

NAMA : ..... TINGKATAN .....



**JABATAN PELAJARAN TERENGGANU**

**PEPERIKSAAN PERCUBAAN  
SIJIL PELAJARAN MALAYSIA 2008**

**SCIENCE**

**Paper 2**

**Two Hours and Thirty Minutes**

**DO NOT OPEN THIS TEST PAPER UNTIL YOU ARE TOLD TO DO SO**

- 1 This question paper consists of three sections: Section A, Section B and Section C.
- 2 Answer all questions in Section A and Section B. Write your answers for Section A and Section B clearly in the space provided on the question paper.
- 3 For Section C, answer Question 10 and choose another Question 11 or Question 12. Write your answer for Section C on the lined pages provided at the end of this paper. Answer should be clear and logical.
- 4 The marks allocated for each sub-part of a question are shown in brackets.
- 5 The time suggested to complete Section A is 60 minutes, Section B is 50 minutes and Section C is 40 minutes.
- 6 You are allowed to answer the question in English or Bahasa Melayu.

<i>For Examiner's Use</i>		
Section	Question	Marks
A	1	
	2	
	3	
	4	
B	5	
	6	
	7	
	8	
C	9	
	10	
	11	
	12	
<b>Total</b>		

This question paper consists of 19 printed pages

**Section A**  
[20 marks]

Answer **all** questions in this section.

Jawab **semua** soalan

The time suggested to answer this section is 60 minutes

Masa yang dicadangkan untuk bahagian ini ialah 60 minit

- 1 Diagram 1.1 shows an experiment to study the hardness of alloy compared to pure metal.  
Rajah 1.1 menunjukkan satu eksperimen untuk mengkaji kekerasan aloi berbanding dengan logam tulen.

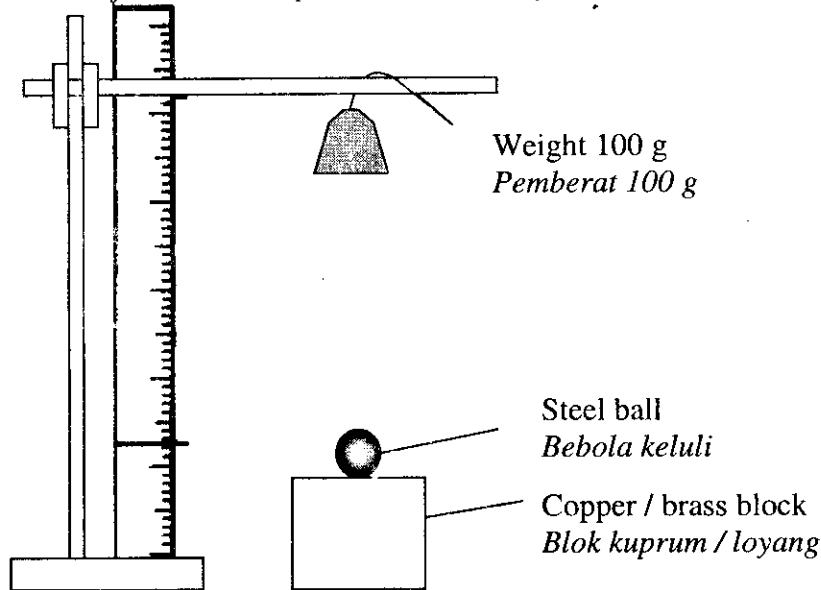


Diagram 1.1  
Rajah 1.1

- Diagram 1.2 shows the effect on the copper and brass block  
Rajah 1.2 menunjukkan kesan ke atas blok kuprum dan loyang

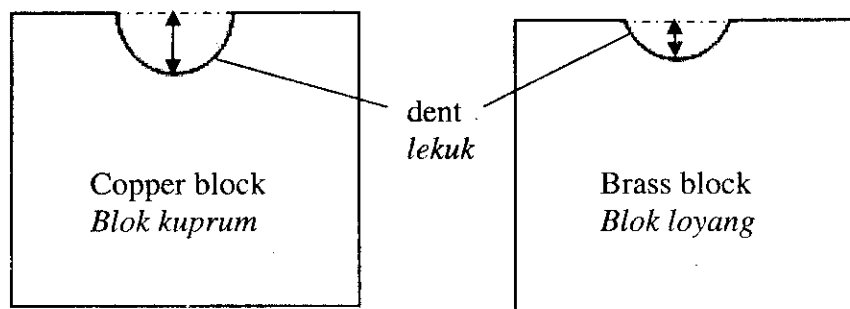


Diagram 1.2  
Rajah 1.2

- (a) What is the controlled variable in this experiment?  
*Apakah pemboleh ubah yang dimalarkan dalam eksperimen ini ?*

