

2000 Chemistry SG General
Finalised Marking Instructions

Strictly Confidential

These instructions are **strictly confidential** and, in common with the scripts entrusted to you for marking, they must never form the subject of remark of any kind, except to Scottish Qualifications Authority staff. Similarly, the contents of these instructions must not be copied, lent or divulged in any way now, or at any future time, to any other persons or body.

Markers' Meeting

You should use the time before the meeting to make yourself familiar with the question paper, instructions and any scripts which you have received. Do **not** undertake any final approach to marking until **after** the meeting. Please note any points of difficulty for discussion at the meeting.

Note: These instructions can be considered as final only after the markers' meeting when the full marking team has had an opportunity to discuss and finalise the document in the light of a wider range of candidates' responses.

Marking

The utmost care must be taken when entering and totalling marks. Where appropriate, all summations for totals must be carefully checked and confirmed.

Where a candidate has scored zero marks for any question attempted, "0" should be entered against the answer.

Recording of Marks

The mark for each **question**, where appropriate, should be entered **either** on the grid provided on the back page of the answer book, **or** in the case of question/answer books, on the grid (if provided) on the last page of the book. Where papers assess more than one element, care must be taken to ensure that marks are entered in the correct column.

The **Total** mark for each paper or element should be entered (in red ink) in the box provided in the top-right corner of the front cover of the answer book (or question/answer book).

Always enter the **Total** mark as a **whole number**, where necessary by the process of rounding up.

The transcription of marks, within booklets and to the Mark Sheet, should always be checked.

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2000 Standard Grade Chemistry

General Level

Marking Instructions

Part 1 - 20 Marks

| | | | | | |
|---|---|---------|----------|-------------|--------|
| 1 | a | A and F | both for | 1 or 0 | CLOSED |
| | b | B | | 1 or 0 | |
| | c | A and C | both for | 1 or 0 | CLOSED |
| 2 | a | B and E | both for | 1 or 0 | CLOSED |
| | b | B | | 1 or 0 | |
| 3 | | B | | 1 or 0 | |
| 4 | | C | | 1 or 0 | |
| 5 | a | A and C | both for | 1 or 0 | CLOSED |
| | b | D | | 1 or 0 | |
| 6 | a | B | | 1 or 0 | |
| | b | A and D | both for | 1 or 0 | CLOSED |
| | c | A and C | both for | 1 or 0 | CLOSED |
| 7 | a | A and E | both for | 1 or 0 | CLOSED |
| | b | E and F | both for | 1 or 0 | CLOSED |
| 8 | a | E | | 1 or 0 | |
| | b | C | | 1 or 0 | |
| 9 | a | A and B | | 2 or 1 or 0 | OPEN |
| | b | C and E | | 2 or 1 or 0 | OPEN |

Part 2 - 40 Marks

- 10 a thermoplastic (accept thermal plastic) 1 mark
- b it increases (must be the general trend) accept greater demand, more produced 1 mark
- c table with suitable headings

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 minimum table requirements 1 mark
 headings 2 x ½ mark
 data entry 1 mark
 correct entries 1 mark
- 11 a B 1 mark
- b it reduces it; the water gets softer/loses hardness 1 mark
 [unacceptable (0) it reduces drops of soap required; easier to get a lather]
- 12 a oxygen or O₂ (correct formula) O symbol = 0 marks 1 mark
- b any two from: carbon dioxide; carbon monoxide; carbon/soot; water (steam) 2 x ½ mark
- c to condense / collect the water 1 mark
 freezing (0)
 cool the gas (0)
- 13 a white moss or moss 1 mark
- b acid rain; acidity has risen 1 mark
- c 4.8 to 5.8 inclusive. If a range given it must be correct at both ends 1 mark
- 14 a halogens 1 mark
- b magnesium glows very brightly; white hot; more violent 1 mark
- c $\text{Mg} + \text{Br}_2 \rightarrow \text{MgBr}_2$ Deduct ½ for each error 1 mark
 1/ = used instead of → deduct ½
- 15 a i no oxygen / air present 1 mark
- ii sea water contains salt / sea water contains more ions 1 mark
 [unacceptable salt attacks the nail 0; electrons moving 0]
- b i Fe²⁺ 1 mark
- ii magnesium is more reactive than iron / magnesium sacrificially protects the iron / electrons flow from the magnesium to the iron 1 mark

| | | | |
|----|---|---|------------------|
| 16 | a | add indicator to water or dip pH paper in water compare with colour chart / observe colour / check colour | ½ mark ½ mark |
| | b | Fizz Alive | 1 mark |
| | c | i it tastes sweet; to give energy [unacceptable flavouring (0)] | 1 mark |
| | | ii carbon, hydrogen, oxygen or correct symbols | 1 mark |
| | d | i alloy | 1 mark |
| | | ii % axis labelled and scaled using more than ½ graph paper | ½ mark |
| | | other name / symbol of metal or key | ½ mark |
| | | bars correctly drawn | 1 mark |
| 17 | a | neutralisation | 1 mark |
| | b | carbon dioxide; CO ₂ correct formula acceptable | 1 mark |
| | c | to use up all the acid; to neutralise the acid; to make sure reaction is finished [cancelling the acid (0)] | 1 mark |
| 18 | a | breaking up a compound using electricity (substance; solution; melt) | 1 mark |
| | b | its ions cannot move / the ions are fixed in a lattice | 1 mark |
| | c | electrodes touching or touching crucible; lithium metal is a conductor | 1 mark |
| 19 | a | nitrogen, carbon dioxide N ₂ ; CO ₂ | 2 x ½ mark |
| | b | platinum or palladium or rhodium [unacceptable - transition metal (0)] | 1 mark |
| | c | unleaded petrol or alter air to fuel ratio; use a lean burn engine | 1 mark |
| 20 | a | zinc | 1 mark |
| | b | i polymerisation (addition ½) | 1 mark |
| | | ii tetrafluoroethene; fluoroethene with structure (1) structural formula (1) C ₂ F ₄ (1) | 1 mark |
| 21 | a | orange-red | 1 mark |
| | b | pH paper would turn blue / black | 1 mark |

[END OF MARKING INSTRUCTIONS]