

NOVEMBER 2001

INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK : 60

SYLLABUS/COMPONENT : 0620/6

**CHEMISTRY
(ALTERNATIVE TO PRACTICAL)**



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- 1 (a)** Boxes completed to show
beaker (1), pipette (1), burette (1) [3]
- (b)** indicator (1), colour change (1) [2]
- (c)** repeat the experiment / pH meter [1]
- [Total 6]**
- 2 (a)** cathode / negative [1]
- (b)** silver [1]
- (c)** silver nitrate (1) solution (1)
any silver salt **not** Cl^- , I^- [2]
- (d) (i)** silver will not coat / stick or similar [1]
- (ii)** to give even coating / all of it gets coated [1]
- [Total 6]**
- 3 (a)** to increase ease of extraction / surface area, etc [1]
- (b)** if hot yeast is killed [1]
- (c)** spatula [1]
- (d)** best temperature for yeast (1) too cool does not multiply / yeast is killed $> 40^{\circ}C$ (1) [2]
- (e)** to prevent air (oxygen) / bacteria entering [1]
to allow CO_2 to escape [1]
- (f) (i)** 3 - 4 days (1) + (1) for unit [2]
- (ii)** 10 days [1]
- (iii)** yeast dies (1)
no sugar / solution too concentrated re alcohol / orange juice all used up (1) [2]
- (Total 12)**

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- 4 (a) pops [1]
hydrogen [1]
- Table of Results
All readings correct (3) marks, (-1 for any incorrect) [3]
- | | |
|----|----|
| 25 | 28 |
| 26 | 33 |
| 26 | 37 |
| 25 | 39 |
| 25 | 42 |
| 25 | 45 |
- (b) all points plotted correctly [3]
(-1 for any incorrect)
straight line best fit [1]
- (c) temperature from graph ($\pm 1^\circ\text{C}$) [1]
indication on grid [1]
- (d) exothermic [1]
- (e) (i) experiment 6 [1]
- (ii) largest piece / greatest concentration Mg (1) \therefore more reaction / collisions with acid particles etc. (1) [2]
- (f) use a burette instead of m. cylinder / insulate / lag apparatus (1)
more accurate / reduce heat losses (1)
repeat (1), average (1)
same initial temperatures (1) \therefore easy comparison (1) [max 2]
[Total 17]
- 5 (a) (i) green (1) precipitate (1) [max 2]
- (b) red / brown (1) precipitate (1) [2]
- (c) green (1) precipitate (1) [2]
brown (1) [1]
- (e) ammonia [1]
- (f) ammonium [1]
- (g) sulphate [1]
[Total 10]
- 6 (a) Universal Indicator solution / pH paper (1), read pH from chart (1) / use a pH meter (2)[max 2]
- (b) chromatography (1) paper (1)
apply cola (1) separation with solvent (1) [max 3]
- (c) can open under water to collect gas in graduated tube / m. cylinder (1)
filled with water (1), syringe = 0 (would not work) [2]
- (d) limewater [1]
milky [1]
not lighted splint [1]
[Total 9]