

PAPER 2

Section A

Question	Answer	Mark										
1 (a)	<table border="1"> <tr> <td>Types of blood group <i>Jenis Kumpulan Darah</i></td> <td>A</td> <td>B</td> <td>AB</td> <td>O</td> </tr> <tr> <td>Number of students <i>Bilangan Murid</i></td> <td>13</td> <td>14</td> <td>11</td> <td>10</td> </tr> </table> <p>Notes : All correct = 2 marks 3 correct = 1 mark</p>	Types of blood group <i>Jenis Kumpulan Darah</i>	A	B	AB	O	Number of students <i>Bilangan Murid</i>	13	14	11	10	2
Types of blood group <i>Jenis Kumpulan Darah</i>	A	B	AB	O								
Number of students <i>Bilangan Murid</i>	13	14	11	10								
(b)	<p>Notes : All points transfer correctly = 1 mark Bar chart correct = 1 mark</p>	2										
(c)	<table border="1"> <tr> <td>Type of ear lobes <i>Jenis cuping telinga</i></td> <td></td> </tr> <tr> <td>Body weight <i>Berat badan</i></td> <td>✓</td> </tr> <tr> <td>Height <i>Ketinggian</i></td> <td>✓</td> </tr> <tr> <td>Fingerprint <i>Cap jari</i></td> <td></td> </tr> </table> <p>Notes : 2 correct = 1 mark</p>	Type of ear lobes <i>Jenis cuping telinga</i>		Body weight <i>Berat badan</i>	✓	Height <i>Ketinggian</i>	✓	Fingerprint <i>Cap jari</i>		1		
Type of ear lobes <i>Jenis cuping telinga</i>												
Body weight <i>Berat badan</i>	✓											
Height <i>Ketinggian</i>	✓											
Fingerprint <i>Cap jari</i>												

Question	Answer			Mark	Σ Mark
2 (a)	Substance	Final Temperature ($^{\circ}\text{C}$) <i>Suhu akhir ($^{\circ}\text{C}$)</i>	Change in temperature ($^{\circ}\text{C}$) <i>Perubahan suhu ($^{\circ}\text{C}$)</i>		
	X	37	5		
	Y	28	4		
	<i>Notes : 2 correct = 1 mark</i>			1	1
(b)	(i) Types of substance (ii) Change in temperature // Final temperature			1 1	2
(c)	Dissolving of substance X in water increase the temperature // Dissolving of substance Y in water decrease the temperature			1	1
(d)	Exothermic reaction is a reaction which heat is released to the surrounding // Exothermic reaction is a reaction which heat is given out to the surrounding // Exothermic reaction is a reaction releases heat energy to the water // Exothermic reaction is a reaction caused the water temperature increase. [any one]			1	1

Question	Answer	Mark	Σ Mark
3 (a)	(i) Light intensity	1	2
	(ii) Type of nutrient // volume / type of bacteria culture	1	
(b)	The lower the intensity of light, the higher the number of bacterial colony // The higher the intensity of light, the lower the number of bacterial colony	1	1
(c)	(i) Dark (condition)	1	2
	(ii) The most suitable condition for bacterial growth is in a dark condition	1	

Question	Answer	Mark	Σ Mark
4 (a)	Mass (of wooden block).	1	1
(b)	(i) 10.0 // any number between 5.0 and 15.0	1	2
	(ii) The heavier wooden block has higher / more inertia // The heavier wooden block produces a longer time to come to stop swinging.	1	
(c)	Use same length of the string.	1	1
(d)	The time taken to come to stop swinging also increased.	1	1










Section B

Question	Answer	Mark	Σ Mark
5 (a)	(i) Thyroid gland (ii) Goiter	1 1	2
(b)	(i) Adrenal (ii) Increases metabolic rate to overcome pressure // increases the heartbeat // Prepare the body to face an emergency // control the salt level in the blood.	1 1	2
(c)	(i) Excessive growth hormone (ii) Pituitary gland	1 1	2

Question	Answer	Mark	Σ Mark
6 (a)	P: Yellow Q: White R: Magenta	1 1 1	3
(b)	Cannot be obtained by adding other colours	1	1
(c)	Blue and yellow // red and cyan // green and magenta	1	1
(d)	Camouflage // Attract insects and birds for pollination // Signal // Enhance the beauty	1	1