.....  
[1 mark]

- (b) Write down **one** observation based on Diagram 1.2.  
*Tuliskan satu pemerhatian berdasarkan Rajah 1.2.*

.....  
[1 mark]

- (c) State **one** inference based on the observation in (b).  
*Nyatakan satu inferens berdasarkan pemerhatian di (b).*

.....  
[1 mark]

- (d) State the operational definition of brass.  
*Nyatakan definisi secara operasi bagi loyang.*

.....  
[1 mark]

- (e) Predict the dent of copper block if weight 200 g is used in this experiment.  
*Ramalkan lekuk pada logam kuprum jika pemberat 200 g digunakan dalam eksperimen ini.*

.....  
[1 mark]

- 2 Diagram 2 shows the formation of image by convex lens with the same object distance  
*Rajah 2 menunjukkan pembentukan imej oleh kanta cembung dengan jarak objek yang sama.*

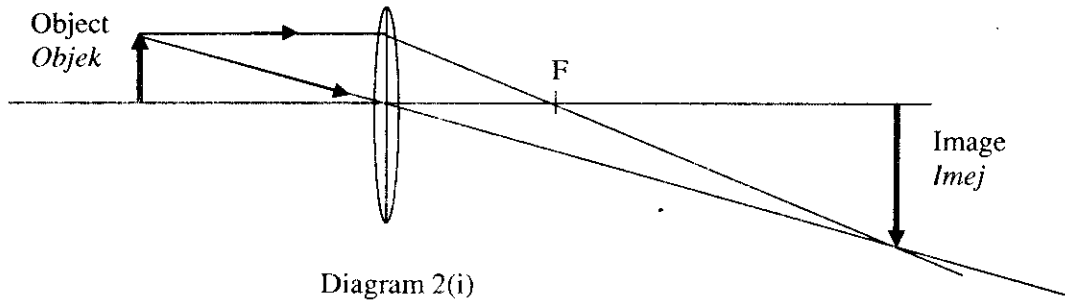


Diagram 2(i)  
*Rajah 2(i)*

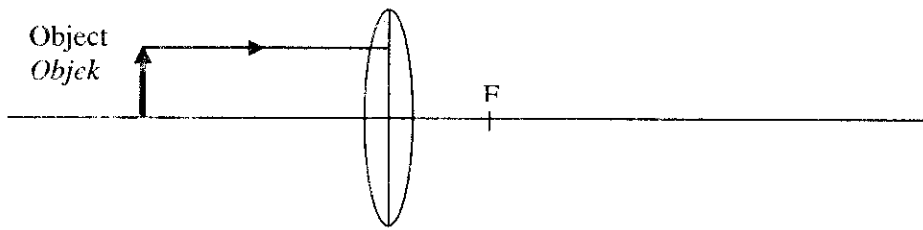


Diagram 2(ii)  
*Rajah 2(ii)*

- (a) (i) Complete the ray diagram to show the formation of the image in Diagram 2(ii)  
*Lengkapkan rajah sinar untuk menunjukkan pembentukan imej pada Rajah 2(ii)*
- (ii) Measure the distance of image  
*Ukur dan catatkan jarak imej*

..... cm.

[ 2 marks ]

- (b) State the variables in this experiment.  
*Nyatakan pemboleh ubah dalam eksperimen ini.*

- (i) Constant variable  
*Pemboleh ubah malar*

.....

- (ii) Manipulated variable.  
*Pemboleh ubah manipulasi*

.....

[ 2 marks ]

- (c) State the hypothesis of this experiment.  
Nyatakan hipotesis bagi eksperimen ini.

[ 1 mark ]

- 3 Diagram 3 shows the set-up of an apparatus.  
Rajah 3 menunjukkan susunan alat radas.

