

PERATURAN PEMARKAHAN KERTAS AMALI KIMIA

No		Rubrik				Markah	Jum. Markah								
2.	<table><tr><td>Kepekatan asid hidroklorik, HCl (mol dm⁻³) <i>Concentration of hydrochloric acid, HCl (mol dm⁻³)</i></td><td>0.1</td><td>0.01</td><td>0.00001</td></tr><tr><td>Nilai pH <i>pH Value</i></td><td>1.0</td><td>2.0</td><td>3.0</td></tr></table>					Kepekatan asid hidroklorik, HCl (mol dm ⁻³) <i>Concentration of hydrochloric acid, HCl (mol dm⁻³)</i>	0.1	0.01	0.00001	Nilai pH <i>pH Value</i>	1.0	2.0	3.0	3	3
	Kepekatan asid hidroklorik, HCl (mol dm ⁻³) <i>Concentration of hydrochloric acid, HCl (mol dm⁻³)</i>	0.1	0.01	0.00001											
Nilai pH <i>pH Value</i>	1.0	2.0	3.0												
	(a)	(i)	Dimanipulasikan : Kepekatan asid hidroklorik <i>Manipulated</i>			1	3								
			Bergerak balas : Nilai pH <i>Responding</i> pH value			1									
			Dimalarkan : Isipadu asid hidroklorik <i>Constant</i> <i>Volume of hydrochloric acid</i>			1									
		(ii)	Hipotesis : Semakin tinggi kepekatan ion hidrogen, H ⁺ , semakin rendah nilai pH asid <i>The higher the ion concentration hydrogen, H⁺, the lower acid pH value</i>			1	1								
		(iii)	Definisi secara operasi : <i>Operational definition</i> Apabila kertas pH dicelupkan kedalam asid hidroklorik yang berlainan kepekatan, akan memberikan nilai pH yang berbeza <i>When pH paper is dipped into hydrochloric acid of different concentrations, it will give different pH values</i> (Pembeltulan skema) Kertas pH menunjukkan warna seperti skala pH apabila dicelupkan ke dalam larutan asid yang berbeza kepekatan			1	1								
	(b)	(i)	Kepekatan ion hidrogen, H ⁺ Asid hidroklorik, HCl 0.1 moldm ⁻³ pH = -log [H ⁺] 1.0 = -log [H ⁺] log[H ⁺] = -1.0 [H ⁺] = 10 ⁻¹ = 0.1 Asid hidroklorik, HCl 0.00001 moldm ⁻³			1 1	4								

			$\text{pH} = -\log [\text{H}^+]$ $3.0 = -\log [\text{H}^+]$ $\log[\text{H}^+] = -3.0$ $[\text{H}^+] = 10^{-3}$ $= 0.001$	1 1	
		(ii)	Apabila ion hidrogen, H^+ berkurang, nilai pH bertambah. <i>When hydrogen ions, H^+ decrease, the pH value increases.</i>	1	1
		(iii))	Darjah keasidan larutan akueus berkurang Kepekatan ion hidrogen, H^+ berkurang <i>The degree of acidity of the aqueous solution is reduced</i> <i>The concentration of hydrogen ions, H^+ decreases</i>	1 1	2
				JUMLA H	15