

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the November 2005 question paper

0600 AGRICULTURE

0600/02 Paper 2

Maximum mark 80

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which Examiners were initially instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began. Any substantial changes to the mark scheme that arose from these discussions will be recorded in the published *Report on the Examination*.

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 must be read in conjunction with the question papers and the *Report on the Examination*.

The minimum marks in these components needed for various grades were previously published with these mark schemes, but are now instead included in the Report on the Examination for this session.

- CIE will not enter into discussion or correspondence in connection with these mark schemes.

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Page 1	Mark Scheme	Syllabus	Paper
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- 1 (a) 4 million; [1]
- (b) live hedge/wire fence/walls of blocks, bricks or concrete; [1]
- (c) storage tanks/reservoir/dam; (any 2) [2]
- (d) mixed/organic/enclosed/rotational/monoculture/settled arable; (any 2)
 explanations as appropriate, do not allow more than once;
 e.g. more intensive use of land;
 crops and animals support each other;
 economy of scale;
 inputs greater so yield greater;
 legumes provide nitrogen;
 animals provide fertiliser; [4]
- (e) AIDS/disease/famine/war; [1]
- [TOTAL 9]**
- 2 (a) evaporation; [1]
- (b) mechanical or splash/run-off or sheet/rill/gully; (any 2) [2]
- (c) contour ploughing/terracing/barrages/diversion channels/close cropping; (any 2) [2]
- (d) speed of water flow;
 carried stone hitting banks; [2]
- (e) rain is solvent for SO₂/CO₂ or forms acid rain;
 rain provides H⁺ ion for acid construction or acid dissolved/reacts with rocks;
 (general statement - 1 mark only) [2]
- (f) desert/very hot because of the high % of evaporation; [1]
- [TOTAL 10]**
- 3 (a) (i) as appropriate; [1]
- (ii) as appropriate; [1]
- (iii) as appropriate; [1]
- (b) dig/plough;
 remove stones/level;
 rake to obtain tilth;
 rake level;
 add fertiliser/lime; [3]
 (any 3, rake = 1 mark only)
- (c) for cereals shallow tilth; fine tilth;
 for tubers deeper tilth; coarser tilth;
 if no crop indicated assume tuber [2]
- [TOTAL 8]**

Page 2	Mark Scheme	Syllabus	Paper
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- 4 (a) correct labels e.g:
- D* allow end of stomach to base of first loop;
R allow from base of final up turn to just before opening of anus;
F allow from base of first loop to start of caecum; [3]
- (b) more carbohydrate/energy;
more protein; [2]
(A more concentrates/less succulents for 1 mark)
- (c) calcium need increases with age/large increase in layers;
phosphorus need gets slightly less with age; [2]
- (d) (i) as appropriate; [1]
(ii) as appropriate; [1]
(iii) nasal discharge/loose droppings/blood in droppings/yellow droppings/
parasites seen;
inflamed or red udder/clots in milk etc. (any 2) [2]
- [TOTAL 11]**
- 5 (a) (i) the sun; [1]
(ii) carbon dioxide;
water; [2]
(iii) nitrates;
A nitrogen; [1]
- (b) (i) correct name;
(ii) correct name; [2]
- (c) from midway between emergence and flowering to just before flowering; [1]
- (d) fertilise;
water;
prevent any grazing; (any 2) [2]
- [TOTAL 9]**
- 6 (a) (i) appropriate weed named; [1]
(ii) competes for light/nutrients/root space/harbours disease or pest; (any 2) [2]
- (b) (i) protective gloves/clothes/goggles/respirator;
(ii) do not use in wind/place nozzle close to weeds; [2]
- (c) (i) nematode worm; [1]
(ii) no host;
breaks cycle; [2]
- [TOTAL 8]**

Page 3	Mark Scheme	Syllabus	Paper
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- 7 (a) mating;
A mounting
R fertilising [1]
- (b) (i) contractions seen/uterus womb contracts;
cervix loosens/discharge seen;
water bag appears;
foetus through vagina;
feet followed by head; (any 3) [3]
- (ii) check breathing/clear airways;
ensure cord is cut/antiseptic applied;
check milk flow/young suckles;
isolates/allow for licking/bonding; (any 2) [2]
- (c) single gametes shown;
correct alleles for offspring;
correct colours for offspring; [3]
- [TOTAL 9]
- 8 (a) (i) correct tool plus use x 3 [3]
- e.g. hammer - attaching wire with staples;
spade - digging post holes;
pliers - cutting wire;
- (ii) gate with suitable bar gaps;
cross strut for strength; [2]
- (iii) plinth and bracket/pintle; [1]
- (iv) bolt/catch/loop of wire; [1]
- (b) strength;
regular cutting;
keep clear of vegetation; [3]
- [TOTAL 10]
- 9 (a) pedigree/health/yield/quality; (any 2) [2]
- (b) evidence for planning/costing/current viability/obtaining loans/efficiency; (any 2) [2]
- (c) reduce beef cattle/increase dairy; because of less meat demand;
increase beans; as legumes have less need for fertiliser/vegetable demand is up; [2]
R grow more vegetable/cabbages;
R increase eggs;
- [TOTAL 6]
- [TOTAL 80]