



PEPERIKSAAN AKHIR TINGKATAN 3

# PT3 2018

UJIAN BERTULIS

Ogos

2 Jam

55

sains

# PANDUAN PENSKORAN

**MARKING SCHEME  
FINAL SEMESTER F3 2018**

ITEM	MARK SCHEME	MARK	TOTAL								
1(a)	<p><b>Able to match the structure of cell with correct function</b> <b>Answer:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%; text-align: center;">Structure <i>Struktur</i></th> <th style="width: 65%; text-align: center;">Function <i>Fungsi</i></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Nucleus <i>Nukleus</i></td> <td>Controls all cell activities. <i>Mengawal semua aktiviti sel.</i></td> </tr> <tr> <td style="text-align: center;">Cell membrane <i>Membran sel</i></td> <td>Controls the movement of materials in and out of the cell. <i>Mengawal bahan yang masuk dan keluar dari sel.</i></td> </tr> <tr> <td></td> <td>Made up of cellulose. <i>Diperbuat daripada selulosa.</i></td> </tr> </tbody> </table> <p><b>Remark : WCR</b></p>	Structure <i>Struktur</i>	Function <i>Fungsi</i>	Nucleus <i>Nukleus</i>	Controls all cell activities. <i>Mengawal semua aktiviti sel.</i>	Cell membrane <i>Membran sel</i>	Controls the movement of materials in and out of the cell. <i>Mengawal bahan yang masuk dan keluar dari sel.</i>		Made up of cellulose. <i>Diperbuat daripada selulosa.</i>	1+1	2
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	Made up of cellulose. <i>Diperbuat daripada selulosa.</i>										
(b)	<p><b>Able to write true or false of the following statements</b> <b>Answer:</b> (i) True (ii) False</p>	1 1	2								
<b>Total</b>			<b>4</b>								



**MARKING SCHEME  
FINAL SEMESTER F3 2018  
MARK SCHEME**

ITEM	MARK SCHEME	MARK	TOTAL
2	<p><b>Able to complete the crossword puzzles</b> <u>Answer:</u></p> <div style="text-align: center; margin: 20px 0;"> </div> <div style="text-align: center; margin: 20px 0;"> </div>	<p>1 1 1 1</p> <p style="margin: 20px 0;">OR</p> <p>1 1 1 1</p>	4

**MARKING SCHEME  
FINAL SEMESTER F3 2018**

ITEM	MARK SCHEME	MARK	TOTAL
3(a)	<p><b>Able to write the letters that represent the resources</b></p> <p><u>Answer:</u>                      (i) animal / tiger                      (ii) plant / tree                      (iii) stone / mineral / rock                      (iv) petroleum / fossil fuel</p>	1 + 1	2
(b)	<p><b>Able to underline the correct statement</b></p> <p><u>Answer:</u>                      (i) mixture                      (ii) chemically</p>	1 1	2
		Total	4

i, ii correct – 1m  
iii, iv correct – 1m

ITEM	MARK SCHEME	MARK	TOTAL												
4(a)	<p><b>Able to tick (✓) either the object is matter or non-matter correctly.</b></p> <p><u>Answer:</u></p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th style="width: 30%;">Object</th> <th style="width: 30%;">Matter</th> <th style="width: 30%;">Non Matter</th> </tr> </thead> <tbody> <tr> <td>Wood</td> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td>Plant</td> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td>Sound</td> <td></td> <td style="text-align: center;">✓</td> </tr> </tbody> </table> <p>All correct - 2 mark 2 correct – 1 mark 1 correct – 0 mark</p>	Object	Matter	Non Matter	Wood	✓		Plant	✓		Sound		✓	1+1	2
Object	Matter	Non Matter													
Wood	✓														
Plant	✓														
Sound		✓													
4(b)	<p><b>Able to circle two properties of matter.</b></p> <p><u>Answer:</u></p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="border: 1px solid black; padding: 5px; width: 200px;"> <p style="text-align: center;">Matter occupies space. Jirim memenuhi ruang.</p> </div> <div style="border: 1px solid black; padding: 5px; width: 200px;"> <p style="text-align: center;">Matter has mass. Jirim mempunyai jisim</p> </div> <div style="border: 1px solid black; padding: 5px; width: 200px;"> <p>Matter can exist as solid, liquid or gases. Jirim wujud sebagai pepejal, cecair atau gas.</p> </div> </div>	1+1	2												
		Total	4												

