

Peraturan Permarkahan
CHEMISTRY 4541
Kertas 1
Ogos
2011



BAHAGIAN PENGURUSAN
SEKOLAH BERASRAMA PENUH DAN SEKOLAH KECEMERLANGAN
KEMENTERIAN PELAJARAN MALAYSIA

PERATURAN PERMARKAHAN
PEPERIKSAAN PERCUBAAN
SIJIL PELAJARAN MALAYSIA 2011

**CHEMISTRY
TRIAL
2011
MARKING SCHEME
PAPER 1**

**SKEMA KERTAS 1
CHEMISTRY 4541/1**

1	C	26	C
2	B	27	D
3	C	28	D
4	D	29	D
5	A	30	B
6	A	31	B
7	C	32	A
8	A	33	C
9	A	34	A
10	C	35	C
11	A	36	C
12	B	37	B
13	C	38	C
14	A	39	C
15	C	40	D
16	D	41	B
17	D	42	B
18	A	43	D
19	C	44	C
20	B	45	B
21	B	46	C
22	A	47	B
23	D	48	D
24	B	49	A
25	A	50	C

Peraturan Permarkahan
CHEMISTRY 4541
Kertas 2
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**CHEMISTRY
TRIAL
2011
MARKING SCHEME**

PAPER 2

MARKING SCHEME FOR CHEMISTRY PAPER 2

No.	Answer	Mark
1. (a) (i)	Zinc	1
(ii)	1. The presence of X/zinc atoms disrupts the orderly arrangements of copper atoms 2. This reduce the layers of atoms from sliding over one another easily	1 1
(iii)	Steel	1
(b)(i)	Silicon dioxide/silica /sand	1
(ii)	Heat resistant/can withstand with high temperature	1
(c) (i)	$ \begin{array}{cc} \text{H} & \text{Cl} \\ & \\ \text{C} & = & \text{C} \\ & \\ \text{H} & \text{H} \end{array} $	1
(ii)	Polyvinyl chloride/ polychloroethene	1
(iii)	polymerization	1
TOTAL		9

No	Answer	Mark				
2(a)	Horizontal row of elements in the Periodic Table of Elements	1				
(b)	Atoms have 3 shells occupied with electron	1				
(c)(i)	1. Correct formulae of reactants and products 2. Balanced equation $\text{Cl}_2 + \text{H}_2\text{O} \rightarrow \text{HCl} + \text{HOCl}$	1 1				
(ii)	<table border="1" style="width: 100%;"> <tbody> <tr> <td>Sodium</td> <td>Red litmus paper blue</td> </tr> <tr> <td>Chlorine</td> <td>Blue litmus paper red</td> </tr> </tbody> </table>	Sodium	Red litmus paper blue	Chlorine	Blue litmus paper red	2
Sodium	Red litmus paper blue					
Chlorine	Blue litmus paper red					

No.	Answer	Mark
(d)(i)	1. Atomic size decrease	1
(ii)	1. Proton number / number of proton / nuclei charge increase 2 Nuclei attraction on valence electron is stronger	2
TOTAL		9

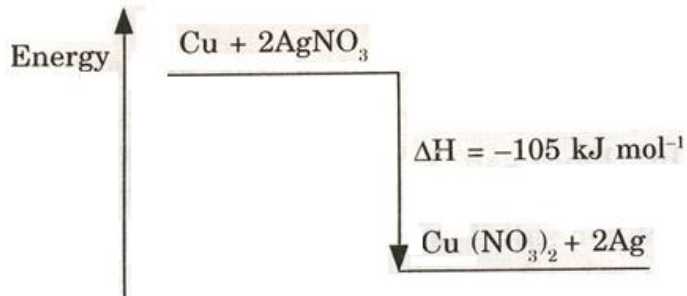
No.	Answer	Mark
3 (a)	Oxidation	1
(b)(i)	To allow the movement / flow of ions	1
(ii)	Potassium nitrate solution [any suitable substance]	1
(c)	From copper electrode to silver electrode	1
(d)	Intensity of blue colour solution increase Because the concentration /number of Cu^{2+} increase	1 1
(e)	$\text{Cu} \longrightarrow \text{Cu}^{2+} + 2\text{e}$ Formula of reactant and product Balanced	1 1
(f)(i)	Increase	1
(ii)	The distance between zinc and silver is further than copper and silver in electrochemical series	1
TOTAL		10

