

NAMA :

TINGKATAN :



**PROGRAM GEMPUR KECEMERLANGAN
SIJIL PELAJARAN MALAYSIA 2015
ANJURAN BERSAMA
MAJLIS PENGETUA SEKOLAH MALAYSIA
NEGERI PERLIS
DAN
MAJLIS GURU CEMERLANG NEGERI PERLIS**

**SIJIL PELAJARAN MALAYSIA 2015****4541/3****KIMIA****Kertas 3****Ogos****1 ½ jam****Satu jam tiga puluh minit****JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU**

1. Tuliskan ***nama*** dan ***tingkatan*** pada ruang yang disediakan.
2. Kertas soalan ini adalah dalam dwibahasa.
3. Soalan dalam bahasa Inggeris mendahului soalan yang sepadan dalam bahasa Melayu.
4. Calon dibenarkan menjawab keseluruhan atau sebahagian soalan sama ada dalam bahasa Inggeris atau bahasa Melayu.

<i>Untuk Kegunaan Pemeriksa</i>		
Soalan	Markah Penuh	Markah Diperoleh
1	33	
2	17	
JUMLAH	50	

Kertas soalan ini mengandungi **10** halaman bercetak termasuk muka depan

INFORMATION FOR CANDIDATES

1. *This question paper consists of **two** questions. Answer **all** questions.*
2. *Write your answers for **Question 1** in the spaces provided in the question paper..*
3. *Show your working. It may help you to get marks.*
4. *If you wish to cancel any answer, neatly cross out the answer.*
5. *The diagrams in the questions are not drawn to scale unless stated.*
6. *Marks allocated for each question or part question are shown in brackets.*
7. *Hand in this question paper at the end of the examination.*

Marks awarded:

Mark	Description
3	Excellent : The best response
2	Satisfactory : An average response
1	Weak : An inaccurate response
0	No response <u>or</u> wrong response

1. Diagram 1.1 shows an experiment to compare the elasticity vulcanized rubber and unvulcanized rubber. 15g of weights were hung on 5cm of rubber strips X and Y. The length of each rubber strip was measured after the weights were removed. The experiment was repeated using 30g and 45 g of weights.

Rajah 1.1 menunjukkan satu experiment untuk membandingkan keanjalan getah tervulkan dan getah tak tervulkan. Pemberat 15 g digantung pada 5 cm jalur getah X dan Y. Panjang setiap jalur getah tersebut diukur selepas pemberat dialihkan. Eksperimen diulangi dengan menggunakan pemberat 30 g dan 45 g.

