CAMBRIDGE
INTERNATIONAL EXAMINATIONS

Abridge: com

NOVEMBER 2002

INTERNATIONAL GCSE

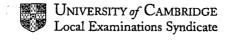
MARKSCHENE

MAXIMUM MARK: 60

SYLLABUS/COMPONENT: 0600/3

AGRICULTURE

(EXTENDED)



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	ACAII.	Bride
(a) (i) (ii (ii (iv) yellow;) stunted/yellow; nodules;	Se. COM
	containing microorganisms (bacteria) turn nitrogen; into protein; decomposition of legume plant (protein) releases ammonia;	
	(turned into) nitrates (accessible to plants) max	4
(b) (i)	cheaper; available; easy to apply (does not need experience organic;	
	improves soil structure; max	2
(ii	smell / storage problems/consistency / weeds	1 [11]
A B	ppropriate labels any cell with chloroplasts; any white space between cell inside leaf; only cell with bold outline in upper part of vascular bundle;	3
(b) (i)	carbon dioxide and water <u>sunlight</u> glucose and oxygen chlorophyll	2
(ii	collect / absorb light;	1
so fro	vement of carbohydrate / sugar / sucrose; uble; n (e.g. leaf, food store in root); e.g. growing point / food store in root);	
	ve tubes / phloem; max	3
fo	re energy / respiration; growth / repair;	
fo	(seed / fruit) production; max	2
		[11]

	<u> </u>	4.
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3 (a) single parent; no fusion; no fertilization; genetically identical; ref. mitosis;

max 2

(b) adds up costs; supply / demand; quality by-products; ref. to yield; (e.g. quantity)

3

(c) price;
competition;
population of consumers;
similar products / supply
quality / taste / consumer preference
income level

max

[8]

3

Total for section A 30

Λ

(a) NAMED DISEASE eg. Newcastle	eg. Coccidiosis	0
drop in egg production; mis-shapen eggs/ soft shelled; paralysis/ twisted neck; gasping; mucus discharge from nostrils; yellow; evil smelling diarrhoea;	diarrhoea; with blood stains; listless; ruffled feathers; pale comb; death; loss of appetite;	max 5
(b) cleaning x3;;; isolate new stock; isolate sick animals; ventilation; vaccines; sterilise offal; report to the Vet	cleaning x3;;; isolate new stock; isolate sick animals; coccidiostats; sulphur-drugs; method of applying; report to the Vet or Extension officer	max 7

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aCambridge.com service provided eg Al; quarantine; parturation; dystokia; disease outbreak (c) service provided eg Vaccination / medicines; advice/information: location / distance: 3 [15] quality of diagram;; 5 (a) (if answer without diagram, marks for linkage between components to show relative positions) 2 cloud: precipitation; run-off; infiltration: water table: river; lake/sea: evaporation; drinking / urine; transpiration / water absorption max 8 increased transpiration; (i) (b) pollination; seed dispersal; evaporation of water from soil surface / irrigation systems; physical damage; removal of top soil (nutrients) leading to poor growth 3 max reduce photosynthesis; (ii) reduce transpiration; slower respiration / chemical processes in plant; 2 slow germination / slower growth; reduce evaporation max [15] 2 quality of diagram;; 6 (a) gullet / oesophagus stomach; pancreas; gall bladder; sphincter; duodenum; ileum (small intestines) colon; rectum (large intestines) appendix; anus; max 7

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(L)	(on=vmoo)	brook down	a Cambridge
(b)	(enzymes)	break down; large insoluble molecules; (food) into small soluble; e.g. of enzyme and substrate (e.g. amylase)	
	(micro-orgs)	break down cellulose; because mammal cannot / A W;	

for absorption; max 6

7 (a) chromosome- hereditary material A/W;

found in nucleus;

DNA;

genotype the genetic make-up of an organism /

the genes an organism has; the alleles (of a gene) present;

into simple sugar (substances)

may be homozygous or heterozygous;

e.g. (could be AA, Aa or aa);

max 4

[15]

(b) quality parent 1;
(crossed with) quality parent 2;
select best of F1 generation;
cross F1 with F1 / A W;
select, best offspring / depending on phenotype of offspring;
repeat for many generations / A W;

max 4

Appropriate symbols chosen (same letter, capital for dominant, small for recessive);
Parents correctly represented as homozygous, and crossed (e.g. AA X aa);
Gametes correctly represented (A and a);

FI generation heterozygous (Aa);

Cross / self, F1 generation (Aa x Aa);

Gametes correctly represented (A a and A a);

Punnet square used / lines accurately drawn to show fertilisation of all possible combinations of gametes from both FI parents;

F2 generation 1 homozygous dominant / AA;

2 heterozygous / Aa;

1 recessive homozygous / aa;

AA and Aa both have dominant phenotype;

7