

SULIT



JABATAN PELAJARAN PERAK

**PEPERIKSAAN PERCUBAAN
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1511/SJ

Science

Kertas 1 & Kertas 2

Skema Jawapan

September

UNTUK KEGUNAAN PEMERIKSA SAHAJA

SCIENCE

**Paper 1
and
Paper 2**

MARKING SCHEME

This marking scheme contains 9 printed pages

SULIT

**[Lihat halaman sebelah
SULIT**

Science SPM**Paper 1**

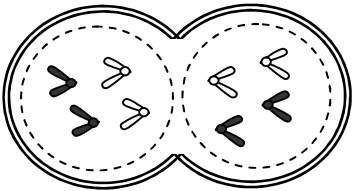
1	B	11	C	21	C	31	D	41	C
2	B	12	B	22	B	32	B	42	A
3	A	13	D	23	A	33	A	43	A
4	D	14	C	24	D	34	A	44	C
5	A	15	D	25	C	35	B	45	D
6	D	16	D	26	A	36	C	46	A
7	A	17	B	27	B	37	D	47	B
8	C	18	C	28	D	38	C	48	C
9	A	19	B	29	A	39	C	49	D
10	B	20	C	30	D	40	B	50	C

Paper 2

Question	Answer	Mark	Σ Marks
1	(a) Volume of gas (collected)	1	1
	(b)	1	2
	<p>Volume of gas (cm³) Isipadu gas (cm³)</p> <p>Time (minute) Masa (minit)</p>	1	
	(c) (i) Volume of gas collected is directly proportional to the reaction time.	1	
	(ii) 48 cm ³	1	2
		Total	5
2	(a) 1.5 ± 0.1 cm	1	1
	(b) 1. Near object from the pin-hole camera produce large image. 2. Further object from the pin-hole camera produce small image. 3. The size of image in Diagram 2.1 is larger than the size of image in Diagram 2.2.	1	1
	(c) 1. The nearer the distance of the object, the larger the size of the image. 2. The further the distance of the object, the smaller the size of the image.	1	1
	(d) 1. The size of the object // The height of the object 2. The size of the hole. // Number of pin hole.	1	1
	(e) The image is sharper // A sharper image is produce.// Sharp image on the screen.	1	1
		Total	5

3	(a) Bacteria cannot grow under white light/light/ sunlight/bright light Bacteria growth well in the dark place.	1	1
	(b) (i) Manipulated variable: Light intensity// presence of light	1	
	(ii) Responding variable: Growth of bacteria// Bacterial growth // Cloudiness of nutrient broth	1	2
	(c) In the dark	1	1
	(d) Bacterial growth is a process that causes the nutrient broth becomes cloudy.	1	1
		Total	5
4	(a) 1. Green pea seedling with complete culture solution have more roots than that of culture solution without phosphorous. 2. Green pea seedling with complete culture solution produce more roots than culture solution without phosphorous.	1	1
	(b) Complete culture solution contains phosphorous for the growth of roots.	1	1
	(c) (i) Type of seedling// Volume of culture solution // Size of seedling// (ii) The number of roots // Growth rate	1 1	2
	(d) Algae will growth in the solution.	1	1
		Total	5
5	(a) Radioactive decay		1
	(b) Ray M : Beta rays Ray N : Gamma rays	1	2
	(c) 1. Lead 2. Concrete	1 1	1
	(d) 1. Cause cancer 2. Kills / damage body cells / tissues 3. Causes infertility / sterility 4. Causes death 5. Causes mutation 6. Causes deformity of newborn babies	1 1	2
		Total	6

[Any two]

6	(a) (i) Mitosis	1	
	(ii) 1. To increase the number of body / somatic cells.	1	2
	2. Replace worn out / dead cells.		
	3. Reproduce asexually in unicellular organisms/ fungi/ ferms/ mosses.		
	(b) 1. Each chromosomes doubles (to become a pair of chromatides).	1	1
	2. Chromosomes replicate (to form two chromatides)		
	(c)	1	1
			
	(d) Tips of shoot / roots.	1	1
	(e) 2	1	1
		Total	6
7	(a) X: Kernel	1	
	Y: Mesocarp	1	2
	(b) Mesocarp // Y	1	1
	(c) Vitamin A / E	1	1
	(d) 1. It is resistant to high temperature //	1	1
	2. Does not produce unpleasant odours.		
	(e) Sterilisation , Separation , Extraction , Filtration , Purification	1	1
		Total	6
8	(a) (i) Chilli sauce Y.	1	
	(ii) Has expiry date.	1	
	(b) (i) Monosodium glutamate	1	3
	(ii) 1. Cancer	1	1
	2. Mental retardation in chlidren		
	(c) To slows down the action of bacteria //	1	1
	To avoid the bacterial growth in food.		
	(d) Net weight // Quantity of food	1	1
		Total	6