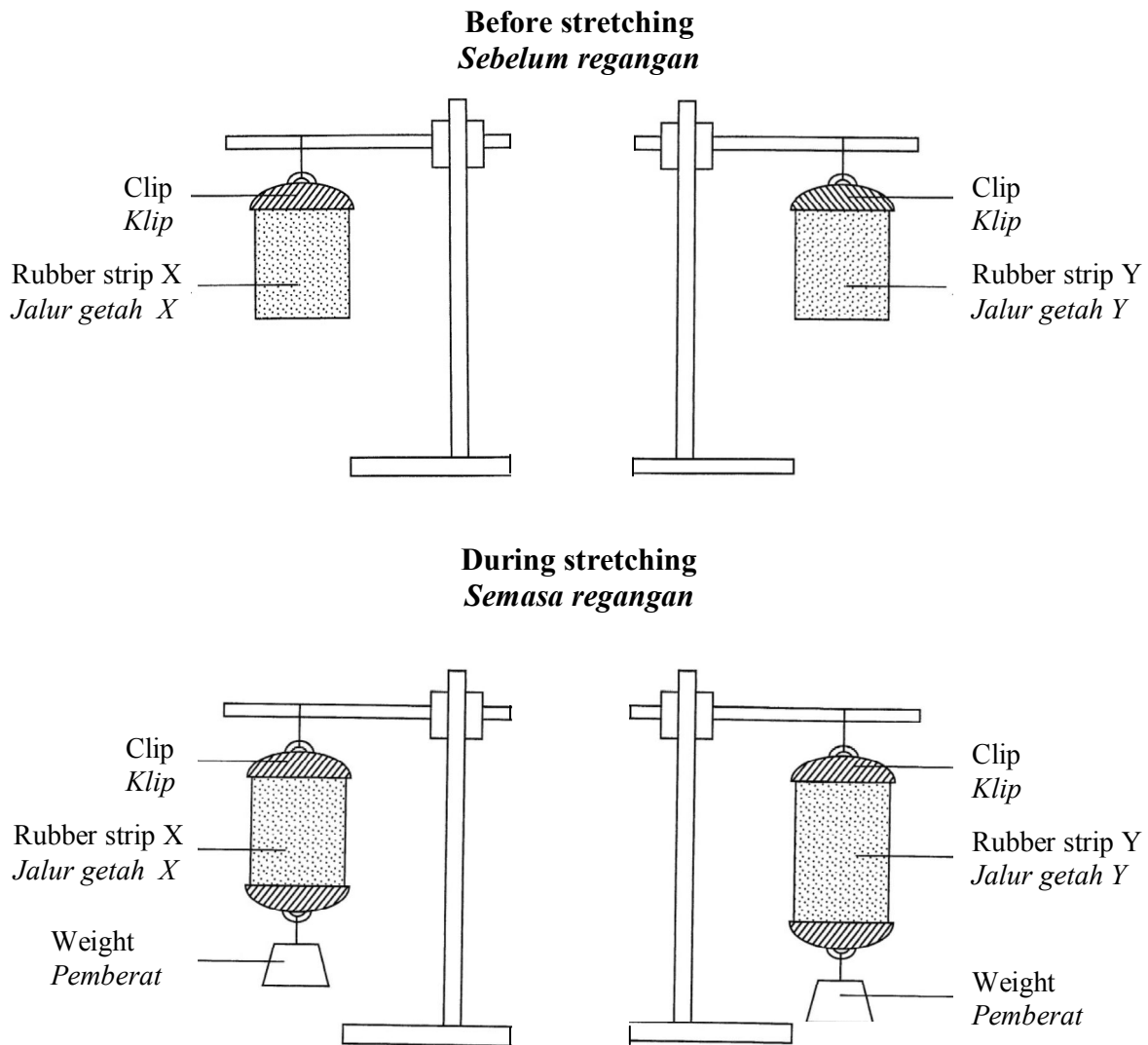


Diagram 1.1
Rajah 1.1

Diagram 1.2 shows the length of rubber strips X before the weights were hung and after the weights were removed.

Rajah 1.2 menunjukkan panjang jalur getah X sebelum pemberat-pemberat digantung dan selepas pemeberat-pemberat dialihkan.

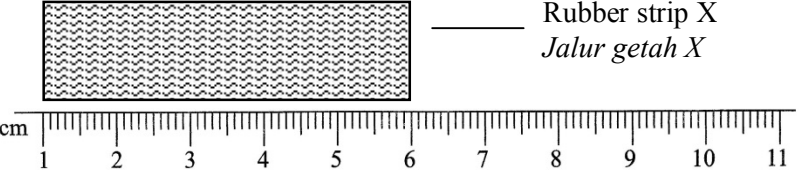
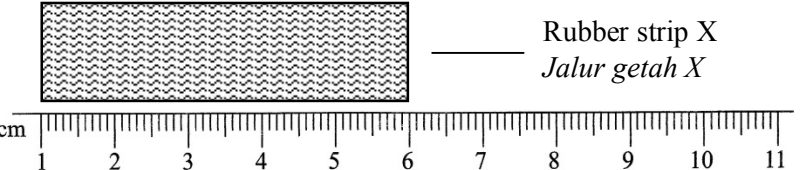
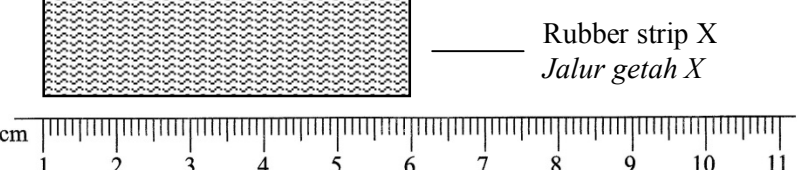
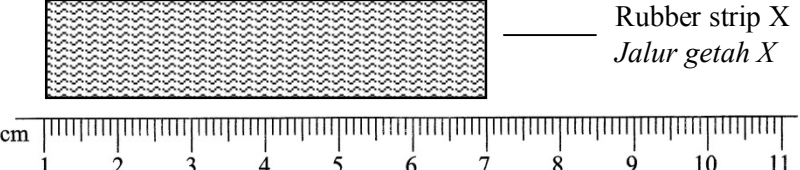
<p>Before experiment <i>Sebelum eksperimen</i></p>  <p>Rubber strip X <i>Jalur getah X</i></p>	<p>Length <i>Panjang:</i> _____ cm</p>
<p>After 15 g of weight was removed <i>Selepas pemberat 15 g dialihkan</i></p>  <p>Rubber strip X <i>Jalur getah X</i></p>	<p>Length <i>Panjang:</i> _____ cm</p>
<p>After 30 g of weight was removed <i>Selepas pemberat 30g dialihkan</i></p>  <p>Rubber strip X <i>Jalur getah X</i></p>	<p>Length <i>Panjang:</i> _____ cm</p>
<p>After 45 g of weight was removed <i>Selepas pemberat 45 g dialihkan</i></p>  <p>Rubber strip X <i>Jalur getah X</i></p>	<p>Length <i>Panjang:</i> _____ cm</p>