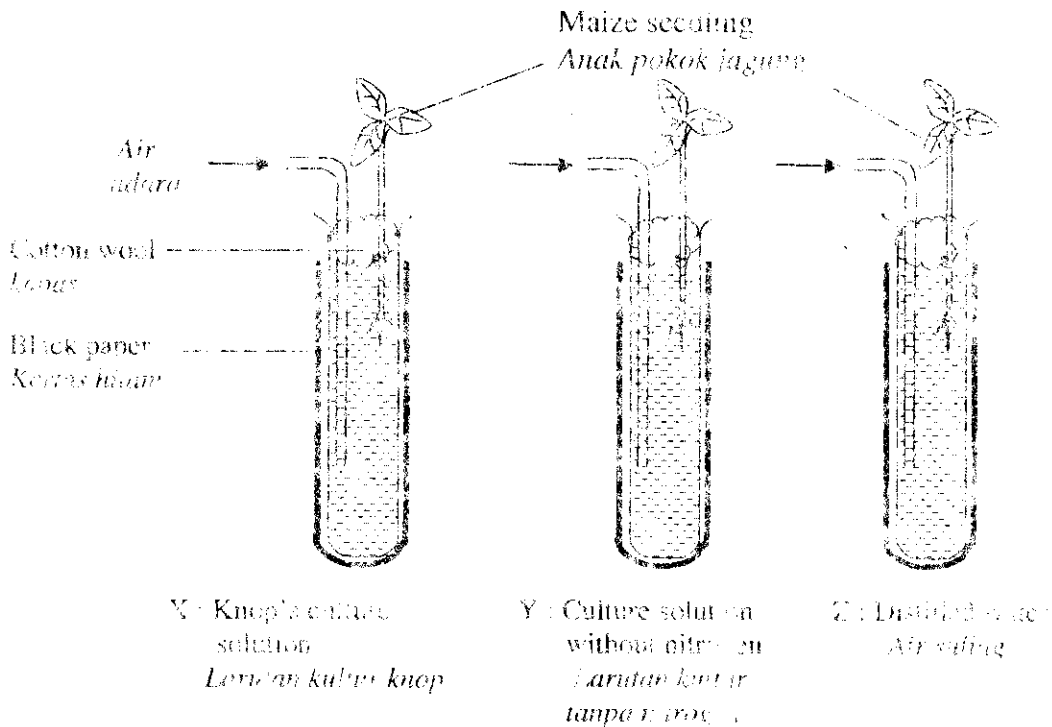


Diagram 3  
Rajah 3

Three different boiling tubes labelled X, Y and Z with different cultured solution were set up as shown in Table 3 shows the results of observation made.

Tiga tabung dididih dengan label X, Y dan Z disediakan dengan larutan kultur yang berlainan. Keputusan yang menunjukkan keperluan pemeliharaan yang ditubuh.

Boiling tube Tabung dididih	Condition of the plants after one month Keadaan pokok selepas satu bulan
X	The seedling grows into healthy plant Anak benih membesar dengan sihat
Y	The leaves turn yellow. Growth of the seedling is stunted Daun kekuningan. Pertumbuhan pokok terhambat
Z	The seedling died Anak benih mati

Table 3  
Jadual 3

- (a) State the hypothesis for this experiment.  
Nyatakan hipotesis dalam eksperimen ini.

..... [1 mark]

- (b) State the variables in this experiment.  
Nyatakan pemboleh ubah dalam eksperimen ini.

(i) Manipulated variable  
Pemboleh ubah yang dimanipulasikan

..... [1 mark]

(ii) Responding variable  
Pemboleh ubah yang bergerakbalas

..... [1 mark]

- (c) Based on table 4,  
Berdasarkan Jadual 4,

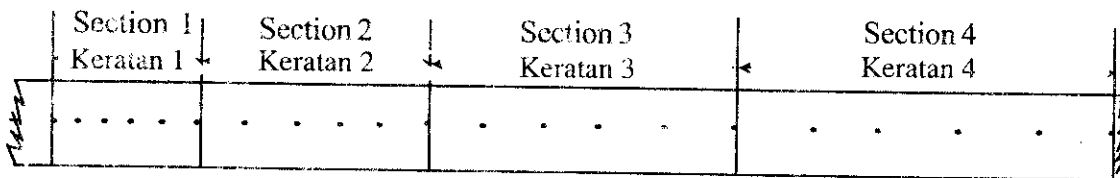
(i) what is the best solution for the growth of the plant?  
Apakah larutan paling baik untuk pertumbuhan pokok?