9	<p>(a) 3</p> <p>(b) 1. Informations is not affected by the change of wheather/ condition in the atmosphere.</p> <p>2. More information can be transmitted.</p> <p>(c) (i) P : Gamma ray</p> <p>(ii) Radio waves</p> <p>(iii) Microwaves</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>Total</p>	<p>1</p> <p>2</p> <p>1</p> <p>3</p> <p>6</p>
10	<p>(a) Hypothesis:</p> <p>1. The presence of salt increases the boiling point of distilled water.</p> <p>2. Presence of impurities will increase the boiling point of distilled water.</p> <p>(b) (i) Aim: To study the effect of impurities on the boiling point of distilled water.</p> <p>(ii) Variables :</p> <p>1. Manipulated : The presence of impurities / table salt</p> <p>2. Responding : Boiling point (of distilled water / mixture)</p> <p>3. Fixed : Volume of distilled water // Quantity of salt //</p> <p style="text-align: right;">Type of salt.</p> <p style="text-align: right;">(Any 2)</p> <p>(iii) Apparatus:</p> <p>1. Distilled water</p> <p>2. Table salt</p> <p>3. Beaker</p> <p>4. Wire gauze</p> <p>5. Tripod stand,</p> <p>6. Bunsen burner</p> <p>7. Thermometer</p> <p>(iv) Procedure :</p> <p>1. Pour 100 cm³ of distilled water into a beaker.</p> <p>2. Heat up distilled water until it boils.</p> <p>3. Observe and record the boiling point by using thermometer.</p> <p>4. Repeat the experiment with mixture of distilled water and salt.</p> <p><i>OR: Functional and labelled diagram</i></p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>1</p> <p>1</p> <p>2 (max)</p> <p>1</p> <p>4</p>

	(v) Result : <table><tr><td>The presence of impurities</td><td>Boiling point / °C</td></tr><tr><td>Without salt</td><td></td></tr><tr><td>With salt</td><td></td></tr></table>	The presence of impurities	Boiling point / °C	Without salt		With salt		1	1
The presence of impurities	Boiling point / °C								
Without salt									
With salt									
		Total	10						
11	(a) Two differences between chemical and physical changes: <table><tr><td>Chemical changes</td><td>Physical changes</td></tr><tr><td>1. New substance is formed.</td><td>1. No new substance is formed.</td></tr><tr><td>2. Not reversible // Difficult to reverse</td><td>2. Reversible // Easy to reverse.</td></tr></table>	Chemical changes	Physical changes	1. New substance is formed.	1. No new substance is formed.	2. Not reversible // Difficult to reverse	2. Reversible // Easy to reverse.	1	
	Chemical changes	Physical changes							
	1. New substance is formed.	1. No new substance is formed.							
	2. Not reversible // Difficult to reverse	2. Reversible // Easy to reverse.							
		1							
	Example of physical changes:								
	1. Melting ice	1							
	2. Evaporation of water.	1	4						
	3. Dissolving sugar in water.								
	(b) (i) Common characteristics:	1							
	1. New substance is formed.	1	2						
2. Not reversible // Difficult to reverse									
(ii) Other example of chemical changes:									
1. Heating iron with sulphur									
2. Burning magnesium in presence of air.									
3. Heating copper (II) carbonate. [Any one]	1	1							
(iii) Two example of physical changes:									
1. Melting ice	1								
2. Evaporation of water.									
3. Dissolving sugar in water. [Any two]	1	2							
(iv) Chemical changes is a process which is new substance is formed and not reversible.	1	1							
	Total	10							

12	(a)	<table><tr><th>Type of plastic</th><th>Example</th></tr><tr><td>Thermoplastics</td><td>Polyvinyl chloride (PVC) / nylon / polythene / perspex / polystyrene / polypropene</td></tr><tr><td>Thermosets</td><td>Bakelite / melamine / epoxy glue /</td></tr></table>	Type of plastic	Example	Thermoplastics	Polyvinyl chloride (PVC) / nylon / polythene / perspex / polystyrene / polypropene	Thermosets	Bakelite / melamine / epoxy glue /	2	
	Type of plastic	Example								
	Thermoplastics	Polyvinyl chloride (PVC) / nylon / polythene / perspex / polystyrene / polypropene								
	Thermosets	Bakelite / melamine / epoxy glue /								
			2	4						
	(b) Identify the problem:									
	Environmental pollution		1	1						
	Clarification of the problem:									
	Improper disposal of plastics wastes.		1	1						
	Methods to overcome the problem:									
	1. Recycling the plastics									
	2. Reuse the plastics									
3. Burning the plastics in incinerators.		1								
4. Bury the plastics in the ground.		1								
5. Use biodegradable plastics.		1	3							
	<i>[Any three methods]</i>									
Best method and reason:										
e.g: Method: Burning the plastics in incinerators.										
Reason: Prevent the release of carbon dioxide or poisonous gases.		1	1							
	<i>[Any one method with correct reason]</i>									
		Total	10							

ENDS OF SCHEMES