PERATURAN PEMARKAHAN MODUL KIMIA KERTAS 3 MPSM 2018

<table>
<tr><th>Qn No.</th><th></th><th>Score</th></tr>
<tr><td rowspan="4">1(a)</td><td>Able to record all the lengths accurately to one decimal place.

<u>Answer:</u>

Rubber strip A: Before – 4.1, After – 5.8 Rubber strip B: Before – 4.1, After – 4.1 //
Jalur getah A : Sebelum – 4.1, Selepas – 5.8 Jalur getah B : Sebelum – 4.1, Selepas – 4.1</td><td>3</td></tr>
<tr><td>Able to record all the lengths correctly.

<u>Sample asnwer</u>:

1. Rubber strip A: Before – 4.10, After – 5.8 Rubber strip B: Before – 4.10, After – 4.1 //
Jalur getah A : Sebelum – 4.10, Selepas – 5.8 Jalur getah B : Sebelum – 4.10, Selepas – 4.1

2. Rubber strip A: Before – 4.1 After – 5.8 Rubber strip B: Before – 4.10, After – 4.1 //
Jalur getah A : Sebelum – 4.1, Selepas – 5.8 Jalur getah B : Sebelum – 4.10, Selepas – 4.1</td><td>2</td></tr>
<tr><td>Able to record at least two lengths correctly.</td><td>1</td></tr>
<tr><td>Wrong response or no response</td><td>0</td></tr>
<tr><td rowspan="4">(b)</td><td>Able to construct a table that consists of

1. Manipulated variable
2. Length before weight is hung (with unit)
3. Length after weight is removed (with unit)

<u>Sample answer</u>:

<table>
<tr><th>Type of rubber
Jenis getah</th><th>Length before weight is hung (cm)
Panjang sebelum pemberat digantung(cm)</th><th>Length after weight is removed(cm)
Panjang selepas pemberat dialihkan (cm)</th></tr>
<tr><td>Rubber strip B
Jalur getah B</td><td>4.1</td><td>4.1</td></tr>
<tr><td>Rubber strip A
Jalur getah A</td><td>4.1</td><td>5.8</td></tr>
</table></td><td>3</td></tr>
<tr><td>Able to construct a table that consists of

1. Manipulated variable
2. Length before weight is hung or length after weight is removed

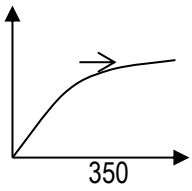
<u>Sample answer</u>:

1.
<table>
<tr><th>Type of rubber
Jenis getah</th><th>Length before weight is hung (cm)
Panjang sebelum pemberat digantung(cm)</th></tr>
<tr><td>Rubber strip B
Jalur getah B</td><td>4.10</td></tr>
<tr><td>Rubber strip A
Jalur getah A</td><td>4.1</td></tr>
</table></td><td>2</td></tr>
<tr><td>Able to give an idea of tabulation of data

<u>Sample answer:</u>
<table>
<tr><td>B</td><td>4.1</td></tr>
<tr><td>A</td><td>5.80</td></tr>
</table></td><td>1</td></tr>
<tr><td>Wrong response or no response</td><td>0</td></tr>
</table>

(c)	***Able to state all the variables correctly*** Sample answers: **Manipulated variable:** Type of rubber // Rubber strip A and rubber strip B // Vulcanised and unvulcanised rubber // *Jenis getah // Jalur getah A dan jalur getah B // Getah tervulkan dan getah tak tervulkan* **Responding variable :** Elasticity of rubber strip // Extension of rubber strip *Kekenyalan jalur getah // Pemanjangan jalur getah* **Constant variable :** Size of rubber strip // weight // *Saiz jalur getah // pemberat*	**3**
	Able to state any two variables correctly or one variable correctly and idea of two other variables	**2**
	Able to state any one variable correctly or give an idea of any two variables	**1**
	Wrong response or no response	**0**
(d)	***Able to state a relationship between the manipulated variable and the responding variable and with direction*** Sample answers: 1. Rubber strip A is more / less elastic than rubber strip B // *Jalur getah A lebih / kurang kenyal dari jalur getah B.* 2. Rubber strip A produces longer / shorter extension than rubber strip B // *Jalur getah A menghasilkan pemanjangan yang lebih / kurang dari jalur getah B.*	**3**
	Able to state a less clear relationship between the manipulated variable and the responding variable Sample answers: 1. Rubber strip A and rubber strip B have different elasticity // *Jalur getah A dan jalur getah B mempunyai kekenyalan yang berbeza.* 2. Rubber strip A and rubber strip B produce different extension // *Jalur getah A dan jalur getah B menghasilkan pemanjangan yang berbeza.*	**2**
	Able to state an idea of hypothesis Sample answers: 1. Rubber strip A / B is elastic / (less elastic) // *Jalur getah A / B adalah kenyal / (kurang kenyal).* 2. Rubber strip A / B produces extension // *Jalur getah A / B menghasilkan pemanjangan.*	**1**
	Wrong response or no response	**0**
(e)(i)	***Able to state the correct observation*** Sample answer: 1. Rubber strip A is longer // *Jalur getah A lebih panjang.*	**3**
	Able to state the correct observation less correctly. Sample answer: 1. Rubber strip A is long // *Jalur getah A adalah panjang.*	**2**