..... [1 mark]

(ii) state the inference that can you make.  
Nyatakan inferens yang dapat anda buat.

..... [1 mark]

- 4 Diagram 4 shows a ticker tape that has been obtained from the movement of a trolley on a tilted platform. The ticker timer makes 50 ticks in 1 second.  
Rajah 4 menunjukkan pita detik yang diperolehi daripada gerakan sebuah troli pada landasan condong. Jangka masa detik membuat 50 detik dalam masa 1 saat.



Drawn to actual size  
Dilukis pada saiz sebenar

Diagram 4  
Rajah 4

Table 4 shows information about the ticker tape above.  
 Jadual 4 menunjukkan maklumat tentang pita detik di atas

Section of the ticker tape <i>Keratan pada pita detik</i>	1	2	3	4
Length of section / cm <i>Panjang keratan / cm</i>	2.0	.....	.....	5.0

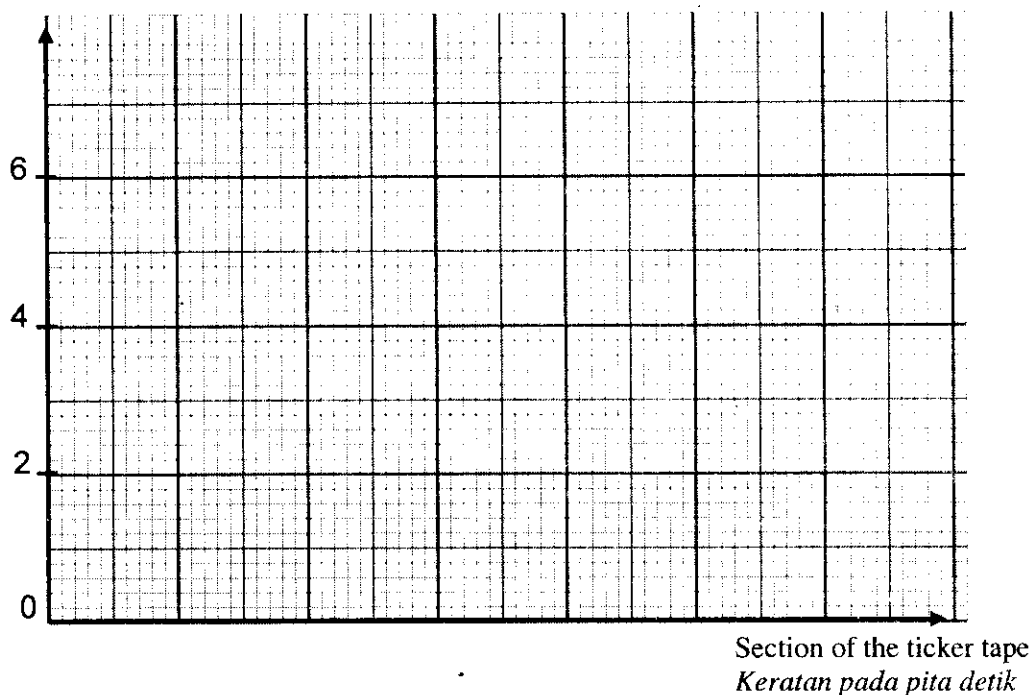
Table 4  
 Jadual 4

- (a) Measure the length of section 2 and 3 of the ticker tape and record it in Table 4.  
 Ukur panjang keratan 2 dan 3 pada pita detik dan rekod dalam Jadual 4.

[2 marks]

- (b) Using Table 4, draw a bar chart on the graph paper below.  
 Menggunakan Jadual 4, lukis carta bar pada kertas graf di bawah.

Length /cm  
 Panjang/cm



[2 marks]

- (c) (i) Predict the length of Section 5.  
 Ramalkan panjang Keratan 5.

Length/Panjang : ..... cm

- (ii) How many second are produced in each section ?  
*Berapa saatkah masa yang diambil dalam setiap keratan?*

..... Second (*saat*).