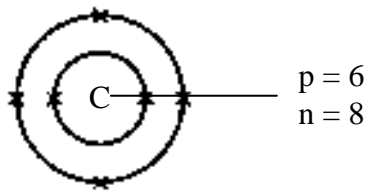
No.	Answer	Mark
4. (a)	A chemical formula that shows the simplest ratio of atom of element in a compound.	1
(b)	Number of mole = $\frac{\text{Mass}}{\text{Relative atomic mass}}$	1
(c)(i)	Num. of mole of copper = $\frac{2.56}{64} / 0.04$	2
(ii)	Num. of mole of oxygen = $\frac{0.64}{16} / 0.04$	
(d)	CuO	1
(e)(i)	Magnesium and hydrochloric acid / Zinc and sulphuric acid	1
(ii)	$\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$	2
(iii)	Black powder change to brown	1
(iv)	Water	1
	TOTAL	10

No.	Answer	Mark
5(a)(i)	Temperature	1
(ii)	Num. of mole = $\frac{0.24 \text{ mol}}{24} / 0.01 \text{ mol}$ Volume of H ₂ = $0.01 \times 24 \text{ dm}^3 / 0.24 \text{ dm}^3 / 240 \text{ cm}^3$	2
(b)	Average rate of reaction in experiment I = $\frac{240}{50} \text{ cm}^3\text{s}^{-1} / 4.8 \text{ cm}^3\text{s}^{-1}$ Average rate of reaction in experiment II = $\frac{240}{20} \text{ cm}^3\text{s}^{-1} / 12 \text{ cm}^3\text{s}^{-1}$	2
(c)(i)	Rate of reaction of experiment II is higher than experiment I	1

No.	Answer	Mark
(c)(ii)	-The temperature of reaction for experiment II is higher than experiment I. -The kinetic energy of the particles of reactants for experiment II is higher than experiment I. -The frequency of effective collisions increases.	3
(d)		2
TOTAL		11

No.	Answer	Mark
6(a)	To reduce the heat loss to the surroundings	1
(b)(i)	A shiny grey solid is formed / A colourless solution turns blue.	1
(ii)	Silver metal is formed / Copper(II) ions formed.	1
(iii)	Copper Oxidation number increase from 0 to +2	2

No.	Answer	Mark
(c)(i)	Num. of mole = $\frac{0.5 \times 100}{1000} / 0.05 \text{ mol.}$ Heat energy released = $0.05 \times 105 \text{ kJ} / 5.25 \text{ kJ} / 5250 \text{ J}$	2
(ii)	$\theta = \frac{5250}{100 \times 4.2} / 12.5 \text{ }^\circ\text{C}$	1
(d)	 <p>1. Axis with label energy and two level, 2. Correct position of reactants and products, 3. $\Delta H = -105 \text{ kJmol}^{-1}$</p>	1 1 1 3
TOTAL		11

No.	Answer	Mark
7 a (i)	 <p>[Draw and label]</p> <p>[Able to describe the atom Carbon-14]</p> <ul style="list-style-type: none"> • Has nucleus at the centre of the atom • nucleus contains 6 proton and 8 neutron • has 2 shell occupied electron • 4 valence electrons 	1 1 1 1 1 <i>Max</i> <i>4</i>

No.	Answer	Mark		
(ii)	Carbon-12// Carbon-13	1		
	6 // 7	1		
	$\begin{array}{ccc} 12 & & 13 \\ & C & // & C \\ 6 & & & 6 \end{array}$	1		
	3		
(b)(i)	P	1		
	Boiling point P higher than melting point naphthalene	1		
(ii)	Naphthalene is flammable	1		
	3		
(c)	At time $t_1 - t_2$	At time $t_2 - t_3$	At time $t_3 - t_4$	Mark
	Naphthalene is in liquid state	In liquid and solid state	In solid state	1 + 1+ 1
	The molecules are closely pack	The molecules are closely pack	The molecules are closely pack	1
	The molecules not in orderly arrangement	Some molecules are in orderly arrangement but some are not in orderly arrangement.	The molecules are in orderly arrangement	1 + 1+ 1
	The kinetic energy decrease	The kinetic energy is constant	The kinetic energy decrease	1 + 1+ 1
	TOTAL			

