ANSWERS BIOLOGI KERTAS 1 MID YEAR 2007

NO	ANSWER	NO	ANSWER
1	C	26	C
2	A	27	C
3	D	28	A
4	C	29	D
5	B	30	B
6	C	31	A
7	B	32	B
8	B	33	D
9	D	34	C
10	D	35	C
11	C	36	C
12	D	37	B
13	A	38	D
14	C	39	A
15	B	40	A
16	C	41	B
17	B	42	C
18	C	43	B
19	D	44	C
20	B	45	B
21	B	46	D
22	A	47	D
23	B	48	C
24	D	49	A
25	A	50	B

Mark Scheme

No	Sec.	Accepted points / description / explanation	M 1	M Sum
1	a(i)	Villus	1	1
	(ii)	Absorption of (digested)/ nutrients food	1	1
1	b	P: Epithelium 3=2M Q: Lacteal 2=1M R: (blood) capillary 1 = 0	1 1 1	2
1	c	P1: Its surface is provided with numerous micro villi (to increase the surface area for absorption.) P2: Its contain a network of blood capillaries (for the efficient transport of digested food.) P3: Its contain lymphatic system / lacteal (for absorption fatty acids and glycerol.)	1 1 1	3
1	d	F1: Protein is digested / hydrolysed to amino acid E2: Amino acid diffused in the blood capillaries through (epithelium layer) by facilitated diffusion/ active transport. F2: Lipid is hydrolysed to fatty acid and glycerol. E2: Each of them absorbed / diffused into lacteal/ lymphatic system (through epithelium tissue)	1 1 1 1	4
1	e	F1: Excess protein/ amino acid is broken down by deamination process. E1:The final product of (deamination) is urea which is excreted (through kidney).	1 1	2
		TOTAL		13

No	Sec.	Accepted points / description / explanation	M 1	M Sum
2	(a)	P : Cell Q : Organ R : System	1 1 1	3
	(b)	S : Xylem vessels / tracheids T : Stem / root / leaf	1 1	2
	©	Mitosis	1	1
	(d)	44	1	1
	(e)	F : P Undergo cell specialization whereas K does not undergo cell specialization E : P Has specific shape / structure for specific function, K has basic shape	1 1	2
	(f)(i)	Carries water and mineral salts from the roots to the stems and leaves // provides mechanical support.	1	1
	(f) (ii)	* The tissue consists of hollow vessels joined end to end // It has a continuous tube from the roots to the leaves. * The wall are thickened with lignin // It is strong.	1 1	2

No. Item	Section	Accepted point / Description / Explanation	M1	M2 Sum
3	(a)(i)	R: Submerged plant S: Floating plant T: Amphibian plant / emergent plant	1 1 1	3
	(a)(ii)	R: Plenty of green leaves to absorb light // stem with air spaces for support /gas exchange // epidermis of leaf and stem is permeable to water and dissolved gas// reproduction by vegetative propagation (asexual) S: Leaf petiole have plenty of air spaces for floating // extensive root system to absorb minerals and water / reproduction by vegetative propagation (asexual)	1 1	2
	(b)	F1: Light intensity in pond water is reduced, lowering the water temperature. P1: encouraging the growth of aquatic organisms F2: decomposation of dead successor increase the minerals content /nutrient in trhe pond water P2: encouraging growth of other successor population F3: Decomposed of dead successor were sink and deposited on the base of pond P3: the pond becomes shallow / depth of pond is reduced	1 1 1 1 1 1	F1P1// F2P2// F3P3 2
	(c)(i)	Density of *Calocasia* sp. = Total no of *Calocasia* sp / (Total no of quadrats X area of quadrats) = 28 / (5 x 4) = 1.4 per meter square	1 1	2
	(c)(ii)	• Use of excess fertiliser courses increase in of the number floating plants • Penetration of sunglight in the water reduce	1 1	

		• Algae / phytoplankton will die and food chain disturbed • The number of decomposing organism increase, soluble oxygen decrease / increase BOD • Aquatic organism will die (lack of oxygen)	1 1 1	Any 3 3
		TOTAL		**12**

Question	Criteria	Marks		Remarks
4(a)(i)	Connective tissues/ bone	1		
(a)(ii)	Muscle tissue	1	2	
(b)	Bone: F- Able to withstand compression /provides protection to organs and gives support to the body. E- Consists of cells embedded in a matrix of collagen which are hardened and strengthened by mineral deposits eg. calcium Muscle: F- Able to produce movements to bones by pulling on the tendons E- Consists of long muscle fibres which can contract and relax. - muscles work in pairs and are antagonistic in action	1 1 1 1	2 2	
(c)	Circle the hinge joints only eg. elbow joint, knee joint	1	1	
(d)(i)	Muscle cramp	1	1	
(ii)	Muscular dystrophy: F- Progressive degeneration and weakness of the skeletal muscles that control movement E- caused by a mutated gene in the X chromosome. Arthritis: F- Skeletal disorder involves inflamed and painful joints eg. stiff knees E- caused by wear and tear of cartilage	1 1 1 1	2 2 12	Total marks