[2 marks]

**Section B**  
 [30 marks]

*Answer all questions in this section.*  
*The time suggested to answer this section is 50 minutes.*

- 5 Diagram 5 shows the position of the endocrine glands of a man.  
*Rajah 5 menunjukkan kedudukan kelenjar- kelenjar endokrin seorang lelaki.*

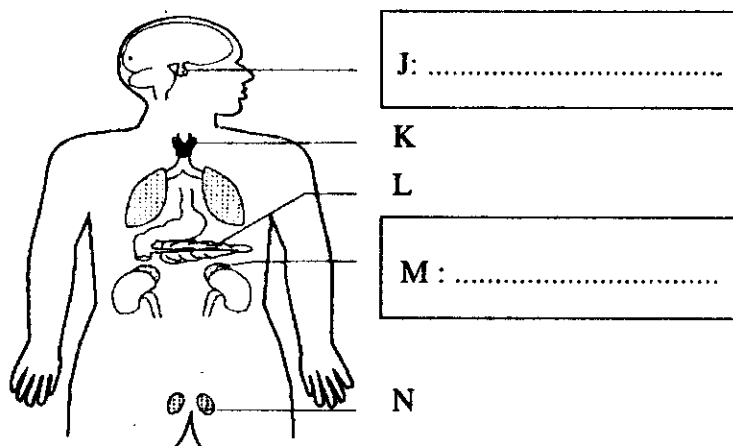


Diagram 5  
 Rajah 5

- (a) Name gland J and gland M in the boxes provided in Diagram 5  
*Namakan kelenjar J dan M dalam petak yang disediakan pada Rajah 5*

[2 marks]

- (b) How hormones are carried to the targeted organ?  
*Bagaimana hormon dibawa ke organ sasaran?*

.....

[1 mark]

- (c) State the function of hormone that secreted by gland N  
*Nyatakan fungsi hormon yang dirembeskan oleh kelenjar N.*

.....

[1 mark]



- (d) What will happen to the man if gland **K** secretes less hormone?  
 Apakah yang akan berlaku pada lelaki tersebut jika kelenjar **K** merembeskan kurang hormon?

.....  
 [1 mark]

- (e) State **one** effect if gland **L** is removed by an operation.  
 Nyatakan **satu** kesan jika kelenjar **L** dikeluarkan secara pembedahan?

.....  
 [1 mark]

- 6 Diagram 6 shows a model of atomic structure.  
 Rajah 6 menunjukkan model struktur atom.

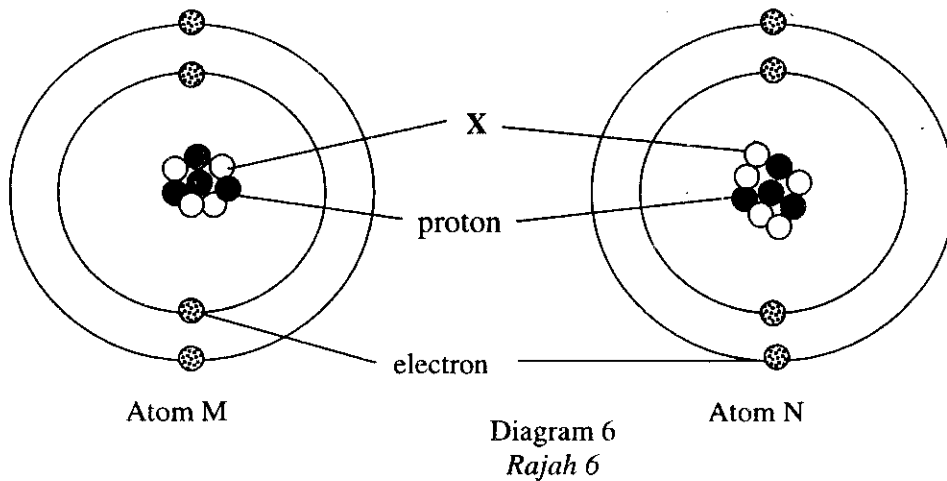


Diagram 6  
 Rajah 6

- (a) Name a particle **X**  
 Namakan zarah **X**.

.....  
 [1 mark]

- (b) Based on Diagram 6, state the proton number and nucleon number of atom **M**  
 Berdasar Rajah 6, nyatakan nombor proton dan nombor nukleon bagi atom **M**

Proton number : .....  
 Nombor proton

Nucleon number : .....  
 Nombor nukleon

[2 marks]

- (c) Why atom **M** and atom **N** are isotope?  
 Mengapakah atom **M** dan atom **N** merupakan isotop?