No	Answer	Sub Mark	Mark
8(a)(i)	Solvent X : Water / H ₂ O Solvent Y : Propanone / Methyl benzene / [any organic solvent]	1 1	2
(ii)	<ol style="list-style-type: none"> Hydrochloric in solvent X / water reacts with copper(II) oxide Hydrochloric in solvent Y / propanone does not reacts with copper(II) oxide Acid only shows its acidic properties when dissolve in water In the present of water, hydrochloric acid ionize to form H⁺ ion The H⁺ ion causes the hydrochloric acid reacts with copper(II) oxide // $H^+ + CuO \rightarrow Cu^{2+} + H_2O$ Produce copper(II) chloride / Cu²⁺ ion In propanone, hydrochloric acid exist as molecule // In propanone, H⁺ ion is not present 	1 1 1 1 1 1 1 1	8
(iii)	<ol style="list-style-type: none"> Neutralisation Correct formulae of reactant and product Balanced equation $CuO + 2HCl \rightarrow CuCl_2 + H_2O$ Number of mole of HCl = $\frac{1 \times 50}{1000}$ // 0.05 Number of mole of CuO = $\frac{0.05}{2}$ // 0.025 mol Mass of CuO = 0.025 X (64 + 16) g // 2.5 g 	1 1 1 1 1 1	6
(b)	<ol style="list-style-type: none"> Sodium hydroxide is a strong alkali // Sodium hydroxide ionises completely in water Ammonia is a weak alkali // ammonia ionises partially in water The concentration of hydroxide ions in sodium hydroxide is higher than in ammonia solution. When the concentration of hydroxide ion is higher, the pH value is higher 	1 1 1 1	4
TOTAL		20	

No	Answer	Sub Mark	Mark									
10(a)	Acidic gases released in industries dissolved in rain water / water vapour to form electrolyte which increases the rate of rusting	1 1	2									
(b)	<p>1. Reaction I is not a redox reaction</p> <p>2. No change in oxidation number for all elements before and after the reaction. //</p> $\text{HCl} + \text{NaOH} \rightarrow \text{H}_2\text{O} + \text{NaCl}$ <p>Oxidation No. +1-1 +1-2 +1 +1 -2 +1 -1</p> <p>3. Reaction II is a redox reaction</p> <p>4. Oxidation numbers of magnesium increases (from 0 to +2) and copper decreases (from +1 to 0) //</p> $\text{Mg (s)} + \text{CuSO}_4 \text{ (aq)} \rightarrow \text{MgSO}_4 + \text{Cu}$ <p>Oxidation No. 0 +2 +2 0</p>	1 1 1 1	4									
(c)	<table border="1"> <thead> <tr> <th>Step</th> <th>Chemicals used</th> <th>Observation</th> </tr> </thead> <tbody> <tr> <td>I</td> <td>Any suitable oxidising agent / e.g : Copper(II) sulphate solution</td> <td>Correct corresponding observation / Blue solution of Copper(II) sulphate solution becomes paler or colourless.</td> </tr> <tr> <td>II</td> <td>Any suitable reducing agent / e.g : zinc powder</td> <td>Correct corresponding observation / zinc powder dissolves // brown colour of iron(III) ions becomes pale green.</td> </tr> </tbody> </table>	Step	Chemicals used	Observation	I	Any suitable oxidising agent / e.g : Copper(II) sulphate solution	Correct corresponding observation / Blue solution of Copper(II) sulphate solution becomes paler or colourless.	II	Any suitable reducing agent / e.g : zinc powder	Correct corresponding observation / zinc powder dissolves // brown colour of iron(III) ions becomes pale green.	1+1 1+1	4
Step	Chemicals used	Observation										
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II	Any suitable reducing agent / e.g : zinc powder	Correct corresponding observation / zinc powder dissolves // brown colour of iron(III) ions becomes pale green.										

(d)	<u>Sample answer</u>		
	▶ <u>Labeled diagram</u> :	1	
	1. Functional apparatus		
	2. Label (consists of one reducing agent and one oxidizing agent in solution form separated by a salt bridge)	1	
		1	
	<u>Sample answer</u>	1	
	▶ <u>Procedure</u> :	1	
	3. Filled the “U-tube” with dilute H ₂ SO ₄ until 5 cm from the mouth of each arm	1	
	4. Add potassium iodide solution carefully to one arm and bromine water to another arm until 3 cm height	1	
	5. Immersed the carbon electrodes to each arm and connect to the galvanometer using connecting wire.	1	
6. Record the observation.			
▶ <u>Half-equations involved</u> :	1		
7. Electrode in KI/ Anode : $2 I^- \rightarrow I_2 + 2e$			
8. Electrode in Br ₂ / Cathode : $Br_2 + 2e \rightarrow 2 Br^-$	1	10	
▶ <u>Observation</u> :			
9. Electrode in KI/ Anode : colourless solution of KI becomes brown			
10. Electrode in Br ₂ / Cathode : Brown colour of bromine becomes colourless.			
	TOTAL	20	

