

**SULIT**  
1511  
Science  
Ogos/Sept.  
2008



## JABATAN PELAJARAN TERENGGANU

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PEPERIKSAAN PERCUBAAN  
SIJIL PELAJARAN MALAYSIA 2008

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SCIENCE

MARKING SCHEME

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1511

[Lihat sebelah  
SULIT

**PAPER 1**

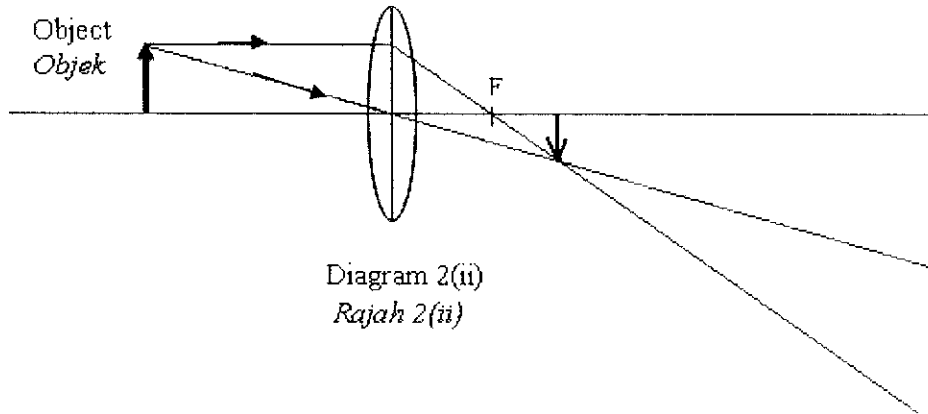
|    |   |    |   |    |   |    |   |    |   |
|----|---|----|---|----|---|----|---|----|---|
| 1  | C | 11 | B | 21 | D | 31 | D | 41 | C |
| 2  | A | 12 | C | 22 | B | 32 | D | 42 | B |
| 3  | C | 13 | D | 23 | D | 33 | B | 43 | C |
| 4  | B | 14 | A | 24 | B | 34 | A | 44 | B |
| 5  | B | 15 | C | 25 | D | 35 | C | 45 | A |
| 6  | A | 16 | B | 26 | C | 36 | B | 46 | B |
| 7  | C | 17 | A | 27 | B | 37 | B | 47 | D |
| 8  | B | 18 | B | 28 | C | 38 | C | 48 | D |
| 9  | D | 19 | B | 29 | A | 39 | D | 49 | A |
| 10 | C | 20 | D | 30 | D | 40 | B | 50 | C |

**Total mark for Paper 1 : 50 marks**

**PAPER 2****SECTION A**

- 1 (a) Height of weight/ / mass of weight// type of ball// size/ diameter of steel ball  
Ketinggian pemberat// jisim pemberat// jenis bola// size/diameter bola keluli 1 m
- (b) The dent of copper block is deeper than the dent of brass block  
*Lekukan blok kuprum lebih dalam daripada lekukan blok loyang* 1 m
- (c) Brass block is harder than copper block// copper block is softer than brass block  
*Blok loyang lebih keras daripada blok kuprum// blok kuprum lebih lembut daripada Blok loyang* 1 m
- (d) Brass is a material that produce shallower dent after being hit.  
*Loyang ialah sejenis bahan yang menghasilkan lekukan yang lebih cetek selepas hentaman* 1 m
- (e) more than 0.6 cm/ 6mm// any acceptable number more than 0.6 cm/ (depends on the measurement from the question book)  
*Lebih daripada 0.6 cm/6 mm// mana –mana jawapan yang munasabah lebih daripada 0.6 cm/(bergantung kepada ukuran dalam buku soalan)* 1 m
- Total 5 m**

2 (a) (i)



Correct ray diagram with image (ray diagram must include arrow)  
Garis sinar yang betul beserta imej (rajah sinar mesti disertakan anak panah)

