

## CHEMISTRY LAB PREPARATION LIST FOR JC2 H2 CHEMISTRY

### APPARATUS NEEDED (PER STUDENT)

S/N	Apparatus	Quantity	Location	Remarks (Reuse or new for each batch)
1	Burette	2	Student's bench	Reuse
2	Burette stand and clamp	1	Student's bench	Reuse
3	250 cm <sup>3</sup> beaker	2	Student's bench	Reuse
4	Funnel (for filling burette)	2	Student's bench	Reuse
5	250 cm <sup>3</sup> volumetric flask	1	Student's bench	Reuse
6	Wash bottle containing distilled water	1	Student's bench	Reuse
7	250cm <sup>3</sup> conical flask	2	Student's bench	Reuse
8	25.0 cm <sup>3</sup> pipette	1	Student's bench	Reuse
9	Pipette filler	1	Student's bench	Reuse
10	Red and blue litmus papers		Small basket	Pack together for students to use
11	Universal Indicator paper and colour chart		Small basket	Pack together for students to use
12	plain filter strips for use with acidified manganate(VII)		Small basket	Pack together for students to use
13	aluminium foil for testing nitrate/nitrite		Small basket	Pack together for students to use
14	wooden splints		Small basket	Pack together for students to use
15	Paper towel		Small basket	Pack together for students to use
16	Pen/Marker		Small basket	Pack together for students to use
17	Clean and dry Styrofoam cups of capacity 150 cm <sup>3</sup> with lid	2	Small basket	Must change to new one per shift
18	Measuring Cylinder of capacity 50cm <sup>3</sup>	1	Student's bench	Reuse
19	Thermometer (range of -5°C to 50°C, graduated to 0.2°C)	1	Student's bench	Reuse
20	Stopwatch reading to at least 0.1s	1	Student's bench	Reuse
21	Dropping pipette	3	Small basket	Must change to new one per shift
22	spatula	1	Small basket	Must change to new one per shift
23	Test tube holder	1	Student's bench	Reuse
24	Boiling Tube approximately 150 mm × 25 mm	3	Small basket	Must change to new one per shift
25	Test tube approximately 125 mm × 15 mm	8	Small basket	Must change to new one per shift

<b>26</b>	Test tube rack	1	Student's bench	Reuse
<b>27</b>	Delivery tube (connect to test tube)	1	Student's bench	Reuse
	Communal apparatus: Weighing balance, reading to 0.01g or better (1 per 8 candidate) All must show readings to the same precision Hot water			

### CHEMICALS NEEDED (PER STUDENT)

<b>Label</b>	<b>Per Candidates</b>	<b>Identity</b>	<b>Notes</b>
<b>FA 1</b>	150 cm <sup>3</sup>	0.0625 mol dm <sup>-3</sup> NaOH + 0.05 mol dm <sup>-3</sup> Na <sub>2</sub> CO <sub>3</sub> (anhydrous)	Mixture
<b>FA 2</b>	200 cm <sup>3</sup>	1.5 mol dm <sup>-3</sup> HCl	
<b>FA 4</b>	2.80 g	sodium hydrogencarbonate	
<b>FA 5</b>	5 g	Mixture of approximately equal masses of ammonium chloride and hydrated zinc sulfate	5.0g ± 0.1g mixture containing NH <sub>4</sub> Cl and ZnSO <sub>4</sub> ·7H <sub>2</sub> O in approximately ratio 1:1 by mass. The solids should be well mixed and supplied in a stoppered container.
<b>FA 6</b>	20 cm <sup>3</sup>	20 g glucose + 50 cm <sup>3</sup> 1 mol dm <sup>-3</sup> H <sub>2</sub> SO <sub>4</sub>	
<b>Solution T</b>		Thymolphthalein indicator	
<b>Solution M</b>		Methyl Orange Indicator	

## STANDARD BENCH REAGENTS

S/N	Label	Identity	Notes (hazards given in this column are for the raw materials)
1	Dilute hydrochloric acid	2.0 mol dm <sup>-3</sup> HCl	
2	Dilute nitric acid	2.0 mol dm <sup>-3</sup> HNO <sub>3</sub>	[C]
3	Dilute sulfuric acid	1.0 mol dm <sup>-3</sup> H <sub>2</sub> SO <sub>4</sub>	[MH]
4	Aqueous ammonia	2.0 mol dm <sup>-3</sup> NH <sub>3</sub>	[C][MH][N]
5	Aqueous sodium hydroxide	2.0 mol dm <sup>-3</sup> NaOH	[C]
6	Aqueous barium nitrate	0.1 mol dm <sup>-3</sup> Ba(NO <sub>3</sub> ) <sub>2</sub>	
7	limewater	Saturated aqueous calcium hydroxide, Ca(OH) <sub>2</sub>	[MH]
8	Solid sodium carbonate	Na <sub>2</sub> CO <sub>3</sub>	
9	Aqueous potassium manganate (VII)	KMnO <sub>4</sub>	
10	Aqueous silver nitrate	AgNO <sub>3</sub>	