END OF MARKING SCHEME

MARKING SCHEME
4541/3 CHEMISTRY
Paper 3

Question	Rubric	Score						
1(a)	Able to state all observations correctly. Sample answer:	3						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Experiment</th> <th style="text-align: center;">Observation at anode</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">I</td> <td>Bubbles of gas released//effervescence occurs</td> </tr> <tr> <td style="text-align: center;">II</td> <td>Copper / anode becomes thinner/ dissolved/ smaller.</td> </tr> </tbody> </table>		Experiment	Observation at anode	I	Bubbles of gas released//effervescence occurs	II	Copper / anode becomes thinner/ dissolved/ smaller.
	Experiment		Observation at anode					
	I	Bubbles of gas released//effervescence occurs						
	II	Copper / anode becomes thinner/ dissolved/ smaller.						
Able to state one observation correctly	2							
Able to state an idea of observation. Sample answer: Experiment I : air bubbles Experiment II : Size decreases	1							
No response or wrong response	0							

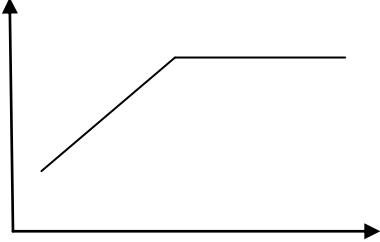
Question	Rubric	Score
1(b)	Able to state the inference correctly based on observation. Sample answer: Copper (II) ion / Cu^{2+} produced // Copper ionises // Copper released electron // Copper is oxidised.	3
	Able to state the inference incorrectly Sample answer: Atom changed to ion.	2
	Able to state an idea of inference Sample answer: Copper changed // ion discharged	1
	No response or wrong response	0

Question	Rubric	Score
1(c)	Able to give the hypothesis accurately <u>Sample answer:</u> When copper electrodes are used instead of carbon electrodes, the types of products formed at the electrodes are different// Different electrode/anode produces different products.	3
	Able to give the hypothesis almost accurately <u>Sample answer:</u> Different products produce when different electrode/anode is used.	2
	Able to state an idea of hypothesis <u>Sample answer:</u> Different cells give different products// Electrode change/ affect/ influence product	1
	No response or wrong response	0

Question	Rubric	Score
1(d)	Able to state the three variables correctly <u>Sample answer:</u> Manipulated variable : Type of electrode/anode // copper and carbon Responding variable : Product at the anode // Product of electrolysis Constant variable : Copper(II) sulphate//CuSO ₄ // Electrolyte// Concentration of electrolyte r: Volume	3
	Able to state any two variables correctly	2
	Able to state any one variable correctly	1
	No response or wrong response	0

Question	Rubric	Score
1(e)	Able to predict the product correctly <u>Sample answer:</u> Chlorine gas/ Cl ₂	3
	Able to predict the product less accurately <u>Sample answer:</u> Halogen gas	2
	Able to state an idea of product. <u>Sample answer:</u> Greenish-yellow gas // Bubbles of gas// oxygen	1
	No response given / wrong response	0

Question	Rubric	Score															
2(a)	Able to measure all the height of precipitate accurately with one decimal places . <u>Answer:</u>	3															
	<table border="1"> <thead> <tr> <th>Test tube</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> </tr> </thead> <tbody> <tr> <td>Height of precipitate</td> <td>0.5 [0.4-0.6]</td> <td>0.9 [0.8-1.0]</td> <td>1.3 [1.2-1.4]</td> <td>1.6 [1.5-1.7]</td> <td>2.0 [1.9-2.1]</td> <td>2.0 [1.9-2.1]</td> <td>2.0 [1.9-2.1]</td> </tr> </tbody> </table>		Test tube	1	2	3	4	5	6	7	Height of precipitate	0.5 [0.4-0.6]	0.9 [0.8-1.0]	1.3 [1.2-1.4]	1.6 [1.5-1.7]	2.0 [1.9-2.1]	2.0 [1.9-2.1]
	Test tube	1	2	3	4	5	6	7									
	Height of precipitate	0.5 [0.4-0.6]	0.9 [0.8-1.0]	1.3 [1.2-1.4]	1.6 [1.5-1.7]	2.0 [1.9-2.1]	2.0 [1.9-2.1]	2.0 [1.9-2.1]									
	Able to write any 5 readings accurately // All readings correctly but without decimal places.	2															
Able to write any 3 readings correctly.	1																
No response given / wrong response	0																

