

PERATURAN PEMARKAHAN
KIMIA KERTAS 3
PEPERIKSAAN PERCUBAAN SPM 2025

Soalan Question	Rubrik Rubric	Markah Marks									
(a)	[Dapat merekod semua pemerhatian dengan betul] <i>[Able to record all observations correctly]</i> Jawapan: <i>Answer:</i> <table> <tr> <th>Larutan / Ujian <i>Solution / Test</i></th><th>Larutan ammonia <i>Ammonia solution</i></th><th>Reagen A <i>Reagent A</i></th></tr> <tr> <td>P nitrat <i>P nitrate</i></td><td>Mendakan putih terbentuk, larut dalam larutan ammonia berlebihan <i>White precipitate formed, soluble in excess ammonia solution</i></td><td>Tiada perubahan <i>No change</i></td></tr> <tr> <td>Q nitrat <i>Q nitrate</i></td><td>Mendakan putih terbentuk, tidak larut dalam larutan ammonia berlebihan <i>White precipitate formed, insoluble in excess ammonia solution</i></td><td>Mendakan kuning terbentuk <i>Yellow precipitate formed</i></td></tr> </table>	Larutan / Ujian <i>Solution / Test</i>	Larutan ammonia <i>Ammonia solution</i>	Reagen A <i>Reagent A</i>	P nitrat <i>P nitrate</i>	Mendakan putih terbentuk, larut dalam larutan ammonia berlebihan <i>White precipitate formed, soluble in excess ammonia solution</i>	Tiada perubahan <i>No change</i>	Q nitrat <i>Q nitrate</i>	Mendakan putih terbentuk, tidak larut dalam larutan ammonia berlebihan <i>White precipitate formed, insoluble in excess ammonia solution</i>	Mendakan kuning terbentuk <i>Yellow precipitate formed</i>	1 + 1 1 + 1
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(b)	[Dapat menulis inferens terhadap pemerhatian bagi ujian kation larutan P nitrat dan larutan Q nitrat dengan betul]										

		[Able to write inference towards observation for cation test of P nitrate solution and Q nitrate solution] Jawapan: Anwer: Larutan P nitrat: Ion zink, Zn²⁺ hadir <i>P nitrate solution: Zinc ion, Zn²⁺ present</i> Larutan Q nitrat: Ion plumbum, Pb²⁺ hadir <i>Q nitrate solution: Ion Pb²⁺ present</i>	1 1
(c)		[Dapat menyatakan definisi secara operasi bagi garam tak terlarutkan dengan betul marangkumi kriteria di bawah: 1. Apa yang dibuat 2. Apa yang diperhatikan] [Able to state operational definition for insoluble salts correctly based on the following criteria: 1. What to do 2. What to observe] Sampel jawapan: Sample answer: Garam tak terlarutkan ialah bahan yang membentuk mendakan kuning apabila Reagen A ditambahkan ke dalam larutan garam Q nitrat. <i>Insoluble salt is a substance that formed yellow precipitate when Reagent A is added into Q nitrate salt solution.</i>	1 1
(d)	(i)	[Dapat menulis persamaan kimia yang seimbang bagi pemanasan pepejal P nitrat dengan betul berdasarkan perkara berikut: 1. Formula bahan dan hasil yang betul 2. Persamaan kimia yang seimbang]	1 1

	[Able to write a balanced chemical equation for heating of solid P nitrate correctly based on the following item: 1. Correct formula of reactants and products 2. Balanced chemical equation Jawapan: <i>Answer:</i> $2 \text{P}(\text{NO}_3)_2 \rightarrow 2 \text{PO} + 4 \text{NO}_2 + \text{O}_2 //$ $2 \text{Zn}(\text{NO}_3)_2 \rightarrow 2 \text{ZnO} + 4 \text{NO}_2 + \text{O}_2$	
(ii)	[Dapat menyatakan nama gas perang yang terbebas dengan betul] [Able to state the name of brown gas formed correctly] Jawapan: <i>Answer:</i> Nitrogen dioksida <i>Nitrogen dioxide</i> Reject: Formula gas	1
(e)	[Dapat menyatakan pemerhatian apabila serbuk P karbonat dilarutkan dalam air dengan betul dan menerangkan sebab bagi pemerhatian dengan betul] [Able to state an observation when P carbonate powder is dissolved in water correctly and explain the reason of the observation correctly] Jawapan: <i>Answer:</i> Pemerhatian: <i>Observation:</i> P karbonat tidak larut dalam air suling // Tiada perubahan <i>P carbonate is insoluble in distilled water // No change</i> Sebab: <i>Reason:</i>	1 1

	P karbonat adalah garam tak terlarutkan <i>P carbonate is insoluble salt</i>							
(f)	[Dapat mengelaskan semua garam kepada garam terlarutkan dan garam tak terlarutkan dengan betul] <i>[Able to classify all salts into soluble salts and insoluble salts correctly]</i> Sampel jawapan: <i>Sample answer:</i> <table><tr><th>Garam terlarutkan <i>Soluble salts</i></th><th>Garam tak terlarutkan <i>Insoluble salts</i></th></tr><tr><td>Aluminium sulfat, $\text{Al}_3(\text{SO}_4)_3$ <i>Aluminium sulphate, $\text{Al}_2(\text{SO}_4)_3$</i></td><td>Magnesium karbonat, MgCO_3 <i>Magnesium carbonate, MgCO_3</i></td></tr><tr><td>Natrium nitrat, NaNO_3 <i>Sodium nitrate, NaNO_3</i></td><td>Plumbum(II) klorida, PbCl_2 <i>Lead(II) chloride, PbCl_2</i></td></tr></table> Semua betul – 2 markah Betul 2 – 1 markah	Garam terlarutkan <i>Soluble salts</i>	Garam tak terlarutkan <i>Insoluble salts</i>	Aluminium sulfat, $\text{Al}_3(\text{SO}_4)_3$ <i>Aluminium sulphate, $\text{Al}_2(\text{SO}_4)_3$</i>	Magnesium karbonat, MgCO_3 <i>Magnesium carbonate, MgCO_3</i>	Natrium nitrat, NaNO_3 <i>Sodium nitrate, NaNO_3</i>	Plumbum(II) klorida, PbCl_2 <i>Lead(II) chloride, PbCl_2</i>	1 1
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