1 m

(ii)  $2.4 \pm 0.1$  or depends on the measurement from the question book  
(bergantung kepada ukuran dalam buku soalan)

1 m

(b) (i) Object distance  
Jarak objek

1 m

(ii) Thickness of convex lens  
Ketebalan kanta cembung

1 m

(c) Thicker convex lens forms smaller/ shorter image distance //  
Thinner convex lens forms bigger/ longer image distance  
Lebih tebal kanta cembung, lebih kecil/ pendek jarak imej//  
Lebih nipis kanta cembung lebih besar/ panjang jarak imej

1 m

**Total****5 m**

3 (a) Knop's solution is the best solution for the plant's growth// Knop's culture solution is needed for the normal growth of plants

Larutan Knop ialah larutan yang paling baik untuk pertumbuhan tumbuhan /  
Larutan kultur Knop's diperlukan untuk pertumbuhan normal tumbuhan

1 m

(b) (i) Type of solution/ Jenis larutan

1 m

(ii) Condition of plant// Plant's growth

Keadaan tumbuhan// Pertumbuhan tumbuhan

1 m

(c) (i) Knop's solution/ Larutan Knop

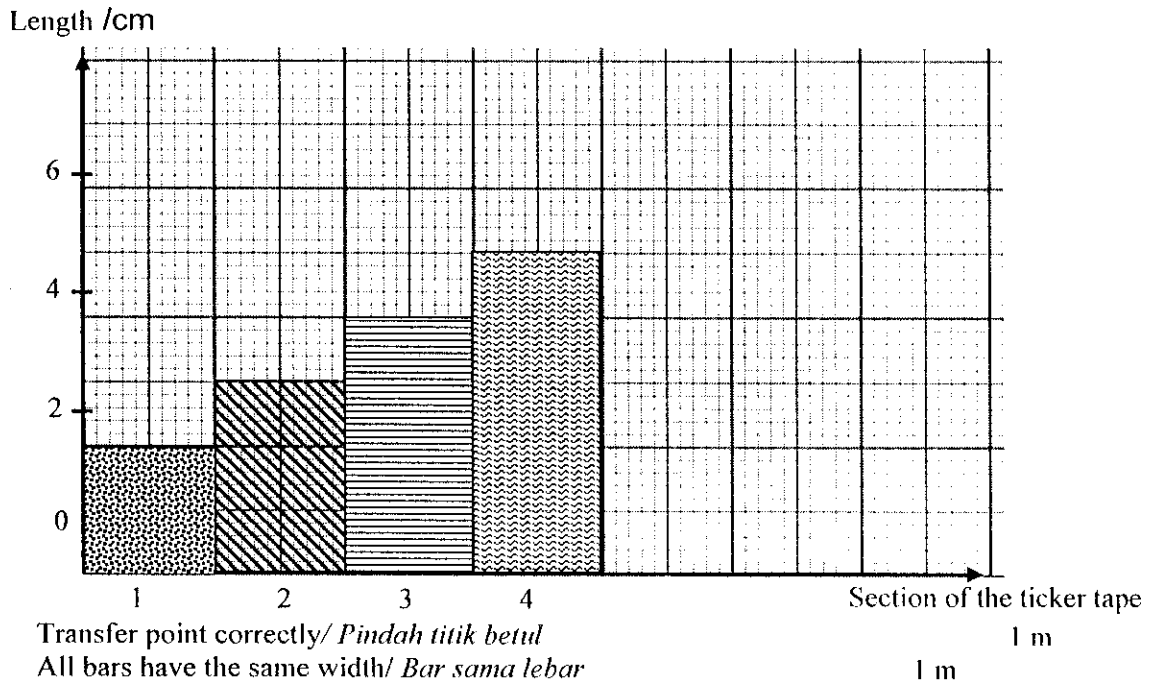
1 m

(ii) Knop's solution is the best solution because it has all the nutrients needed for  
The plant's growth