Question	Rubric	Score
2(b)	<p>Able to draw the graph correctly</p> <p>i. Axis x : volume of barium chloride / cm³ and axis y : height of precipitate/ cm</p> <p>ii. Consistent scale and the graph half of graph paper</p> <p>iii. All the points are transferred correctly</p> <p>iv. Correct curve</p> 	3
	<p>Able to draw the graph incorrectly</p> <p>i. Axis x : volume of barium chloride and axis y : height of precipitate // Inverse axes</p> <p>ii. Consistent scale</p> <p>iii. About 5 points are transferred correctly</p> <p>iv. Correct curve</p>	2
	<p>Able to state an idea to draw the graph</p> <p>i. Draw the axis x and axis y</p> <p>ii. Inccorrect curve.</p>	1
	No response or wrong response	0

Question	Rubric	Score
2(c)	Able to state the volume and calculate the number of mol correctly <u>Answer:</u> 1. 5 cm^3 2. No. of mole = $\frac{0.5 \times 5}{1000}$ // 0.0025 mol	3
	Able to state the volume correctly or calculate the number of mol correctly <u>Sample answer:</u> 5 cm^3 // $\frac{0.5 \times 5}{1000}$ // 0.0025 mol	2
	Able to state an idea to calculate <u>Sample answer:</u> $5 // 0.5 \times 5$	1
	No response or wrong response	0

Question	Rubric	Score
2(d)	Able to write the ionic equation correctly. <u>Sample answer:</u> $\text{Ba}^{2+} + \text{CrO}_4^{2-} \rightarrow \text{BaCrO}_4$	3
	Able to write the ionic equation incorrectly. <u>Sample answer:</u> $\text{Ba}^{2+} + \text{CrO}_4^{2-} // \text{BaCrO}_4 // \text{Ba}^+ + \text{CrO}_4^- \rightarrow \text{BaCrO}_4$	2
	Able to state an idea of writing equation. <u>Sample answer:</u> $\text{BaCl}_2 + \text{K}_2\text{CrO}_4 \rightarrow \text{BaCrO}_4 + 2\text{KCl}$	1
	No response or wrong response	0

Question	Rubric	Score
2(e)	Able to give the meaning of the precipitation reaction correctly. <u>Sample answer:</u> Yellow precipitate is formed when barium chloride solution reacts with potassium chromate (VI) solution.	3
	Able to give the meaning of the rate of reaction less accurately. <u>Sample answer:</u> Yellow precipitate is formed	2
	Able to give an idea of the rate of reaction. <u>Sample answer:</u> Double decomposition reaction	1
	No response given / wrong response	0

Question	Rubric	Score				
2(f)	Able to classify all the salts correctly <u>Sample answer:</u> <table border="1" data-bbox="323 947 1138 1102"> <thead> <tr> <th>Soluble salts</th> <th>Insoluble salts</th> </tr> </thead> <tbody> <tr> <td>Sodium carbonate, Na₂CO₃ Magnesium nitrate, Mg(NO₃)₂</td> <td>Lead(II)sulphate, PbSO₄ Silver chloride, AgCl</td> </tr> </tbody> </table>	Soluble salts	Insoluble salts	Sodium carbonate, Na ₂ CO ₃ Magnesium nitrate, Mg(NO ₃) ₂	Lead(II)sulphate, PbSO ₄ Silver chloride, AgCl	3
	Soluble salts	Insoluble salts				
	Sodium carbonate, Na ₂ CO ₃ Magnesium nitrate, Mg(NO ₃) ₂	Lead(II)sulphate, PbSO ₄ Silver chloride, AgCl				
	Able to classify any three salts correctly	2				
Able to classify any two salts correctly or give opposite answers <u>Sample answer:</u> <table border="1" data-bbox="323 1341 1162 1497"> <thead> <tr> <th>Insoluble salts</th> <th>Soluble salts</th> </tr> </thead> <tbody> <tr> <td>Sodium carbonate, Na₂CO₃ Magnesium nitrate, Mg(NO₃)₂</td> <td>Lead(II)sulphate, PbSO₄ Silver chloride, AgCl</td> </tr> </tbody> </table>	Insoluble salts	Soluble salts	Sodium carbonate, Na ₂ CO ₃ Magnesium nitrate, Mg(NO ₃) ₂	Lead(II)sulphate, PbSO ₄ Silver chloride, AgCl	1	
Insoluble salts	Soluble salts					
Sodium carbonate, Na ₂ CO ₃ Magnesium nitrate, Mg(NO ₃) ₂	Lead(II)sulphate, PbSO ₄ Silver chloride, AgCl					
No response given / wrong response	0					