**MARKING SCHEME  
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ITEM	MARK SCHEME	MARK	TOTAL																	
5(a)	<p><b>Able to match the tank P and Q with correct gases.</b> <u>Answer:</u></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Tank</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Gases</div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">P</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Oxygen</div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Q</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Carbon dioxide</div> </div>	1  1	2																	
(b)	<p><b>Able to state another confirmatory test for gas P and its observation.</b> <u>Answer:</u></p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th style="width: 15%;">Gases</th> <th style="width: 30%;">Confirmatory test</th> <th style="width: 55%;">Observation</th> </tr> </thead> <tbody> <tr> <td rowspan="2" style="text-align: center; vertical-align: middle;">P</td> <td>Using limewater</td> <td>Changes the limewater from colourless to cloudy/chalky/ milky</td> </tr> <tr> <td style="text-align: center;">@</td> <td style="text-align: center;">@</td> </tr> <tr> <td></td> <td>Using bicarbonate indicator</td> <td>Changes the bicarbonate indicator from red to yellow.</td> </tr> </tbody> </table> <p><b>Note:</b> - 1 mark for correct confirmatory test - 1 mark for correct observation</p> <p><b>ECF from 5 (a);</b> <b>i) If P is oxygen:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Gases</th> <th style="width: 30%;">Confirmatory test</th> <th style="width: 55%;">Observation</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">P</td> <td><i>Using glowing wooden splinter</i></td> <td><i>The glowing wooden splinter burns/rekindles/relight/lighted up /burns with brighter flame</i></td> </tr> </tbody> </table>	Gases	Confirmatory test	Observation	P	Using limewater	Changes the limewater from colourless to cloudy/chalky/ milky	@	@		Using bicarbonate indicator	Changes the bicarbonate indicator from red to yellow.	Gases	Confirmatory test	Observation	P	<i>Using glowing wooden splinter</i>	<i>The glowing wooden splinter burns/rekindles/relight/lighted up /burns with brighter flame</i>	1 1	2
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(c)	<b>Able to name the chemical substance and state how it can be reduced.</b>	1+1	2
	<b>Answer:</b> Chemical substance: Chlorofluorocarbon / CFC	1	
	Way to reduce: P1 – Replace CFC with Hydrofluorocarbon /HFC in air conditioner / refrigerator	1	
	P2 - Reduce the usage of air conditioner/refrigerator	1	
	P3 – Use inverter air conditioner/refrigerator	1	
[accept any reasonable answer for the way to reduce CFC only]	<b>Total</b>	<b>6</b>	

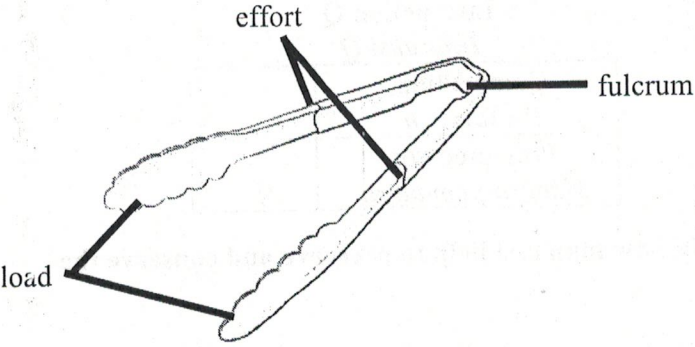
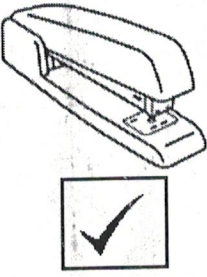
**MARKING SCHEME  
FINAL SEMESTER F3 2018**

ITEM	MARK SCHEME	MARK	TOTAL
6(a)	<b>Able to write the correct label for Diagram 6.1</b>		2
	<b>Answer:</b> (i) (Positive) phototropism / <u>negative</u> hydrotropism (ii) (positive) hydrotropism / <u>negative</u> phototropism	1 1	
(ii)	<b>Able to state and explain the importance of geotropism</b>	1+1	2
	<b>Answer:</b> P1 – Geotropism P2 – Enable the plant to grip the soil / to support the plant	1 1	
(b)	<b>Able to state the response of venus fly and how the plant can get fly</b>	1 + 1	2
	<b>Sample answer:</b> P1 – The plant is sensitive to touch / nastic movement	1	
	P2 – When the fly touches its leaf	1	
	P3 – Trigger / Stimulate the leaf to close	1	
	P4 – The Fly cannot escape	1	
	<b>Total</b>		<b>6</b>