Larutan Knop ialah larutan yang paling sesuai kerana megandungi semua  
nutrien yang diperlukan oleh tumbuhan

1 m

- 4 (a) 3.0, 4.0 1 m  
 (b)

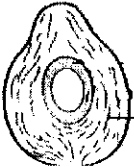


- (c) i) 6.0 1 m  
 ii) 0.1 s 1 m  
**Total 5 m**

**Total marks for Section A 20 marks**

**SECTION B**

- 5 (a) J : Pituitary Gland/ *Kelenjar pituitary* 1 m  
 M : Adrenal Gland/ *Kelenjar adrenal* 1 m  
 (b) By the blood circulatory system  
*Melalui sistem pengaliran darah* 1 m  
 (c) N : To control the development of secondary male sex characteristics  
*N: Untuk mengawal perkembangan ciri-ciri sex sekunder lelaki* 1 m  
 (d) Low metabolic rate // cretinism (children) // Goiter  
*Kadar metabolisma rendah // terbantut/terencat pertumbuhan pada kanak-kanak // Goiter* 1 m  
 (d) The glucose level in blood will increase // The man will have diabetes  
*Kandungan glukosa dalam darah akan meningkat // Lelaki itu akan mengidap diabetes* 1 m  
**Total 5 m**

|          |  | <b>Total</b> | <b>5 m</b> |
|----------|--|--------------|------------|
| <b>6</b> | (a) neutron  |              | 1 m        |
|          | (b) (i) 4<br>(ii) 8  |              | 1 m<br>1 m |
|          | (c) Number of proton/ proton number are the same but number of neutron/ nucleon Number are different<br><i>bilangan proton / nombor proton sama tetapi bilangan neutron / nombor nukleon berbeza</i>   |              | 1 m        |
|          | (d) Hydrogen/ oxygen/ carbon/ other acceptable example<br><i>Hidrogen / oksigen / karbon / contoh lain-lain yang sesuai.</i>   |              | 1 m        |
|          | (e) Destroy cancer cell// detect any damage at the thyroid gland// sterile medical apparatus// detect any tumor at the brain// detect the clotting of blood // any acceptable example<br><i>Membunuh sel kanser // mengesan kerosakan kelenjar tiroid //mensterilkan alatan Perubatan // mengesan tumor pada otak // mengesan pembekuan darah // contoh lain</i> |              | 1 m        |
|          |  | <b>Total</b> | <b>6 m</b> |
| <b>7</b> | (a) Sodium hydroxide solution // Potassium hydroxide<br><i>Larutan Natrium hidroksida // Kalium hidroksida</i>   |              | 1 m        |
|          | (b)  |              |            |
|          |   |              |            |
|          |  |              | 1 m        |
|          | (c) Corn oil/ bean oil/ coconut oil// Or any suitable answers<br><i>Minyak jagung/minyak kacang/minyak kelapa /mana-mana jawapan yang sesuai</i>   |              | 1 m        |
|          | (d) To precipitate/separate the soap from the solution<br><i>Untuk memendakkan/mengasingkan sabun dari larutannya</i>  |              | 1 m        |
|          | (e) Smooth when feel with the fingers/ A lot of bubbles are produced when it is shake in water<br><i>Licin bila disentuh dengan tangan/ banyak buih terhasil bila ia digoncang dalam air.</i>  |              | 1 m        |
|          | (e) Head portion/ <i>Bahagian kepala</i>   |              | 1 m        |
|          |  | <b>Total</b> | <b>6m</b>  |
| <b>8</b> | (a) Plastic P :Thermoplastic / <i>Termoplastik</i><br>Plastic Q : Thermosetts / <i>Plastik Termoset</i>  |              | 2m         |
|          | (b) (i) To avoid the polymer from sliding over one another   |              |            |