.....  
 [1 mark]

- (d) Name **one** example of isotope.  
*Namakan **satu** contoh isotop.*

.....  
[1 mark]

- (e) State **one** use of isotope in medicine.  
*Nyatakan **satu** kegunaan isotop dalam bidang perubatan.*

.....  
[1 mark]

- 7 Diagram 7(a) shows the experiment to produce a sample of soap in the laboratory.  
*Rajah 7(a) menunjukkan eksperimen bagi menghasilkan sampel sabun dalam makmal.*

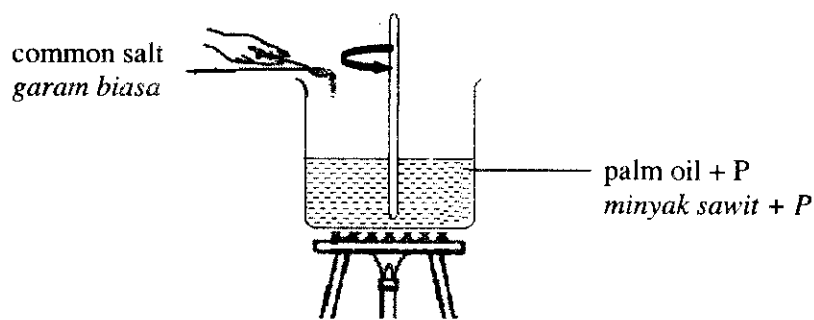


Diagram 7(a)  
*Rajah 7(a)*

- (a) Name compound **P**.  
*Namakan sebatian **P**.*

.....  
[1 mark]

- (b) Diagram 7(b) shows an oil palm fruit.  
*Gambarajah 7(b) menunjukkan buah kelapa sawit.*

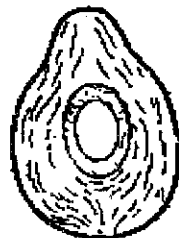


Diagram 7(b)  
*Rajah 7(b)*

Label and name the part of the fruit from which most oil can be extracted.

*Label dan namakan bahagian buah kelapa sawit yang paling banyak mengekstrakkan minyak*  
[1 mark]

- (c) Name another compound that can replace palm oil.

*Namakan bahan lain yang boleh menggantikan minyak sawit.*

[1 mark]

- (d) What is the purpose of adding common salt into the solution ?

*Apakah tujuan menambahkan garam biasa ke dalam larutan ?*

[1 mark]

- (e) Describe a simple test to prove that the solid formed from the beaker are the soap solids.

*Huraikan satu ujian untuk membuktikan pepejal yang terhasil dalam bikar adalah pepejal sabun.*

[1 mark]

- (f) Diagram 7(c) shows the structure of soap molecule.

*Rajah 7(c) menunjukkan struktur molekul sabun.*



Diagram 7(c)

*Rajah 7(c)*

Which part of the molecule is water - soluble ?

*Bahagian manakah yang larut dalam air ?*

[1 mark]

8 Diagram 8 shows the polymer chains in plastic P and Q.  
*Rajah 8 menunjukkan rantai polimer plastik P dan Q.*

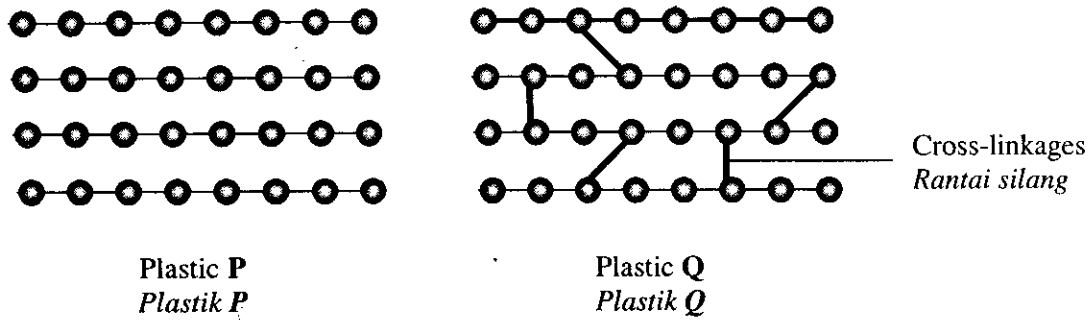


Diagram 8  
*Rajah 8*

(a) Name the type of plastic shown in Diagram 8.  
*Namakan jenis plastik yang ditunjukkan oleh Rajah 8*

Plastic P  
*Plastik P* : .....