Question	Answer	Mark	Σ Mark
7 (a)	Extraction	1	1
(b)	To killed / removed bacteria or fungi are // to softens the bunches facilitating	1	1
(c)	Steam flow // Addition of activated carbon	1	1
(d)	Kernel	1	1
(e)	Mesocarp	1	1
(f)	Anti-cancer // anti-oxidant // to remove free radicals in the body	1	1

Question	Answer	Mark	Σ Mark
8 (a)	Food ingredients // expiry date // weight // name and the address of the factory // brand of the food // way of food storage [Any three answer]	3	3
(b)	(i) expiry date	1	1
	(ii) to prevent food poisoning	1	1
(c)	Pasteurisation	1	1
		Total	6

Question	Answer	Mark	Σ Mark									
9 (a)	Generates a carrier wave	1	1									
(b)	Modulator	1	1									
(c)	Sound energy \longrightarrow electrical energy	1	1									
(d)	(i) Transistor	1	2									
	(ii) In amplifier	1										
(e)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">Carrier wave <i>Gelombang pembawa</i></td> <td style="text-align: center;">√</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">Modulated wave <i>Gelombang</i></td> <td style="text-align: center;">√</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">Audio wave <i>Gelombang audio</i></td> <td></td> </tr> </tbody> </table> <p>Notes : 2 correct = 1 mark</p>		Carrier wave <i>Gelombang pembawa</i>	√		Modulated wave <i>Gelombang</i>	√		Audio wave <i>Gelombang audio</i>		1	1
	Carrier wave <i>Gelombang pembawa</i>	√										
	Modulated wave <i>Gelombang</i>	√										
	Audio wave <i>Gelombang audio</i>											
		Total	6									

Section C

Question	Answer	Mark	Σ Mark
10 (a)	<p>Hypothesis :</p> <p><u>Example answer:</u></p> <ol style="list-style-type: none"> The growth of plants will be retarded/ not healthy without the essential nutrients. With sufficient essential nutrients, the growth of plants will be healthy. Plants needs sufficient essential nutrients for healthy growth. When all essential nutrients are supplied sufficiently, the plants will show healthy growth. The growth of plants will be affected when the plants lack nutrients. 	1	1
(b)	<p>(i) Aim of the experiment :</p> <p>To study the importance of essential nutrients on healthy plant growth // To study the requirement of essential nutrients for plants growth.</p>	1	1
	<p>(ii) Variables :</p> <ol style="list-style-type: none"> Manipulated : Type of solution // Essential nutrients // presence of essential nutrients // macronutrient Responding variable : Growth // Height of plant // Size/colour/number of leaves // Length /size of root Constant variable : Volume of solution // Size of seedling // Intensity of light <p>(any two)</p>	2	2
	<p>(iii) Apparatus and materials:</p> <p>Distilled water, Knop culture solution, culture solution without phosphorous, culture solution without potassium, test tube, seedlings, black paper.</p>	1	1
	<p>(iv) Procedure :</p> <ol style="list-style-type: none"> Fill distilled water, Knop culture solution, culture solution without phosphorous and culture solution without potassium given into different test tubes. Place seedlings halfway through the cotton wool to make it stand upright in the test tube. Cover the test tubes with black paper and put them under the sunlight. Observe the growth of seedling // Observe the height of plant. 	1 1 1 1	4

Question	Answer	Mark	Σ Mark	
10 (b)	(v) Results:	1	1	
	Types of solution			Growth of plant // Height of plant
	Distilled water			
	Knop culture solution			
	Culture solution without phosphorous			
	Culture solution without potassium			
		100	10	

Question	Answer	Mark	Σ Mark		
11 (a)	Differences between Distillation and Crystallisation	1	1		
				Distillation	Crystallisation
	1.			A process to obtain a pure liquid from a solution of liquid mixture	A process of forming crystals from a liquid or gas
	2.			Involve a chemical changes	Involve physical changes
	3.			new substance is produced	Does not produced new substance
	[any two difference]				
	Final product :				
	Distillation : Pure liquid is produced	1			
	Crystallisation : Pure crystal is produced	1	4		
(b)	(i) Problem :	1	1		
	- the ethanol which produced from fermentation process is not pure				
	(ii) Name of the method :				
	- Distillation process				
	(iii) Steps of the method used:				
1. Liquid product obtained from fermentation is heated in distillation flask	1				
2. The required solution boils and turns into vapour at 78 °C	1				
3. The vapour then cooled and turns to liquid in the condenser	1	3			
(iv) Evaluation of the problem solving :					
- Pure ethanol is produced	1	1			
		100	10		