**MARKING SCHEME  
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ITEM	MARK SCHEME	MARK	TOTAL								
7(a)(i)	<p>Able to tick (√) the type of interaction</p> <p><u>Answer</u></p> <div style="text-align: center;"> <p><b>Interaction P</b> <b>Interaksi P</b></p> <table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Mutualism <i>Mutualisme</i></td> <td style="width: 50px; text-align: center; vertical-align: middle;">√</td> </tr> <tr> <td style="padding: 2px;">Commensalism <i>Komensalisme</i></td> <td></td> </tr> </table>   <p><b>Interaction Q</b> <b>Interaksi Q</b></p> <table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Competition <i>Persaingan</i></td> <td style="width: 50px;"></td> </tr> <tr> <td style="padding: 2px;">Prey-predator <i>Mangsa-pemangsa</i></td> <td style="width: 50px; text-align: center;">√</td> </tr> </table> </div>	Mutualism <i>Mutualisme</i>	√	Commensalism <i>Komensalisme</i>		Competition <i>Persaingan</i>		Prey-predator <i>Mangsa-pemangsa</i>	√	1	2
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Prey-predator <i>Mangsa-pemangsa</i>	√										
1											
(ii)	<p><b>Able to explain how man can help to preserve and conserve the organism</b></p> <p><u>Answer</u>                      P1 – Set up animal sanctuary / turtle sanctuary                      P2 – Law enforcement on protecting endangered species                      P3 – Restore damage / destroyed habitat / beaches for turtle breeding                      P4 – Increase public awareness on the importance of preservation and conservation of its environment.                      [accept any reasonable answer]</p>	1 1 1 1	2								
(b)	<p><b>Able to explain this action reduce global warming</b></p> <p><u>Answer</u>                      E1 – Less deforestation / Less trees cut                      E2 – Less accumulation of carbon dioxide in the air                      E3 – Reduce increment in earth temperature                      [accept any reasonable answer]</p>	1 1 1	2								
<b>Total</b>			<b>6</b>								

**MARKING SCHEME  
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ITEM	MARK SCHEME	MARK	TOTAL
8(a)	<p><b>Able to state the class of lever and give the reason correctly.</b>  <u>Answer:</u>                      F-Third class lever                      E-Effort is between load and fulcrum/effort is in the middle</p>	1 1	2
(b)	<p><b>Able to label the position of Fulcrum, Load and Effort correctly.</b>  <u>Answer:</u>                      All label correct – 1m</p> <div style="text-align: center;">  </div>	1	1
(c)	<p><b>Able to mark (✓) the tool is classified in the same class of lever correctly.</b>  <u>Answer:</u></p> <div style="text-align: center;">  </div>	1	1
(d)	<p><b>Able to calculate the effort produced by this tool correctly.</b>                      Rubric:                      Correct substitution – 1 m                      Correct answer – 1m  <u>Answer:</u></p> <p><math>\frac{2 \times 80}{50} = \text{effort}</math> or <math>2 \times 80 = \text{effort} \times 50</math>                      50  <u>3.2 N</u></p>	1 1	2
<b>Total</b>			<b>6</b>



**MARKING SCHEME  
FINAL SEMESTER F3 2018**

ITEM	MARK SCHEME	MARK	TOTAL						
9(a)	<p><b>Able to state the elements that are present in the limestone correctly.</b>  <u>Answer:</u>                      Calcium, carbon , oxygen</p> <p style="text-align: right;">Correct all three – 1m</p>	1	1						
(b)	<p><b>Able to state one use of the gas produced</b>  <u>Answer:</u>                      Use in fire extinguisher // produced carbonated soft drink                      [Accept any reasonable answer]</p>	1	1						
(c)	<p><b>Able to complete the word equation below to show the reaction when limestone is heated.</b>  <u>Answer:</u>                      Reactant correct – 1m                      Both product correct – 1m</p> <p>Calcium carbonate → calcium oxide + carbon dioxide</p>	1 1	2						
(d)(i)	<p><b>Able to state two characteristics that can differentiate the fractions.</b>  <u>Answer:</u>                      P1-number of carbon atom.                      P2-boiling point.                      P3-flamability                      P4-viscosity                      P5-amount of soot produces                      P6-colour of the fraction                      Any two</p>	1+1 1 1 1 1 1 1	2						
(ii)	<p><b>Able to give opinions and explain the answer based on statement</b>  <u>Answer:</u>                      Respon – 1m                      Reason – 1m</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 40%; text-align: center; padding: 5px;">Yes</td> <td style="width: 10%; text-align: center; vertical-align: middle;">or</td> <td style="border: 1px solid black; width: 40%; text-align: center; padding: 5px;">No</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">It produce toxic gases when it turns</td> <td></td> <td style="border: 1px solid black; padding: 5px;">Because it can be managed wisely</td> </tr> </table> <p>[Accept any reasonable answer]</p>	Yes	or	No	It produce toxic gases when it turns		Because it can be managed wisely	1+1 1 1 1 1	2
Yes	or	No							
It produce toxic gases when it turns		Because it can be managed wisely							
<b>Total</b>			<b>8</b>						