	Able to give an idea of the observation Sample answer: 1. A long rubber is obtained // *Getah panjang diperolehi.*	**1**
	Wrong response or no response	**0**
e(ii)	***Able to state the inference correctly*** Sample answer: 1. Rubber strip A is less elastic // *Jalur getah A kurang kenyal.*	**3**
	Able to state the inference less correctly Sample answer: 1. Rubber strip B is elastic // *Jalur getah B adalah kenyal.*	**2**
	Able to give an idea of the inference Sample answer: 1. Rubber is elastic // *Getah adalah kenyal.*	**1**
	Wrong response or no response	**0**
(f)	***Able to explain the difference in the result of the experiment correctly*** 1. Strong covalent bonds between the rubber molecule chains in rubber strip B. 2. Weak intermolecular attractive forces between rubber molecule chains in rubber strip A. Sample answer: 1. Strong covalent bonds between the molecules in rubber strip B. Weak intermolecular attractive forces between the molecules in rubber strip A // *Ikatan kovalen kuat di antara molekul dalam jalur getah B. Daya tarikan lemah di antara molekul dalam jalur getah A.*	**3**
	Able to explain the difference in the result of the experiment less correctly Sample answers: 1. Stronger attractive forces between the molecules in rubber strip B // *Daya tarikan yang lebih kuat di antara molekul jalur getah B.* 2. Strong covalent bonds between molecules in rubber strip B // *Ikatan kovalen kuat di antara molekul jalur getah B.*	**2**
	Able to give an idea of the difference in the result of the experiment Sample answer: 1. Strong forces in rubber strip // *Daya kuat dalam jalur getah.*	**1**
	Wrong response or no response	**0**
(g)	***Able to state the operational definition for elasticity correctly*** 1. Hang the weight 2. Increase in length of rubber strip Sample answer: 1. The increase in length of rubber strip when a weight is hung at one end of the rubber strip // *Penambahan panjang jalur getah apabila satu pemberat digantung pada satu hujung jalur getah.*	**3**

	Able to state the operational definition for elasticity less correctly 1. Hang the weight *or* 2. Increase in length of rubber strip Sample answers: 1. Length of rubber strip increases. // *Panjang jalur getah bertambah* 2. Rubber strip changes after a weight is hung on one end // *Jalur getah berubah setelah suatu pemberat digantung pada satu hujung*	**2**
	Able to state the idea of operational definition for elasticity Sample answer: 1. Rubber changes // *Getah berubah*	**1**
	Wrong response or no response	**0**
(h)	***Able to show on the graph the length of vulcanised rubber and state the length correctly and with unit*** Answer: 1. [Correct horizontal line to the length axis] and [280 – 290] mm // [*Garis mengufuk yang betul kepada paksi panjang*] *dan* [*280 – 290*] mm	**3**
	Able to show on the graph the length of vulcanised rubber or state the length correctly Answer: 1. [Correct horizontal line to the length axis] or [275 – 295] mm // [*Garis mengufuk yang betul kepada paksi panjang*] *atau* [*275 – 295*] *mm*	**2**
	Able to show less correctly on the graph the length of vulcanised rubber or state the length less correctly Sample answers: 1. More than 275 // *Lebih daripada 275* 2. 	**1**
	Wrong response or no response	**0**
(i)	***Able to state a correct relationship between the mass of weight hung and the extension produced*** Sample answer: 1. The higher the mass of weight hung until a certain mass, the larger the extension // *Semakin tinggi jisim pemberat digantung sehingga suatu jisim, semakin besar pemanjangan* 2. The extension is larger when the mass of weight hung increases until a certain mass // *Pemanjangan lebih besar apabila jisim pemberat digantung bertambah sehingga suatu jisim*	**3**
	Able to state a less correct relationship between the mass of weight hung and the extension produced Sample answer: 1. The higher the mass of weight hung, the extension changes // *Semakin tinggi jisim pemberat digantung pemanjangan berubah* 2. The extension is larger when the weight changes // *Pemanjangan lebih besar apabila pemberat berubah*	**2**

