

**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**  
International General Certificate of Secondary Education

**MARK SCHEME for the October/November 2010 question paper  
for the guidance of teachers**

**0600 AGRICULTURE**

**0600/02**

Paper 2 (Core Theory), maximum raw mark 80

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.

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- 1 (a) dung used for fertiliser;  
skins used for leather / clothes / mats;  
meat used for biltong / food;  
horns / hooves used for ornaments / fertiliser;  
bones used as animal feed;
- any three [3]
- (b) it chews the cud;  
it has a large rumen;  
it produces methane;
- mark up to four selections normally then apply tick / cross i.e. wrong answer cancels a right one [3]
- (c) listless / excess salivation / warm, dry nose or runny nose / drooping head / loss of appetite  
dull coat or hair falling out / lack of condition, thin / very liquid or bloody faeces /  
sweating / dull, bloodshot eyes or watery eyes / away from herd /dark, yellow urine; [2]
- (d) rapid growth rate / good size / strong bone / developed body muscle or good conformation /  
no horns / dual purpose / hot weather tolerant / copes with low value herbage;
- any two
- accept 'lack of fat / lot of meat' reject 'healthy' [2]
- [Total: 10]**
- 2 (a) cut down trees,  
remove stumps;  
burn debris;
- accept 'clearing once' [3]
- (b) (i) strong wind;  
excess rainfall; [2]
- (ii) windbreaks;  
planting;  
contour ploughing;
- any two [2]
- (c) 1 LAN / urea / ammonium nitrate etc.; reject compound D (16:16:16)  
2 superphosphate; [2]
- [Total: 9]**

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- 3 (a) (i) spade; allow 'mattock / hoe' if description of how it is used in (ii) is correct  
rake;
- (ii) use spade - to dig into soil and turn it over or till the soil;  
use rake - smooth over soil / to collect stones / weeds or make a tilth;
- ECF if correct function is given in (ii) for wrong tool in (i) give a mark [2]

- (b) loose clumps of sand and clay;  
held together by water or humus / typical of cultivated loam soil; [2]

[Total: 6]

- 4 (a) (i) top soil; [2]  
subsoil;
- (ii) A / top soil; [1]
- (iii) C; because cold air at night would cool surface / air lost from surface soil spaces at night;
- allow one mark for A with valid reason i.e. sun in morning heats up surface [2]

- (b) add barium sulphate order in table 3  
add distilled water; 5  
shake and leave; 2  
add soil indicator; 4 [3]

4 correct = 3 marks      2/3 correct = 2 marks      1 correct = 1 mark

- (c) (i) red; [1]  
allow 'orange-red'
- (ii) breaks up clay / aids drainage;  
alkaline pH / less acidity - improves fertility /  
- encourages micro-organisms /  
- makes more chemicals soluble / available;

allow reference to pasture having more species / legumes reject makes less acidic [2]

[Total: 11]

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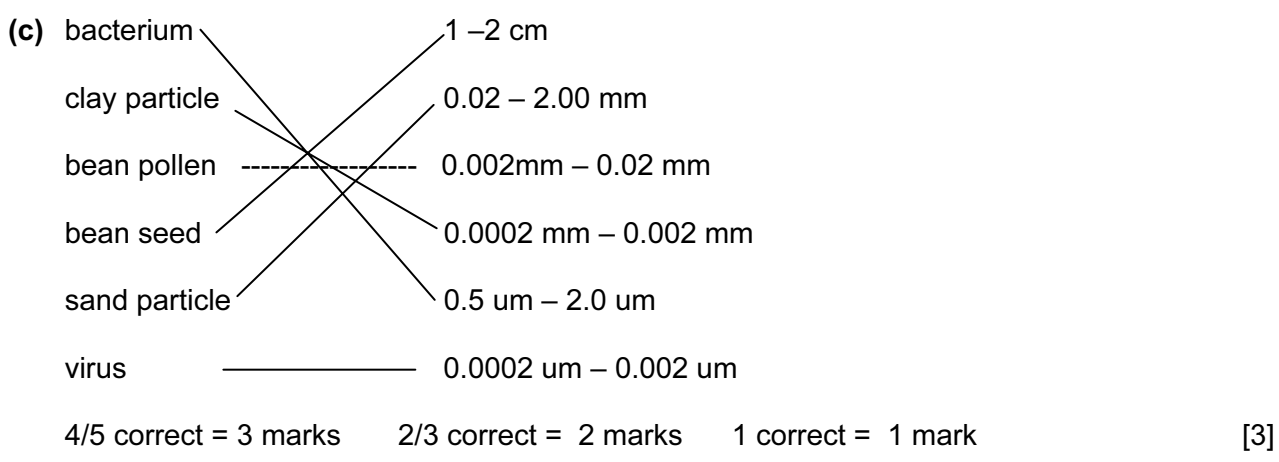
- 5 (a) X evaporation;  
Y transpiration:
- (b) cooling / transport / photosynthesis / support;  
allow 'used to make food' [2]
- (c) movement of water through a semi permeable membrane;  
allow partially permeable membrane and movement from area of high water (low solute) concentration to low water (high solute) concentration.; [2]
- (d) (i) by root pressure / negative pressure / transpiration pull;  
in xylem; [2]
- (ii) wilting collapses leaf; so out of direct heat;  
OR  
wilting causes stomata to close; so preventing / reducing water loss; [2]
- [Total: 10]**
- 6 (a) (i) correct labels; [2]
- (ii) the animal would become infertile;  
allow 'will not reproduce' [1]
- (iii) growth would be checked;  
later growth would lay down fat; [1]
- (b) water bag bursts or appears;  
mother lays down or isolates itself;  
signs of contractions;  
feet plus nose appear first; [3]  
reference to afterbirth;
- (c) provides antibodies / protection against disease / high level of protein / very nutritious;  
any one [1]
- [Total: 8]**

Page 5	Mark Scheme: Teachers' version	Syllabus	
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- 7 (a) (i) any explanation that shows sheep being moved on to fresh paddocks;  
time reference - every few days / weeks when grass gets low;
- (ii) cuts down on parasites;  
provides better nutrition for sheep;  
enables grass to recover;  
cuts down damage to soil by compaction or erosion;
- any two [2]
- (iii) taking grass / hay to the housed animal; [1]
- (b) feed early in morning / late afternoon;  
chewing cud follows feeding;  
resting occurs around midday;  
other activities happen at random;
- any two [2]
- [Total: 7]
- 8 (a) (i) make the fence higher;
- allow larger [1]
- (ii) wood - more available; easy to attach wire to;  
metal - longer lasting; [2]
- (iii) make concrete using appropriate sand, stone, cement mix;  
reference to adding water for liquidity;  
into a mould;  
leave for at least a day to dry before use; [3]
- (b) (i) shallow water heats up faster than deeper water / uses a lot of land /  
evaporates quickly / easily overflows, floods;
- any one [1]
- (ii) strength;  
water pressure increases with depth so dam wall built wide at base; [2]
- [Total: 9]

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- 9 (a) (i) damage  
 e.g. eats parts of leaves / make holes in stems / eats roots;  
 explanation  
 e.g. lowers area for photosynthesis; gives entry for disease; loses water; (max 2) [3]
- (ii) spray with pesticide / contact chemical spray;  
 allow biological control if qualified [1]
- (b) bacteria - tomato wilt, cotton blight, soyabean blight;  
 fungi - potato blight, damping off, mildew, rust;  
 virus - tristeza, mosaic; [3]



[Total: 10]