Plastic Q  
*Plastik Q* : .....  
 [ 2 marks ]

(b) (i) What is the function of cross-linkage in plastic Q?  
*Apakah fungsi rantai silang dalam plastik Q?*

.....  
 [ 1 mark ]

(ii) State **one** characteristic of plastic Q related to cross-linkage?  
*Nyatakan **satu** ciri plastik Q yang dikaitkan oleh rantai silang?*

.....  
 [ 1 mark ]

(c) State **one** example plastic P and its uses.  
*Nyatakan **satu** contoh plastik P dan kegunaannya.*

Example  
*Contoh* : .....

Uses  
*Kegunaan* : .....  
 [ 2 marks ]

- 9 Diagram 9.1 shows the transmission process of a radio communication system.  
Rajah 9.1 menunjukkan proses pemancaran dalam sistem komunikasi radio.

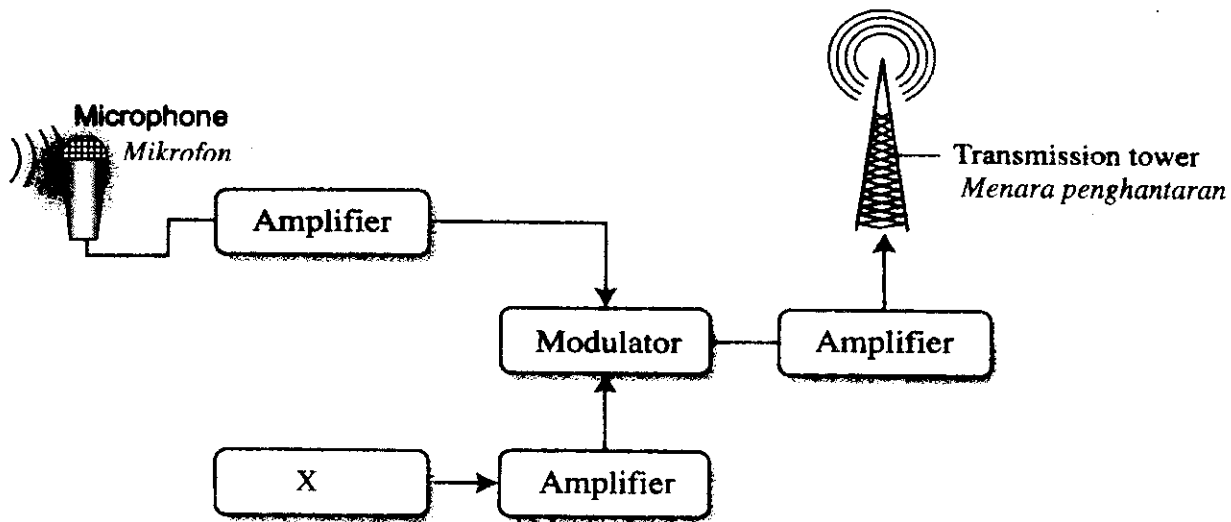


Diagram 9.1  
Rajah 9.1

- (a) Which device converts sound waves into electrical signals?  
Yang manakah alat yang menukarkan gelombang bunyi kepada isyarat elektrik ?

.....  
[1 mark]

- (b) (i) Name component X.  
Namakan komponen X.

.....

- (ii) Component X generates a wave. Name the wave.  
Komponen X menjanakan gelombang. Namakan gelombang tersebut.

.....  
[2 marks]

- (c) Diagram 4.2 shows typical wave formed by modulator.  
*Gambarajah 4.2 menunjukkan gelombang yang biasanya dihasilkan oleh modulator.*

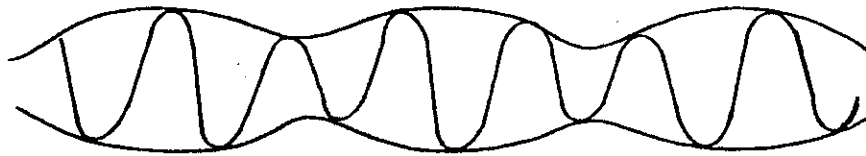


Diagram 9.2  
*Rajah 9.2*

What is the type of modulated waves shown in Diagram 9.2 ?  
*Apakah jenis gelombang termodulasi yang di tunjukkan dalam Rajah 9.2 ?*