*Untuk mengelakkan polimer menggelongsor di antara satu sama lain.*

|   |            |                 |
|---|------------|-----------------|
| (ii) Harder// more heat/chemical resistance// stronger<br><i>Lebih keras// lebih tahan haba/ bahan kimia // lebih kuat</i>  | (any two ) | 2m              |
| (c) Example: polythene// Perspex// PVC// polystyrene// polythene// polypropene<br>Uses: To make bottles// plastic bags// any acceptable answer<br><i>Kegunaan: membuat botol// beg plastic// mana-mana jawapan sesuai</i> |            | 2m              |
| <b>Total</b>  |            | <b>6m</b>       |
| 9 (a) Microphone/ <i>Mikrofon</i>   |            | 1m              |
| (b) (i) Oscillator / <i>Pengayun</i><br>(ii) Radio waves // <i>Gelombang radio</i>  |            | 2m              |
| (c) AM/ Amplitude modulation // <i>Modulasi Amplitude</i>   |            | 1m              |
| (d) (i) Transistor<br>(ii) Amplify a current // <i>Menguatkan arus</i>  |            | 2m              |
| <b>Total</b>  |            | <b>6m</b>       |
| <b>Total marks for Section B</b>  |            | <b>30 marks</b> |

**SECTION C**

|   |     |
|---|-----|
| 10 (a) Hypothesis : Ammonium chloride decrease the temperature of water // sodium hydroxide increase the temperature of water<br><i>Hipotesis: Ammonium klorida menurunkan suhu air// natrium klorida Meningkatkan suhu air</i>   | 1 m |
| (b) (i) Aim : To study the heat change in different chemical reactions<br><i>Tujuan: untuk mengkaji perubahan haba dalam tindakbalas kimia yang Berbeza</i>   | 1 m |
| (ii) Variables :<br>Manipulated : type of substance / <i>Jenis bahan</i><br>Responding : final temperature of water / <i>suhu akhir air</i><br>Constant : volume of water // amount of substance<br><i>Isipadu air// kuantiti /jisim bahan</i>  | 2 m |
| (iii) List of apparatus and materials : Ammonium chloride, sodium hydroxide, water, glass rod, spatula, thermometer, <b>plastic beaker / cup</b><br><br><i>Ammonium klorida , natrium hidroksida, air, rod kaca, spatula, termometer, Bikar plastic/ cawan plastik</i>  | 1 m |
| (iv) Procedure :<br>1. Fill half of the plastic beaker / styrofoam cup with water<br><i>Tuang air kedalam bikar plastic/ cawan plastik separuh penuh</i><br>2. Record the temperature of the water<br><i>Rekodkan suhu air</i><br>3. Put one spatula of ammonium chloride in the water and stir using the glass rod<br><i>Bubuh satu spatula ammonium klorida kedalam air dan kacau menggunakan rod kaca</i><br>4. Record the final temperature<br><i>Rekodkan suhu akhir</i> |     |

5. Repeat step 1 to 4 using sodium hydroxide (any four)  
*Ulang langkah 1 hingga 4 menggunakan natrium klorida (mana-mana 4)* 4 m

(v) Tabulation of data :

| Substances/ Bahan         | Initial temperature/<br><i>Suhu awal</i> | Final temperature/<br><i>Suhu akhir</i> |
|---------------------------|--|---|
| Water + ammonium chloride |  |   |
| Water + sodium hydroxide  |  |   |