**MARKING SCHEME  
FINAL SEMESTER F3 2018**

ITEM	MARK SCHEME	MARK	TOTAL
10(a)(i)	<p><b>Able to state the meaning of force</b>  <u>Answer:</u>            Force is a <u>push</u> or a <u>pull</u> (acting upon an object)            Remark: Must have word push and pull</p>	1	2
(ii)	<p><b>Able to state the effect of force</b>  <u>Answer:</u>            Force can <u>change the shape</u> of an object</p>	1	2
(b)(i)	<p><b>Able to calculate the workdone by the forklift</b>  <u>Answer:</u>            Correct substitution – 1 m            Correct answer – 1m</p> <p>Workdone = Force X Distance            = (250 X 10)N X 2m            = 5000Nm // 5000J</p>	1 1	
(ii)	<p><b>Able to justify which crane is better to transfer the contena</b>  <u>Answer:</u>            P1 – J            A1 – More powerful            A2 – Able to lift the contena faster / shorter time            A3 – Able to transfer the contena to higher places            D4 – K less powerful</p> <p>Or            P2 – K            A1 – Heavier load can be lifted            A2 – Use of energy more efficient/less use of fuel/more economical            D3 – Unable to lift the contena in shorter time            D4 – J use energy is not efficient / more use fuel / not economical            D5 – Less load capacity            P1 + any 2A + 1 D            P2 + any 2A + 1 D</p>	1+2+1  1 1 1 1  1 1 1 1 1	4
	Total		8

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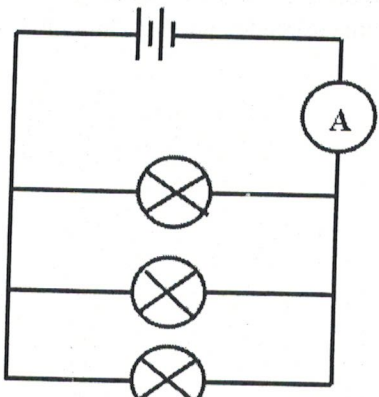
ITEM	MARK SCHEME	MARK	TOTAL
11(a)(i)	Able to name the structure X		<b>1</b>
	<u>Answer:</u> Placenta	<b>1</b>	
(ii)	<b>Able to explain the effect of preeclampsia to structure X</b>	<b>1 + 1</b>	<b>2</b>
	<u>Answer:</u> P1 - Placenta will malfunction	<b>1</b>	
	E1 - Placenta cannot provide enough oxygen/nutrient/blood	<b>1</b>	
	E2 - Placenta cannot remove waste product/remove less waste product	<b>1</b>	
(b)	<b>Able to explain the effect of alcohol towards development of foetus.</b>		<b>2</b>
	<u>Answer:</u> P1 – The baby may suffer from Fetal Alcohol Syndrome.	<b>1</b>	
	P2 – Slow down the development of the foetus	<b>1</b>	
	P3 – Damage baby brain/nervous system	<b>1</b>	
	P4 - Damage baby heart	<b>1</b>	
	[max 2 answers]		
(c)	<b>Able to justify why the food proportion is suitable for pregnant mother.</b>	<b>1 + 1</b>	<b>2</b>
	<u>Answer:</u> P1 – Balanced diet	<b>1</b>	
	E1 – contain right amount all classes of food in the correct portion	<b>1</b>	
	P2- Consist of vitamin and mineral	<b>1</b>	
	E2- To keep healthy/growth	<b>1</b>	
	P3 – Consist of carbohydrate	<b>1</b>	
	E3 – Supply energy	<b>1</b>	
	P4 - Consist of protein	<b>1</b>	
	E4 – For growth/ repair body tissues	<b>1</b>	
	[P + E of any combination]		
	(d)	<b>Able to give opinion to support the suggestion given by Laila’s mother.</b>	
<u>Answer:</u> O – Agree		<b>1</b>	
E1 – To ensure complication during pregnancy and delivery not happen		<b>1</b>	
E2 – Stay healthy/get all nutrients needed		<b>1</b>	
<b>Total</b>			<b>10</b>