Diagram 1.2
Rajah 1.2

Diagram 1.3 shows the length of rubber strips Y before the weights were hung and after the weights were removed.

Rajah 1.3 menunjukkan panjang jalur getah Y sebelum pemberat-pemberat digantung dan selepas pemeberat-pemberat dialihkan.

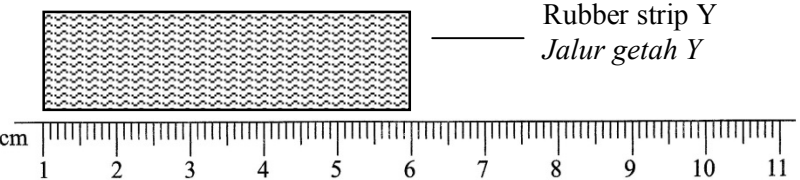
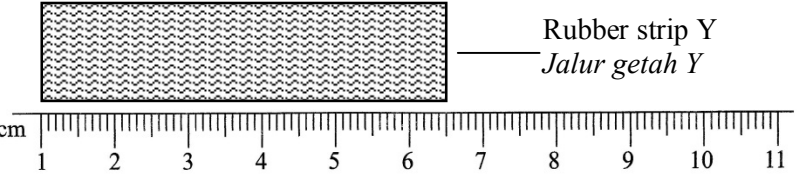
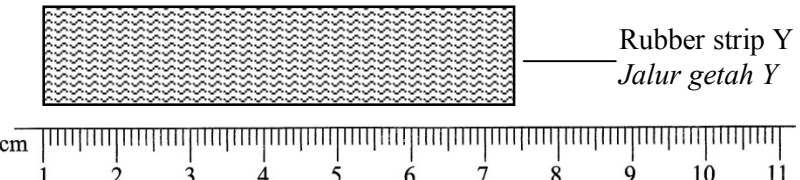
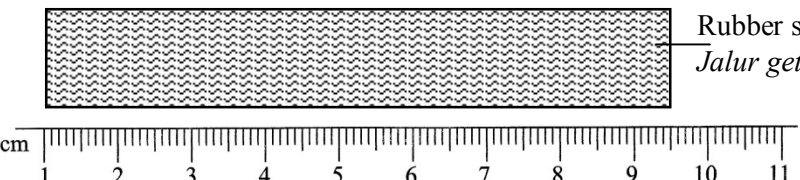
<p>Before experiment <i>Sebelum eksperimen</i></p>  <p>Rubber strip Y <i>Jalur getah Y</i></p>	<p>Length <i>Panjang:</i> _____ cm</p>
<p>After 15 g of weight was removed <i>Selepas pemberat 15 g dialihkan</i></p>  <p>Rubber strip Y <i>Jalur getah Y</i></p>	<p>Length <i>Panjang:</i> _____ cm</p>
<p>After 30 g of weight was removed <i>Selepas pemberat 30g dialihkan</i></p>  <p>Rubber strip Y <i>Jalur getah Y</i></p>	<p>Length <i>Panjang:</i> _____ cm</p>
<p>After 45 g of weight was removed <i>Selepas pemberat 45 g dialihkan</i></p>  <p>Rubber strip Y <i>Jalur getah Y</i></p>	<p>Length <i>Panjang:</i> _____ cm</p>

Diagram 1.3
Rajah 1.3

- (a) Based on Diagram 1.1 state the observation for this experiment.
Berdasarkan Rajah 1.1 nyatakan pemerhatian bagi eksperimen ini.

