark	3

Question	Answer	Marks
1(e)(iii)	Ideas such as: Soil erosion/degraded soil/infertile soil/poor soil/waterlogged soil; Not enough/lack of water/water scarcity/drought/seasonality of water supply/rainfall; Wind erosion/wind blows away soil; Pests or examples; Plant or animal disease or example; Heavy rains/floods/hail; (Tropical) storms/hurricanes/cyclones/typhoons; Frost/snow; Volcanic eruption/earthquakes/tsunami; Wildfires; Mountains/steep slopes/rock outcrops; Soil; Water; Wind; Rain; Natural disasters; Disease. = 0 Hot; Climate change; Global warming. 2 × 1 mark	2

Question	Answer	Marks
2(a)	Ideas such as: Evergreen trees/conifers/same type of trees; Shrubs/bushes; Grass; Roots above the surface/roots spread sideways/wide spreading/spread out roots; Tall/long (trees); Straight/lack of leaves/branches in lower part/leaves/branches at top/bare trunks; Open canopy. = 0 Density/wide apart/close together/sparse; Buttress roots; Trees same height; Fibrous roots. 3 × 1 mark	3
2(b)(i)	25%	1

Question	Answer	Marks
2(b)(ii)	Ideas such as: Facing North-East; In Eastern <u>Mau</u>/South West <u>Mau</u>; On edges/borders of <u>forest</u>; Central; Clustered/uneven. = 0 North East; South West and East. 2 × 1 mark	**2**
2(b)(iii)	Aerial photographs; Satellite images; Government/local authority/forestry commission data/statistics; Records of previous eyewitness statements; Books/libraries; Internet/website/online; Newspapers/magazines/articles; Research journals/diaries/scientific reports/previous research. Statistics; Listen to news = 0	**2**
2(c)(i)	(Title) deeds/documents of ownership Documents; Genuine documents; Receipt = 0 1 × 1 mark	**1**

Question	Answer	Marks
2(c)(ii)	*Soil erosion:* Soil left bare/exposed; Loss of roots/roots hold soil together/nothing to hold the soil; Less interception/loss of canopy/leaves would have intercepted; Wind erosion/wind blows away; Water erosion/surface runoff/washes it away. *Loss of biodiversity:* Less habitat/home/nowhere else to live; Less food; <u>Animals/plants/organisms</u> die/move away/become extinct/endangered; Smaller animals exposed to predators; Break in food chain/food chain damaged; Plants destroyed. **3 max** on either soil erosion or biodiversity Trees take up/use water; Weakens soil; They die. 5 × 1 mark or development.	**5**
2(c)(iii)	Observation **(1)** of amount of tree clearance **(1)**; Counting species **(1)** number of trees/animals/species **(1)**; Quadrat squares **(1)** to count number of species **(1)**; Interviews **(1)** who interview/what interview about **(1)**; Questionnaires **(1)** who speak to/what speak about **(1)**; Group discussion **(1)** who speak to/what speak about **(1)**; Photographs **(1)** of tree clearance **(1)**. 2 × 2 marks Speak/talk/ask questions; Professionals; Look at impact. **Note:** **Allow** 'about deforestation' as second mark where the method is valid. **Allow** repeat of what they are looking at or who talking to, so same development for both points. **Do not** credit second mark if do not gain technique mark.	**4**

Question	Answer	Marks
2(d)(i)	It will take years to reverse the changes/trees take a long time to grow/it won't solve the problem already there/forest wouldn't grow back/soil will still be left bare; It will be difficult to force them to go/expensive to enforce/they will resist/they may come back/they will not cooperate/there will be violence/officials will take bribes; Where will the people go/difficult for them to find land elsewhere/they will become displaced/they have nowhere to go; They will clear forests in another place; People have lived there for many years/loss of their culture/traditional lifestyle; It will cause poverty/lose income/not be able to feed themselves/government will need to support them; Deforestation is not only caused by farmers; Illegal loggers/settlers. = 0 Farmers protect the forest; Farmers do not contribute to deforestation; Farmers only take up a small amount of land. 3×1 mark	**3**
2(d)(ii)	Levels marking **Level 1 [1-2 marks]** An evaluation of the options with basic points in favour and/or against. **Level 2 [3-4 marks]** An evaluation of the options with developed points in favour and/or against. **Level 3 [5-6 marks]** A full and balanced evaluation of the options with developed points. Candidates can choose any of the three methods, B, C and D, and justify them. Statements to be credited which explain why they have chosen the method and why they have rejected the other two. **Note:** **Do not** double credit direct opposites. They can give environmental reasons to justify their choices. = 0 It will happen elsewhere; Choice of Option A.	**6**

