


SKEMA SOALAN PERCUBAAN KERTAS 3 TRIAL JASIN 2019

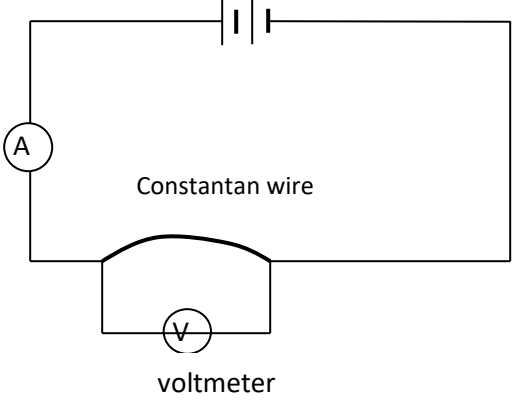
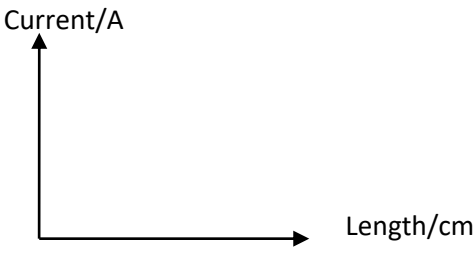
No		Rubric				Mark	Total marks	
1	(a)	(i)	Angle of incidence / sudut tuju				1	1
		(ii)	Angle of refraction / sudut bias				1	1
		(iii)	Refractive index of the glass block / indeks biasan blok kaca				1	1
	(b)	(i)	Diagram	Angle of refraction	Sin i	Sin r	4 correct : 2 marks 3 correct : 1mark	2 2
		(ii)	1.3	13	0.34	0.22		
			1.4	19°	0.50	0.33		
			1.5	25°	0.64	0.42		
			1.6	30°	0.77	0.50		
			1.7	36°	0.87	0.59		
	(c)	Table with 4 columns i , r , sin i , sin r All value transferred correctly All values of sin i and sin r to 2 d.p				1 1 1	3	
	(d)	sin i at the y-axis, sin r at the x-axis ✓ sin i and sin r without any units ✓ uniform scale for both axis ✓ 5 points plotted correctly ✓✓ Best straight line ✓ Size of graph ✓				7 ✓ = 5 marks 5 – 6 ✓ = 4 marks 3-4 ✓ = 3 marks 2 ✓ = 2 marks 1 ✓ = 1 marks	5	
	(e)	sin i is directly proportional to sin r					1	
							16	

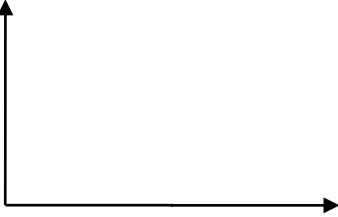
2 (a)	(i) v decrease // v decrease linearly to I	1
	(ii) Show an extrapolation line on graph 1.0 V // 1 V // 1.05 V // (1.00 - 1.1V) (with correct unit)	1 1
	(iii) Electromotive force// e.m.f	1
(b)	(i) Show a big triangle on graph Substitution: $m = \frac{0.6-1.0}{0.6-0.0}$ $m = -0.6667 \Omega @ VA^{-1}$ (Answer with unit) ($-0.66 \geq m \geq -0.67$)	1 1 1
	(ii) $r = 0.6667 \Omega @ VA^{-1}$ (Answer with unit) ($0.66 \leq m \leq 0.67$) *accept error carry forward (ecf) from b (i)	1
(c)	(i) Substitution : $1.0 = V + (0.9)(0.6667)$ Answer : 0.4V (answer with unit) ($0.39 \leq V \leq 0.40$)	1 1
	(ii) $\frac{0.4}{0.9}$ 0.4444 Ω (answer with unit) ($0.44 \leq R \leq 0.444$)	1 1
TOTAL MARK		12

No		Rubric	Mark	Total marks														
3	(a)	The acceleration of snow sledge depends on the number of dogs Pecutan kereta luncur salji bergantung kepada bilangan anjing		1														
	(b)	The bigger the force, the bigger the acceleration Semakin bertambah daya, semakin bertambah pecutan		1														
	(c)	(i) To investigate the relationship between force and acceleration Untuk menyiasat hubungan antara daya (bilangan gelang getah kenyal) dan pecutan		1														
		(ii) Manipulated variable: force / daya/ bilangan gelang getah kenyal Responding variable : acceleration /pecutan troli Constant variable: mass / jisim	1 1	2														
		(iii) Ticker timer,ticker tape, power supply, trolley, 5 identical elastic cord , runway, wooden block, ruler		1														
	(iv)			1														
	(v)	<ul style="list-style-type: none"> - the apparatus is set up as shown in the diagram above - the ticker timer is connected to the 1power supply. The trolley is pull down the runway using 1 elastic cord (1 elastic cord = 1 force, 1 N) - the acceleration of the trolley is calculated by $a = \frac{v-u}{t}$ - the above steps is repeated with 2, 3, 4, and 5 elastic cord 	1 1 1	3														
	(vi)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Force / Number of elastic cord</th> <th style="width: 50%;">Acceleration , a</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Force / Number of elastic cord	Acceleration , a														1
Force / Number of elastic cord	Acceleration , a																	

		(vii)	a / cms^{-2} 		1
					Max 12

4 (a)	Brightness/Current depends on the length of the wire// Brightness of the bulb affected by the length // Length of wire influenced the current/brightness	1
(b)	When the length of the wire increases, the current decreases. When the length of the wire increases, the resistance increases. (Reject: Brightness of the bulb)	1
(c) (i)	To investigate the relationship between the length and the current// To investigate the relationship between the length and resistance of the wire	1
(ii)	Manipulated variable : length of the wire Responding variable : current//resistance	1 1
	Fixed variable : diameter//cross sectional area of wire/temperature//type of wire	1
(iii)	Dry cells, voltmeter, ammeter, conductor wire, switch, metre rule (If current as a responding variable, voltmeter doesn't need in apparatus)	1

(iv)	 <p style="text-align: center;">Constantan wire</p> <p style="text-align: center;">voltmeter</p> <p style="text-align: center;">Ammeter</p>	1												
(v)	Use conductor wire with length of, $l = 10.0\text{cm}$.	1												
	Switch on the circuit. Record the reading of the ammeter // Record the reading of ammeter and voltmeter. Calculate the resistance from $R = V/I$	1												
	Repeat the experiment using length, $l = 20\text{ cm}, 30\text{ cm}, 40\text{ cm}$ and 50 cm . (at least 5 readings)	1												
(vi)	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #cccccc;"> <th style="padding: 5px;">Length/cm</th> <th style="padding: 5px;">Current/ A // Resistance/Ω</th> </tr> </thead> <tbody> <tr><td style="padding: 5px;">10</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;">20</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;">30</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;">40</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;">50</td><td style="padding: 5px;"></td></tr> </tbody> </table>	Length/cm	Current/ A // Resistance/ Ω	10		20		30		40		50		1
Length/cm	Current/ A // Resistance/ Ω													
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40														
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(vii)		1												

	<p>OR</p> <p>Resistance/Ω</p>  <p>Length/cm</p>	
	<p style="text-align: right;">TOTAL</p>	<p style="text-align: center;">12</p>