CAMBRIDGE
INTERNATIONAL EXAMINATIONS

NOVEMBER 2002

INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK : 70

SYLLABUS/COMPONENT : 0600/2

AGRICULTURE

(CORE)

UNIVERSITY of CAMBRIDGE
Local Examinations Syndicate

1. (a) (i) sub-soil; 1

(ii) 1. growth of roots; 1

2. CO_2 / SO_2 + water;
Acid dissolves rock; **R** breaks down rock 2

(b) same key as example;
sand / clay / humus in a balanced proportion; 2

(c) B; the lime flocculates / breaks up the clay; 2

B; lime is alkaline; 2

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2. (a) (i) plant Q; 1

(ii) large / colourful petals;
nectary / scent;
enclosed parts;
simple stigma; **any two** 2

(iii) food storage / spread of plant (asexual reproduction) / stability; 1

(iv) nodules; 1

(v) bacteria; 1

(b) (i) transpiration; 1

(ii) **Q**;
larger surface area; 2

(c) (i) fungus; 1

(ii) remove and burn /use fungicide; 1

(d) **Q** because larger leaves; shade out weeds;

or

P because food reserve in rhizome; enables growth; **(no mark for choice)** 2

[13]

3. (a) (i) fork;
hoe;
spade; **R** shovel **any two** 2

(ii) do not leave them lying around / only use for correct purpose; 1

(iii) aeration;
improve drainage;
enables root penetration; **any two** 2

(b) aspect - exposure to wind;
nature of soil - drainage / fertility / pH;
shade - light availability;
slope - water retention / water availability; **any three** 3

(c) (i) appropriate fruit condition eg.hardness ; colour ; moisture content ;
leaf ; plant yellowing **any two** 2

(ii) method of harvest - combine harvester ; cut with panga ; hand pick;
harvest or post harvest detail - grain separation ; dry; 2

(iii) damp; effective storage detail eg. off ground;
fungi; store in dry;
pests e.g weevil ; traps / baffles / baits; 2

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4. (a) (i) growth / tissue development / cell development; 2
fats;

(ii) water / roughage / fibre; 1

(iii) respiration; 1

(iv) bones / teeth /egg shell; 1

(v) chlorophyll; 1

(b) called photosynthesis;
energy from sun;
joins $CO_2 + H_2O$;
catalyst chlorophyll; 4

(c) (i) tubers are bulk so fills animal up / low ratio of protein and carbohydrate to bulk;1

(ii) grains have high protein / high energy; 1

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5. **(a) (i)** long lasting; **R** good conductor of he…
does not harbour pests;
low fire risk; **any two**

(ii) hens can escape via nest box and roof / egg box inaccessible; 1

(iii) rotation allows grass to re-grow;
parasite levels controlled; isolation of sick poultry, control breeding **any two** 2

(b) advantage - recycling waste energy efficient;
nutrients in droppings used by pond life which are food for fish;
R droppings food for fish
saves land space;
hens safer from predators; **any one** 1

disadvantage - droppings breakdown accelerates stagnant conditions;
risk of parasites / disease spread; water pollution **any one** 1

(c) turkeys not such good layers;
turkeys bigger so eat more;
idea that turkeys less economic but with reason; **any one** 1

[8]

6. **(a) (i)** A. sperm duct / vas deferens
B. urethra; 2

(ii) medium for sperm;
activate sperm;
lubrication; **any one** 1

(b) 1. isolation;
2. spray cord / ensure suckling / clear nostrils; 2

(c) provides high energy food / antibodies. 1

(d) 1. Less robust / well-grown **R** dies.
2.quicker recovery / more young in given time; 2

(e) (i) 32+32+32+4=100
64 68; 1

(ii) 2003; July
carrying capacity is 18 x 5=90; 2

(iii) compaction;
erosion;
injury to plants;
poor recovery growth; **R** references to animals **any two** 2

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