<table>
<tr><td></td><td>Able to give an idea of the relationship between the mass of weight hung and the extension produced
Sample answer:
1. More mass of weight changes the extension //
Lebih banyak jisim pemberat mengubah pemanjangan</td><td>1</td></tr>
<tr><td></td><td>Wrong response or no response</td><td>0</td></tr>
<tr><td>(j)</td><td>Able to classify all the substances correctly
Sample answer
<table><tr><th>Can coagulate latex
Dapat menggumpal lateks</th><th>Cannot coagulate latex
Tidak dapat menggumpal lateks</th></tr><tr><td>Vinegar
Cuka</td><td>Ammonia solution
Larutan ammonial</td></tr><tr><td>Citric acid
Asid sitrik</td><td></td></tr><tr><td>Propanoic acid
Asid propanoik</td><td></td></tr></table></td><td>3</td></tr>
<tr><td></td><td>Able to classify any 3 substances correctly</td><td>2</td></tr>
<tr><td></td><td>Able to classify any two substances correctly</td><td>1</td></tr>
<tr><td></td><td>Wrong response or no response</td><td>0</td></tr>
</table>

2(a)	***Able to state the problem statement correctly*** Sample answers: 1. How is the electrical conductivity of a molten ionic compound and a molten covalent compound? // *Bagaimanakah kekonduksian elektrik suatu leburan sebatian ion dan suatu leburan sebatian kovalen?* 2. What is the electrical conductivity of molten lead (II) bromide and molten acetamide? // *Apakah kekonduksian elektrik leburan plumbum (II) bromida dan leburan asetamida?*	**3**
	Able to state the problem statement less correctly Sample answers: 1. How is the electrical conductivity of an ionic compound and a covalent compound? // *Bagaimanakah kekonduksian elektrik suatu sebatian ion dan suatu sebatian kovalen?* 2. How is the electrical conductivity in compounds? // *Bagaimanakah kekonduksian elektrik dalam sebatian-sebatian?*	**2**
	Able to to give an idea of problem statement Sample answers: 1. How is the electrical conductivity? // *Bagaimanakah kekonduksian elektrik?* 2. Can (lead(II) bromide) / (acetamide) conduct electricity? // *Dapatkah (plumbum(II) bromida mengkonduksi elektrik?*	**1**
	Wrong response or no response	**0**
(b)	***Able to state all the variables correctly*** Sample answers: **Manipulated variable:** Type of compound // Lead(II) bromide and acetamide // *Jenis sebatian // Plumbum (II) bromida dan asetamida* **Responding variable :** Electrical conductivity // Deflection of ammeter needle // *Kekonduksian elektrik // Pemesongan jarum ammeter* **Fixed variable :** Type of electrode // Carbon electrode // *Jenis elektrod // Elektrod karbon*	**3**
	Able to state any two variables correctly or one variable correctly and idea of two other variables	**2**
	Able to state any one variable correctly or idea of all variables	**1**
	Wrong response or no response	**0**
(c)	***Able to state a clear relationship between the manipulated variable and the responding variable*** Sample answer: 3. Molten ionic compound (conducts) / (cannot conduct) electricity. Molten covalent compound (conducts) / (cannot conduct) electricity // *Leburan sebatian ion (mengkonduksi) / (tidak mengkonduksi) elektrik. Leburan sebatian kovalen (mengkonduksi) / (tidak mengkonduksi) elektrik* 4. Molten lead (II) bromide (conducts) / (cannot conduct) electricity. Molten acetamide (conducts) / (cannot conduct) electricity // *Leburan plumbum (II) bromida (mengkonduksi) / (tidak mengkonduksi) elektrik. Leburan asetamida (mengkonduksi) / (tidak mengkonduksi) elektrik*	**3**