.....  
 [1 mark]

- (d) Diagram 9.3 shows a symbol of an electronic component which found in an amplifier.  
*Rajah 9.3 menunjukkan komponen elektrik yang didapati dalam amplifier.*

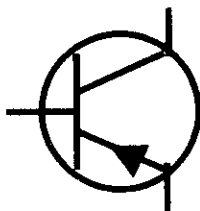


Diagram 9.3  
*Rajah 9.3*

- (i) Name the electronic component above.  
*Namakan komponen elektronik di atas.*
- .....
- (ii) What is the function of the electronic component?  
*Apakah fungsi komponen elektronik tersebut ?*
- .....

[2 marks]

## Section C

[20 marks]

Answer Question 10 and either Question 11 or Question 12.

Write your answers on pages 17 - 19

The time suggested to answer this section is 40 minutes

Jawab Soalan 10 dan mana-mana satu daripada Soalan 11 atau Soalan 12.

Tuliskan jawapan anda di halaman 17-19.

Masa yang dicadangkan untuk menjawab bahagian ini ialah 40 minit.

- 10 Study the following statement,  
Kaji pernyataan berikut,

The temperature of water changes when different chemicals dissolve in it  
Suhu air berubah apabila bahan kimia berbeza larut didalamnya

You are given ,  
Anda diberi,

Ammonium chloride, sodium hydroxide, water, glass rod, spatula, thermometer  
Ammonium klorida, natrium hidroksid, air, rod kaca, spatula, termometer.

- (a) Suggest a hypothesis to investigate the above statement.  
Nyatakan satu hipotesis untuk menyiasat pernyataan di atas. [1 mark]
- (b) Describe an experiment to test your hypothesis based on the following criteria:  
Huraikan satu eksperimen untuk menguji hipotesis anda berdasarkan kepada perkara-perkara berikut;
- (i) Aim of the experiment.  
Tujuan eksperimen [1 mark]
- (ii) Identification of variables  
Menenalpasti semua pemboleh ubah [2 marks]
- (iii) List of apparatus and materials  
Senarai radas dan bahan [1 mark]
- (iv) Procedure  
Kaedah / prosedur [4 marks]
- (v) Tabulation of data  
Penjadualan data [1 mark]

11 (a) State **two** methods of purification. Describe **each** method.

*Nyatakan dua kaedah penulenan. Terangkan setiap kaedah tersebut*

[ 4 marks ]

(b) A student finds that the ethanol produced from fermentation process is not pure. Explain how to obtain pure ethanol from the solution. Your explanation should include the following:

*Seorang pelajar mendapati etanol yang dihasilkan melalui proses penapaian adalah tidak tulen. Terangkan bagaimana untuk mendapatkan etanol tulen dari larutan tersebut. Penerangan anda mestilah mengandungi perkara berikut:*

- Problem statement  
*Penyataan masalah* [ 1 mark ]
- Name of the method used  
*Nama kaedah yang digunakan* [ 1 mark ]
- Steps of the method used  
*Langkah-langkah yang perlu dilakukan dalam kaedah itu* [ 2 marks ]

12 (a) State **four** purposes of processing food

*Nyatakan empat tujuan pemprosesan makanan.*

[ 4 marks ]

(b) A dairy farmer finds that his dairy products are easily spoilt within a few hours if they are left at room temperature. State the methods of processing and preservation that should be done with

*lactic acid to make the milk last longer to be sold. Your answer should include the following:*

*Seorang pengasah lembu tenusu mendapati susu hasil ternakannya mudah rosak apabila dibiarkan di bilik berapa lama terdedah pada suhu bilik. Nyatakan kaedah-kaedah pemprosesan dan pengawetan makanan yang sepatutnya pengasah lembu tenusu ini lakukan supaya hasil tenusunya lebih tahan lama untuk dipasarkan. Jawapan anda mesti mengandungi perkara berikut:*

- Identify the problem  
*Mengenalpasti masalah* [ 1 mark ]
- Explain **two** methods to solve the problem  
*Terangkan dua kaedah penyelesaian masalah* [ 2 marks ]
- Choose the best method and explain your choice  
*Pilih satu kaedah dan jelaskan pilihan anda.* [ 1 mark ]

**END OF QUESTION PAPER**  
**KERTAS SOALAN TAMAT**