Question	Answer	Marks
3(a)(i)	Choose any households/ask anyone/by chance/no pattern/no order or sequence to follow/no criteria; **Two** marks for a more precise indication of how a random sample might have been selected, e.g. use random number tables/draw names or addresses from a hat. = 0 Ask random people/randomly select houses; Equal chance; Not biased. 2 × 1 mark	**2**
3(a)(ii)	*Advantages:* Know the local language/can translate questionnaire for them; Know their way around/familiar with the area; People trust them because they are from the community; Know how to approach people in the area; Cheaper than, e.g. professionals/people from further away; Can tell if the people are lying. *Disadvantages:* People do not trust them/people many not want to tell them personal details/give them information because they know them; Expensive with development, e.g. to train them/need to pay research assistant; Influence answers/might want to put the area in a good light/put them in a good light; Might choose to speak to people they know. **Do not** double credit opposites: Cheap; Expensive; Will be biased; Makes quicker; Can fill in answers for them; Unskilled; They know the people. = 0 They know most reliable people; Research assistants get jobs; Language barrier between research team and assistants. 2 × 2 marks	**4**

Question	Answer	Marks
3(a)(iii)	Ideas such as: Aim of research, e.g. 'the aim of the research is to look at the use of the forest'; Research assistant introduces themselves; Comments about time taken, e.g. will only take a few minutes; Reassurances about privacy, e.g. your answers will not be shared/anonymity; Please answer as truthfully or honestly as you can; Answer in the spaces provided/answer all questions; If you don't understand please ask me to translate. Say what their aim is; You can trust me; Thank you = 0	**2**
3(a)(iv)	How many people in your household; How old are you/have you any children; Gender of household; Income of household; Employment; How long lived here; Use of forest = 0 Income from products in forest = 0	**3**

Question	Answer	Marks
3(b)(i)	Fodder; Weapons; Meat/animals for food; Fruits/berries or examples such as cocoa/coffee beans; Herbs or examples; Mushrooms/edible roots; Thatch grass; Poles/branches <u>for</u> fencing/building; Tools; Leaves <u>for</u> mulching; Rubber; Birds eggs; Flowers; Nuts. Grass; Leaves; Animals; Timber; Wood. = 0 Timber and others in table 3.1; Water; Vegetables; Crop names, e.g. sugar cane; Reeds; Tree bark. Those listed in table 3.1 = 0 3 × 1 mark	**3**
3(b)(ii)	Use of appropriate scales; <u>Both</u> axes labelled: product/source <u>and</u> % (of people); Bars labelled with 4 products or use a key; All bars correctly plotted; Other type of graph = 0 4 × 1 mark	**4**

Question	Answer	Marks
3(c)(i)	Levels marking **Level 1 [1-2 marks]** Statements including limited detail which describe the education programme. **Level 2 [3-4 marks]** Statements which describe the education programme. **Level 3 [5-6 marks]** Comprehensive account which describes the education programme. = 0 Rewards; Follow the rules; Educate people.	**6**
3(c)(ii)	Measure/count **(1)** before and after/compare with previous **(1)**; Observe/see <u>before and after</u> **(1)**; using a bipolar survey **(1)**; Interview people **(1)** to find out about how successful they feel the programme has been and why/to hear their views **(1)**; Compare photographs **(1)** of the forest before and after the programme **(1)**; Questionnaire **(1)** to find out what products the local people obtain from the forest and compare with earlier records **(1)**; Experts **(1)** to watch the programme/give feedback **(1)**; Government statistics before and after **(1)** to compare the forest **(1)**; = 0 Literacy; Secondary data. **Note:** Second mark must have before and after idea other than expert. 2 + 2 marks	**4**