.....

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[3 marks]

- (b) State the inference for the observation in 1(a).
Nyatakan inferens bagi pemerhatian di 1(a)

.....

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[3marks]

- (c) Referring to the Diagram 1.2 and Diagram 1.3, measure the length of each rubber strip and record the reading in the spaces provided.
Merujuk kepada Rajah 1.2 dan Rajah 1.3, ukur panjang setiap jalur getah dan catatkan bacaan pada ruangan yang disediakan.

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[3 marks]

- (d) Construct a table and record all the length of each rubber strip in 1(c).
Bina satu jadual dan rekodkan semua panjang setiap jalur getah di 1(c).

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[3 marks]

(e) For this experiment, state:
Bagi eksperimen ini, nyatakan:

(i) The manipulated variable
Pembolehubah dimanipulasikan

.....

(ii) The responding variable
Pembolehubah bergerakbalas

.....

(iii) The fixed variable
Pembolehubah dimalarkan

.....

[3 marks]

(f) State the hypothesis for this experiment
Nyatakan hipotesis untuk eksperimen ini

.....
.....

[3 marks]

(g) What is the relationship between length of rubber strip and the elasticity?
Apakah hubungan antara panjang jalur getah dengan keanjalannya?

.....
.....

[3 marks]

- (h) State the operational definition for the elasticity of the rubber strip.
Nyatakan definisi secara operasi bagi keanjalan jalur getah

.....
.....

[3 marks]

- (i) Both rubber strips were left for about 7 days. Rubber strip Y produced a smell but rubber strip X do not produce smell. Explain the observation.
Kedua-dua jalur getah ditinggalkan selama 7 hari. Jalur getah Y menghasilkan bau manakala jalur getah X tidak. Terangkan pemerhatian tersebut.

.....
.....

[3 marks]

- (j) If the experiment is continued by increasing the mass of weight, the rubber strip will snap. Predict which rubber strip will snap first and state the types of rubber strips X and Y.
Jika eksperimen ini diteruskan dengan menambahkan jisim pemberat, jalur getah akan putus. Ramalkan jalur getah manakah akan putus dahulu dan nyatakan jenis jalur getah X dan Y.

.....
.....

[3 marks]

- (k) The following is a list of chemical substances
Berikut adalah senarai beberapa bahan kimia

Nitric acid, Sodium hydroxide, Methanoic acid and Ammonia

Asidnitrik, Natrium hidroksida, Asid metanoik dan Ammonia

Classify the chemicals into substance that can coagulate latex and substances that cannot coagulate latex.

Kelaskan bahan-bahan kimia ini kepada bahan yang boleh menggumpalkan lateks dan bahan yang tidak dapat menggumpalkan lateks.

[3 marks]

TOTAL

2.

In a chemical cell, a more electropositive metal has higher tendency to ionise.

Di dalam satu sel kimia, logam yang lebih elektropositif mempunyai kecenderungan yang lebih tinggi untuk mengion.

The cation of less electropositive metal has higher tendency to discharge.

Cation bagi logam yang kurang elektropositif mempunyai kecenderungan untuk nyahcas yang lebih tinggi.

You are given three metals, copper, zinc and magnesium together with their respective nitrate salt solutions. Plan an experiment to construct an electrochemical series based on displacement reaction.

Anda dibekalkan dengan tiga logam, kuprum, zink dan magnesium beserta larutan garam nitrat masing-masing. Rancang satu eksperimen untuk membina satu siri elektrokimia berdasarkan tindak balas penyesanan logam.

Your planning should include the following aspects:

Perancangan anda haruslah mengandungi aspek-aspek berikut:

- a) Aim of experiment
Tujuan eksperimen
- b) All variables
Semua pembolehubah
- c) Hypothesis
Hipotesis
- d) List of reactants and apparatus
Senarai bahan dan radas
- e) Procedure
Prosedur
- f) Tabulation of data
Penjadualan data

[17 marks]
[17 markah]

END OF QUESTION PAPER
KERTAS SOALAN TAMAT