

**MARK SCHEME for the May/June 2009 question paper
for the guidance of teachers**

0460/05	0460 GEOGRAPHY Paper 5 (Computer Based Alternative to Coursework), maximum raw mark 60
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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 must be read in conjunction with the question papers and the report on the examination.

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- 1 (a) Table A
- (b) Any other human factor (apart from government, technology or market) such as machinery, labour, fertiliser, seeds, money, etc. [1]
- (c) Any other physical factor (apart from relief or climate) such as soils, aspect etc. [1]
- 2 1 mark per relevant way *described* such as:
- using machinery – meaning less workers needed and faster work;
- using chemicals (pesticides, fertiliser, herbicides, fungicides) which mean a higher yield of crop;
- using high yielding varieties of seeds (or GM crops) meaning higher yields;
- using better breeds of animals which are suited to the conditions – producing more meat/milk;
- using intensive methods of farming such as battery chicken farms;
- using hydroponics to produce more food (in artificial light/heat 24/7). [3]
- 3 Arable = growing crops; Commercial = producing farm products to sell;
Intensive = farms with a high level of input (money, labour and technology) producing high yields;
Pastoral = rearing animals. 1 mark for each correct answer. [4]
- 4 Irrigating (watering) crops = process (B), Machinery = input (A), Fertiliser = input (A).
1 mark for each correct answer. [3]
- 5 (a) July [1]
- (b) Temperatures are the hottest (28–30 °C) so high evaporation rates;
Rainfall is lowest (3–5 mm) so shortage of water/drought.
4 marks – up to 2 marks for temperature explanation/data, up to 2 marks for rainfall explanation/data from climate graph. [4]
- 6 (a) Infertile soil – add fertiliser or manure;
- (b) Pests/diseases – use pesticides or fungicides (allow insecticides but not just ‘spray it’);
- (c) Slopes are very steep – terrace slopes (or use those slopes for grazing).
- 1 mark per correct solution [3]

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- 7 1 mark per way such as:
- they reduce the impact of wind damage/storm damage to crops/provide shelter;
- they increase the temperature/decrease the risk of frost/regulate temperature.
- 8 (a) Barley = 14.1 or 14.2
- (b) Potatoes = 8.6 – 8.7
- 1 mark per correct figure [2]
- 9 1 mark per correct sized bar
Barley = 14.0 – 14.5
Potatoes = 8.5 – 9.0 [2]
- 10 (a) Berlin = 1400 km (allow 1380 – 1420)
- (b) Madrid = 620 km (allow 600 – 640)
- (c) Rome = 680 km (allow 660 – 700)
- 1 mark for each correct distance [3]
- 11 (a) Point 1 = potatoes [1]
- (b) Point 4 = 120 metres [1]
- (c) Point 7 = any number between 131 to 139 metres (inclusive) [1]
- (d) Point 7 = olives [1]
- 1 mark per correct land use/altitude

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- 12** A ranging pole is placed at each end of the slope to measure. A clinometer is placed on the ranging pole and pointed to the same point on the higher pole. The trigger is pressed and released. The angle is then observed. The angle is recorded. (Descriptions need not refer to the clinometer in photograph).
Point mark – 3 marks for all parts of process identified correctly – max. 2 if no reference to sighting (e.g. poles/students). [3]
- 13 (a)** Hypothesis: A/Yes [1]
- (b)** Reasons: because the highest land (800–900 m) and steepest slopes (14° and 29°) were where the land use was least intensive (sheep). The lowest land (110 m) and most gentle slope (3°) was also where the land use was most intensive (potatoes and tomatoes).
(3 marks – 1 mark for ref. to height, 1 mark for ref. to steepness and 1 mark for use of data). [3]
- 14 (a)** Onions = 2.8 – 3.4
- (b)** Potatoes = 2.0 – 2.5
1 mark per correct figure [2]
- 15** Potatoes = A; Onions = B (1 mark per correct option) [2]
- 16 (a)** Correctly drawn best fit line – must go from F to between A and tomatoes. [1]
- (b)** As the field size increases the man hours decrease – or inverse (no mark for 'a negative correlation') [1]
- 17 (a)** Hypothesis = B/No [1]
- (b)** Reasons: This is because the largest fields (5.8 and 4.9 hectares) had the land use that was least intensive (sheep and barley) and had the least man hours (9 and 10). Most of the smallest fields (2.2, 2.7 and 3.0) were also where the land use was most intensive (potatoes, tomatoes and onions) and had the most man hours (16, 19 and 17). It is not necessary to refer to land use.
(3 marks – 1 mark for ref. to field size, 1 mark for ref. to intensity/man hours and 1 mark for use of data) [3]
- 18** B, E, F and H (1 mark per correct question) [4]

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- 19** Many possibilities such as:
- Do you use chemicals on your farm?
 - Do you get help from the government?
 - What changes have you made on the farm recently?
 - Do you irrigate your crops?
 - Where are your goods sold?
- 1 mark per valid suggestion (must be as a question but must not be ones given in question 18) [2]

- 20** Many possibilities such as:
- investigate more sample sites (every 50 metres rather than 100 m)
 - investigate more farms
 - take soil samples
 - collect weather data (but max. 2 if all improvements relate to weather)
 - repeat the investigation again at another time of year
 - draw field sketches of the farm landscape
 - obtain secondary data from local/regional farming organisations
- 1 mark per valid suggestion – but must relate to the investigation into farming on the island. [3]