	Able to state a less clear relationship between the manipulated variable and the responding variable Sample answer: 3. Ionic compound (conducts) / (cannot conduct) electricity. Covalent compound (conducts) / (cannot conduct) electricity // *Sebatian ion (mengkonduksi) / (tidak mengkonduksi) elektrik. Sebatian kovalen (mengkonduksi) / (tidak mengkonduksi) elektrik*	**2**
	Able to state an idea of hypothesis Sample answer 3. Some compounds conduct electricity. *Sesetengah sebatian mengkonduksi elektrik.*	**1**
	Wrong response or no response	**0**
(d)	***Able to list all the materials and apparatus*** Sample answer: **Materials** 1. Lead (II) bromide / *Plumbum (II) bromida* 2. Acetamide / *Asetamida* 3. Carbon rods // *Rod-rod karbon* **Apparatus** 1. Crucible / *Mangkuk pijar* 2 Spatula / *Spatula* 3. Tripod stand // *Tungku kaki tiga* 4. Connecting wires / *Wayar penyambung* 5. Ammeter / *Ammeter* 6. Pipe clay triangle // *Alas segitiga* 7. Bunsen burner / *Penunu Bunsen*	**3**
	Able to list the following materials and apparatus Sample answers: **Materials** 1. (Lead (II) bromide) / Acetamide / *(Plumbum (II) bromida) / Asetamida* 2. Carbon rods / *Rod karbon* **Apparatus** 1. [Any container] / *[Sebarang bekas]* 2. Ammeter / *Ammeter* 3. Bunsen burner / *Penunu Bunsen*	**2**
	Able to list the following materials and apparatus Sample answers: **Materials** 1. (Lead (II) bromide) / Acetamide / *(Plumbum (II) bromida) / Asetamida* **Apparatus** 1. [Any container] / *[Sebarang bekas]* 2. Ammeter / Bunsen Burner / *Ammeter / Penunu Bunsen*	**1**
	Wrong response or no response	**0**

<table>
<tr><td>(e)</td><td>Able to state all the steps in the procedure correctly.
Sample answer:
1. Put lead (II) bromide powder into a crucible until two thirds full //
Masukkan serbuk plumbum (II) bromida ke dalam mangkuk pijar sehingga dua pertiga penuh.
2. Place the electrodes into lead (II) bromide and complete the circuit. //
Letakkan elektrod ke dalam plumbum (II) bromida dan lengkapkan litar.
3. Heat lead (II) bromide until it melts //
Panaskan plumbum (II) bromida sehingga melebur
4. Turn on the switch //
Tutupkan suis
5. Observe the ammeter needle and record //
Perhatikan jarum ammeter dan rekod
6. Repeat the experiment by replacing lead (II) bromide with acetamide //
Ulang eksperimen dengan menggantikan plumbum (II) bromida dengan asetamida
.</td><td>3</td></tr>
<tr><td></td><td>Able to state steps 1 or 2, 3, 5 and 6</td><td>2</td></tr>
<tr><td></td><td>Able to state an idea of procedure for cleaning
Sample answer:
1. Heat (lead (II) bromide) / (acetamide) //
Panaskan (plumbum (II) bromida) / (asetamida)
2. Put (lead (II) bromide) / (acetamide) in a crucible and heat
Letakkan (plumbum (II) bromida) / (asetamida) dalam mangkuk pijar dan panaskan</td><td>1</td></tr>
<tr><td></td><td>Wrong response or no response</td><td>0</td></tr>
<tr><td>(f)</td><td>Able to tabulate the data with the following aspects
1. Correct headings
2. List of both compound
Sample answer:
1.<table><tr><td>Compound
Sebatian</td><td>Observation
Pemerhatian</td></tr><tr><td>Lead (II) bromide
Plumbum (II) bromide</td><td></td></tr><tr><td>Acetamide
Asetamida</td><td></td></tr></table></td><td>2</td></tr>
<tr><td></td><td>Able to tabulate the data with a correct heading or list of water source
Sample answer:
1.<table><tr><td>Acetamide
Asetamida</td><td>Observation
Pemerhatian</td></tr><tr><td></td><td></td></tr></table></td><td>1</td></tr>
<tr><td></td><td>Wrong response or no response</td><td>0</td></tr>
</table>