**MARKING SCHEME  
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ITEM	MARK SCHEME	MARK	TOTAL
12(a)(i)	<b>Able to state the colour of screen shade</b> <u>Answer:</u> White / silver Reject : shiny	1	1
(ii)	<b>Able to explain how sun screen work.</b> <u>Answer:</u> P1 – reflect the heat P2 – reduce the temperature in the car	1 1	2
(b)	<b>Able to suggest one way to open the metal lid</b> <u>Answer:</u> P1 - Pour hot water onto the metal lid. E1 - Metal lid expand Or P1- Soak the glass jar in a beaker of ice E2- the glass jar contracts	1+1  1 1  1 1	2
(c)	<b>Able to explain situation 1 and situation 2</b> <u>Answer:</u> Situation 1/ normal temperature - <u>bimetallic strip remain</u> not in contact with contact spring and circuit complete.  Situation 2/ temperature exceed limit - <u>bimetallic strip bend</u> towards contact spring, opening the circuit become incomplete.	1+1  1  1	2
(d)	<b>Able to justify the answer to repaint the house's roof.</b> <u>Sample Answer:</u> Respond – 1m Reason – 2m Yes P1 - reduce absorption of heat P2 - reduce carbon dioxide emissions P3 - reflect solar energy Or No P1 – time consuming P2- cost of the process	1+2  1 1 1 1  1 1 1	3
		Total	10

**MARKING SCHEME  
FINAL SEMESTER F3 2018  
MARK SCHEME**

ITEM	MARK SCHEME	MARK	TOTAL
13(a)(i)	<b>Able to name the type of circuit</b> <u>Answer:</u> Series circuit	1	1
(ii)	<b>Able to state what happen to the ammeter reading</b> <u>Answer:</u> Increase	1	1
(b)	<b>Able to choose which copper wire should be used to get the brightest bulb and its explanation.</b> <u>Answer</u> P1 – P E1 – The thicker the wire, the lower the resistance E2 – The higher current flow in the circuit	1+2  1 1 1	3
(c)	<b>Able to justify which circuit will produce louder sound.</b> <u>Sample answer</u> C = Circuit chosen R = Reason to support the circuit chosen K = Reason why does not choose the circuit  C1 – Circuit L R1 – Less total resistance R2 – More current flow in speaker K1 – K more total resistance K2 – So less current flow in K  P1 + Any 2R + Any 1K	1+2+1     1 1 1 1 1	4
(d)	<b>Able to draw a parallel circuit using the following electrical components and explain</b> <u>Answer</u>    Correct diagram E1 – The bulbs are connected in several path E2 – When one bulb is blown, the others still light up Diagram + 2E	1+2     1  1 1	3
<b>Total</b>		<b>13</b>	

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ITEM	MARK SCHEME	MARK	TOTAL
14	<b>Able to name one substance that is added in tank M.</b>		1
(a)(i)	<b>Answer:</b> Tank M: Alum/ Slaked lime	1	
(ii)	<b>Able to state reason why the process in tank N is important.</b>		1
	<b>Answer:</b> Remove large lumps/Enable the large particles settle down at the bottom of the tank	1	
(b)(i)	<b>Able to determine which station supplies better quality of water to consumers</b>		1
	<b>Answer :</b> Station T/T	1	
(ii)	<b>Able to give reasons</b>		2
	<b>Answer :</b> P1 : Water at station T has lower pH P2 : Water at station T has higher dissolved oxygen P3 : Water at station T has less suspended particles	1 1 1	
(c)	<b>Able to choose the most suitable method to purify the river water to prepare chemical solution.</b>	1+2+1	4
	<b>Answer:</b> C = Method chosen R = Reason to support the method chosen K = Reason why does not choose the method  Choice : Method R  Explanation : R1 : Water from <b>method R</b> do not has suspended particles R2 : Water from <b>method R</b> do not contain microorganisms K3 : Water from <b>method S</b> still contain suspended particles and microorganisms  C1 + Any 2R + Any 1K	1       1 1 1	



(d)	<p>Able to sketch the model and explain how the model works. <u>Sample answer:</u></p> <p><u>Sketch</u></p> <div style="text-align: center;"><p>Labels in sketch: Rope, Plastic bag, Sand, Pebbles, Charcoal</p></div> <p>E1 - The plastic bag is cut into half and tied the plastic bag at the tree. E2 - Place the sand, the pebbles then the charcoal. E3 - Pour the dirty river water E4 - The clean water is collected at the bottom of the plastic bag</p> <p>[Any 2 point]</p>	1 + 2	3
		1	
		1 1 1 1	
		Total	12

