



ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Mark scheme
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GCSE

Chemistry (Modular)

Module 21

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Aqueous and Organic Chemistry: Foundation Tier

Question	Key
One	1 – carbon dioxide 2 – water (vapour) 3 – carbon monoxide 4 – carbon
Two	1 – evaporated 2 – cooled 3 – filtered 4 – dissolved
Three	1 – ammonium nitrate 2 – calcium sulphate 3 – sodium hydroxide 4 – sodium carbonate
Four	1 – yeast is added 2 – sugar fermented by yeast 3 – carbon dioxide escapes from the reaction vessel 4 – fractional distillation of the reaction mixture
Five	1 – calcium carbonate 2 – iron chloride 3 – nitric acid 4 – lead sulphate
Six	hard water reacts with soap to form a scum kettles used to boil hard water often get a layer of scale
Seven	sulphuric acid is an acid because it donates protons the $\text{H}^+(\text{aq})$ ion is a hydrated proton
Eight	8.1 – B, 8.2 – D, 8.3 – B, 8.4 – C
Nine	9.1 – B, 9.2 – D, 9.3 – A, 9.4 – B
Ten	10.1 – D, 10.2 – B, 10.3 – D, 10.4 – A

Aqueous and Organic Chemistry: Higher Tier

Question	Key
One	1 – calcium carbonate 2 – iron chloride 3 – nitric acid 4 – lead sulphate
Two	1 – carbon dioxide 2 – an ester 3 – hydrogen 4 – an alkane
Three	sulphuric acid is an acid because it donates protons the $H^+(aq)$ ion is a hydrated proton
Four	it contains strong covalent bonds between chains of molecules, formed during heating it is a thermosetting polymer
Five	5.1 – B, 5.2 – D, 5.3 – B, 5.4 – C
Six	6.1 – B, 6.2 – D, 6.3 – A, 6.4 – B
Seven	7.1 – D, 7.2 – B, 7.3 – D, 7.4 – A
Eight	8.1 – B, 8.2 – B, 8.3 – B, 8.4 – B
Nine	9.1 – C, 9.2 – C, 9.3 – C, 9.4 – B
Ten	10.1 – B, 10.2 – D, 10.3 – C, 10.4 – B