1 m

**Total 10 m**

- 11 (a) Methods of purification ( *Kaedah penulenan* ) :  
 Crystallisation / *Penghabluran*  
 Distillation / *Penyulingan* 2m
- Crystallisation is a process of forming crystals from liquid  
*Penghabluran ialah proses pembentukan hablur daripada larutan*  
 -Distillation is a process to obtain a pure liquid from a solution of liquid mixture  
*Penyulingan ialah proses mendapatkan cecair tulen daripada larutan yang bercampur* 2m
- (b) Problem statement/*Pernyataan masalah*  
 Ethanol produced by fermentation process is not pure  
*Etanol yang terhasil daripada proses penapaian adalah tidak tulen* 1 m
- Name of the method used/ *Nama kaedah yang digunakan*  
 Distillation/ *Penyulingan* 1 m
- Steps of the method taken/*Langkah-langkah yang perlu dilakukan dalam kaedah ini*
- i) Ethanol solution is heated until boils (becomes vapour at 78°C )  
*Larutan etanol dipanaskan hingga mendidih (menjadi wap pada suhu 78°C)*
- ii) The reading of thermometer is between 78°C - 85°C  
*Bacaan termometer di antara 78°C - 85°C*
- iii) The vapour is then cooled in the Liebig condenser  
*Wap kemudian disejukkan dalam kondenser Liebig*
- iv) When the vapour cools down, it condenses into pure liquid // pure ethanol is formed  
*Wap yang disejukkan terkondensasi menjadi cecair tulen // etanol tulen terbentuk* 4 m
- Total 10 m**
- 12 (a) **Four** purposes of processing food  
*Empat tujuan pemprosesan makanan*
- (i) Food can be stored for a longer time  
*Makanan boleh disimpan dalam jangka masa yang lama*  
 (ii) Kill the microorganisms or slow down their activity

|       |   |                   |     |
|-------|---|-------------------|-----|
|       | <i>Membunuh mikroorganisma atau merencatkan aktivitiya</i>  |                   |     |
| (iii) | Help in digestion<br><i>Memudahkan penghadaman</i>  |                   |     |
| (iv)  | To provide consumers with a wider choice of food product<br><i>Menyediakan kepelbagaian pilihan makanan kepada pengguna.</i>  | 4 m               |     |
| (b)   | Identify the problem<br><i>Mengenalpasti masalah</i>  |                   |     |
|       | Dairy products easily spoilt within a few hours when it is left at room temperature<br><i>Hasil tenusu mudah masam bila terdedah beberapa jam dalam suhu bilik</i>  | 1 m               |     |
| •     | Explain <b>two</b> methods to solve the problem<br><i>Terangkan dua kaedah penyelesaian</i>   |                   |     |
| (i)   | Pasteurization ( <i>Pempasteuran</i> )<br>– Fresh milk is heated to 63° C for 30 minutes/ 73° C for 15 minutes then cooled immediately.<br>( <i>Susu segar dipanaskan pada suhu 63° C selama 30 minit/ 73° C selama 15 minit dan disejukkan segera</i> )  | 1 m<br>1 m        |     |
| (ii)  | Dehydration ( <i>Pengeringan</i> )<br>- Processing of dairy milk by removing water from it.<br>( <i>Memproses tenusu dengan menyingkirkan air daripadanya.</i> )  | 1 m<br>1 m        |     |
| (iii) | Cooling ( <i>Pendinginan</i> )<br><br>- Stored in a refrigerator at 0°C to 5 °C<br>( <i>Disimpan dalam peti sejuk dalam suhu 0°C hingga 5°C</i> )   | 1 m<br>1 m        |     |
|       | Any two( Methods : 2<br>Explanation : 2)  | max               | 4 m |
|       | Choose the best method and explain your choice<br><i>Pilih satu kaedah dan terangkan jawapan anda.</i><br>Pasteurization ( <i>Pempasteuran</i> )<br>- The dairy milk is longer lasting and can be sold, also not lose its taste and vitamins<br>( <i>Hasil tenusu lebih tahan lama dan boleh dijual, juga tidak mengubah rasa dan vitamimya</i> ) | 1 m               |     |
|       | <b>Total</b>  | <b>10</b>         |     |
|       | <b>Total marks for Section C</b>  | <b>20 marks</b>   |     |
|       | <i>Jumlah keseluruhan</i>   | <i>120 markah</i> |     |
|       | <i>Jadikan 100%</i>   |                   |     |

**END OF MARKING SCHEME**