

**MARK SCHEME for the May/June 2011 question paper  
for the guidance of teachers**

**5038 AGRICULTURE**

**5038/03**

Paper 3 (Practical), maximum raw mark 30

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) (i)

|            |            |        |
|------------|------------|--------|
| <b>AS1</b> | red/orange | pH 4.5 |
| <b>AS2</b> | green      | pH 7.0 |
| <b>AS3</b> | blue/green | pH 8.0 |

(= or- 1 pH from the pH given on supervisors report) [6]

(ii) **AS3**  
pH of 8.0/is alkaline/reference to colour/more nutrients. OWTE [2]

(b) (i) **AS4** gritty, rough OWTE [1]  
**AS5** smooth, sticky OWTE [1]  
**AS6** dark parts of plants distinguishable OWTE [1]

(ii)

|                          |            |
|--------------------------|------------|
| heavy clay soil          | <b>AS5</b> |
| dark rich organic soil   | <b>AS6</b> |
| coarse gritty sandy soil | <b>AS4</b> |

All correct [1]

**[Total: 12]**

2 (a)

|            |                   |
|------------|-------------------|
| <b>AS7</b> | litmus turns blue |
| <b>AS8</b> | no change         |

[2]

(b)

|            |                               |
|------------|-------------------------------|
| <b>AS7</b> | clear or powder at bottom     |
| <b>AS8</b> | fizzes/ turns limewater milky |

[2]

(c)

| <b>AS1</b> | Test 1 conclusions    | Test 2 conclusions         |
|------------|-----------------------|----------------------------|
| <b>AS2</b> | ammonium ions present | carbonate ions not present |
| <b>AS3</b> | no ammonium present   | carbonate ions present     |

[4]

**[Total: 8]**

3 (a) wind exposed stigma to trap pollen, or feathery anthers to disperse pollen. OWTE [2]

(b) sepal, petal, stamen, anther, stigma or filament correctly labelled [4]

(c) labelled ovary and ovule [2]

scale [1]

clear well drawn diagram [1]

**[Total: 10]**