Question	Rubric	Score
3 (a)	Able to give the aim of the experiment correctly. <u>Sample answer</u> : To compare the heat of combustion of different alcohols/(methanol, ethanol, propan-1-ol)	2
	Able to give a relevant idea with the problem statement or aim of the experiment. <u>Sample answer</u> : To determine heat release when alcohols is burn// Does alcohol with a higher number of carbon atoms per molecule have a higher heat of combustion?// Does combustion release different quantity of heat?	1
	No response or wrong response	0

Question	Rubric	Score
3(b)	Able to state all variables correctly. <u>Sample answer</u> : Manipulated variable :Different type of alcohols// type of alcohols//methanol, ethanol, propan-1-ol Responding variable :Heat of combustion Controlled variable :Volume of water// copper can// thermometer	3
	Able to state any two variables above correctly.	2
	Able to state any one variable above correctly.	1
	No response or wrong response	0

Question	Rubric	Score
3(c)	Able to give the hypothesis of the experiment accurately. <u>Sample answer :</u> The higher the number of carbon atoms in the alcohol molecules, the higher the heat of combustion	3
	Able to give the hypothesis of the experiment correctly. <u>Sample answer :</u> The heat of combustion increases when the number of carbon per molecule of alcohol increases// Different types of alcohols have different heat of combustion// The larger the size of alcohols molecule, the higher the heat of combustion//when the molar mass of alcohol increases the heat of combustion increases.	2
	Able to give a relevant idea with the hypothesis of the experiment . <u>Sample answer :</u> Size/molar mass of alcohol molecule affect the heat of combustion. Number of carbon atom in alcohol affect the heat released in combustion// Alcohols have different heat of combustion.	1
	No response or wrong response	0

Question	Rubric	Score
3(d)	Able to give the list of the materials and apparatus correctly and completely <u>sample answer:</u> Material: methanol, ethanol, propan-1-ol, water Apparatus :Copper can, tripod stand, thermometer, measuring cylinder, spirit lamp, weighing balance, wooden block, wind shield.	3
	Able to list out all he materials and the apparatus correctly but not completely <u>Sample answer :</u> methanol, ethanol, propan-1-ol, water Copper can, thermometer, spirit lamp, weighing balance.	2
	Able to give an idea about the list of the materials and the apparatus. <u>Sample answer :</u> Thermometer and any one substance	1
	No response or wrong response	0

Question	Rubric	Score
3(e)	Able to state all procedures correctly <u>Sample answer :</u> 1. [100 – 250] cm ³ of water is measured and pour into a copper can. 2. The initial temperature of water is recorded. 3. The copper can is placed on a tripod stand. 4. A spirit lamp is filled with methanol and the initial mass is weighted and recorded. 5. The spirit lamp is put under the copper can and the wick of the lamp is lighted immediately. 6. The water is stirred with the thermometer until the temperature rises about 30°C. 7. The flame is put off and the highest temperature is recorded. 8. The spirit lamp and its content is weighed immediately and the final mass is recorded 9. Steps 1 to 8 are repeated using ethanol and propan-1-ol to replace methanol	3
	Able to list down steps 1,2, 4,5,7,8 and 9	2
	Able to list down steps 2, 5 and 7	1
	No response or wrong response	0

Question	Rubric					Score
3(f)	Able to tabulate the data with the following aspects: (i) Correct titles (ii) Correct unit (iii) Complete list of alcohols					3
	Types of alcohols	Initial temperature/°C	Highest temperature/°C	Initial mass of spirit lamp/g	Final mass of spirit lamp/g	
	Methanol					
	Ethanol					
	Propan-1-ol					

Able to tabulate the data with the following aspects: (i) Correct titles (ii) Complete list of alcohols					2
<u>Sample answer:</u>					
Types of alcohols	Initial temperature	Highest temperature	Initial mass of spirit lamp	Final mass of spirit lamp	
Methanol					
Ethanol					1
Propan-1-ol					
Able to exhibit the tabulation of data less accurately					
<u>Sample answer:</u>					
Types of alcohols	Initial temperature	Highest temperature			
Methanol					
Ethanol					
No response or wrong response .					0

END OF MARKING SCHEME