No	Sec.	Accepted points / description / explanation	M 1	M Sum
5	a	R : glomerulus / Malphigian capsule S : loop of Henle T ; collecting tubule / duct U : Blood vessel 4 correct answers = 2 2 or 3 correct answers = 1		2
	b	What happens in R? - ultra-filtration process - due to difference in partial pressure of blood in afferent and efferent arteriole - some components of blood plasma (at least two examples/ glucose, amino acids, water, salts) is filtered out (from glomerulus) into Bowman capsule -	max 2	
		What happens in S? -reabsorption of water (into blood vessel) by osmosis -reabsorption of salt / NaCl by facilitated diffusion	max 1	3
	c	- protein plasma - red blood cells	1 1	2
	d	Elimination of urea in haemodialysis unit: - by a diffusion process - from a region of higher concentration of urea in the blood into dialysate where urea concentration is lower. - through cellophane / dialysis membrane (which is semipermeable) -	1 1 1	2
	e	The function of haemodialysis machine in regulating osmotic pressure of a kidney patient: - osmosis also takes place between dialysate and blood plasma flowing in the dialysis tube - provided that the dialysate is isotonic to the blood plasma of normal person - thus enables regulation of normal osmotic pressure / amount of water in the patient's body fluid. -	1 1 1	Max 2
	f	Addition of anticoagulant: - to prevent blood clot in the dialysis unit. -	1	1
Total mark				12

Section B

No	Sec.	Accepted points / description / explanation	M 1	M Sum
6	a (i)	**Open Circulatory system** P1: Present in some invertebrates P2: includes an open space (the haemocoel) in which haemolymph directly bathes body tissues. **Close circulatory system** P1: Present in all vertebrates P2: Blood is entirely enclosed within blood vessel	 1 1 1 1	Max:3
6	a (ii)	The advantanges of having double circulatory system:- F1: oxygenated blood returns to the heart to be pumped again before being distributed to the rest of the body. E1: this increases the pressure of the blood and the rate of flow , thereby speeding up the delivery of oxygen to the tissues and organs.	 1 1	2
6	b	**Similarity**: P1: Blood flow is in one direction P2: Both is provide with heart to pump the blood **Differences**:	 1 1	

Open circulatory system	Closed circulatory system	M 1
Blood flows partly in blood vessel and partly in the haemocoel	Blood circulates in the blood vessels	1
Contains no red blood cell	Only contains red blood cell to (transport) oxygen	1
Blood pressure is low	Blood pressure is high	1
There is multiple heart	There is only single heart	1

Max:5

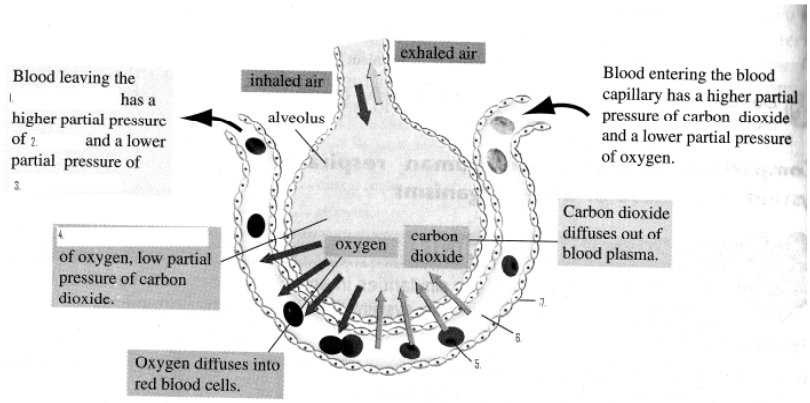
No	Sec.	Accepted points / description / explanation	M 1	M Sum
	c (i)	P1: When a blood vessel is damaged P2: the collagen fibres in the wall of the blood vessel exposed to blood . P3: platelets stick to the exposed collagen fibres P4: (and than) a cluster of platelets develops / platelets aggulitinate	1 1 1 1	

		P5: The platelet release a protein called thromboplastin/ thrombokinase. P6: Thromboplastin in the present of calsium and vitamin K convert prothrombin to thrombin. P7: Thrombin acts as an enzyme to convert the soluble plasma protein fibrinogen into fibrin filaments. P8: Fibrin (filaments) form a sticky network of fibres that traps red blood cells. Finally blood clot is formed.	1 1 1 1	8
	c (ii)	F1: lack of factor VIII / clotting factor E1: its formation / synthesis is controlled by a specific gene. E2: the genes is located in the x chromosomal	1 1 1	max 2

No	Bhg	Fakta / Penerangan	M 1	M Jum
7	a	Things that happen in the central nervous system (in the figure): - impulse in the afferent neurone arrives at the synaptic knop / synapse - causes the synaptic vesicles (containing neurotransmitter substances / acetylcholine) to move towards presynaptic membrane - releases neurotransmitter substance into the synaptic cleft - which then move across the synaptic cleft and combine with the (receptor site at the) postsynaptic membrane/ membrane of interneurone / efferent neurone - and produces / generates nervous impulse in the interneurone / efferent / motor neurone	1 1 1 1 1	max 4
	b	Transmission of impulse from receptor to the muscle fibre: - receptor is stimulated by the stimulus and generate impulse - impulse is transmitted along dendrites to cell body - (the impulse is) then transmiitted along the axon of afferent / sensory neurone to the central nervous system. - the impulse then crosses the synapse in CNS / spinal cord / brain - and transmitted to the inteneurone/ efferent neurone - which delivers the impulse to the neuro-muscular synapse / synaptic knop - the impulse is transmitted across the synapse by chemical means / in the form of neurotransmitter to the muscle fibre	1 1 1 1 1 1 1	Max

		- the subsequent impulse is generated in the muscle fibre, causing it to contract	1	6
	c	Role of endocrine system and nervous system in regulation of body temperature: Role of endocrine system: -human body temperature is partly determined by the rate of metabolic reactions in body tissues -which is in turn regulated by the hormone, thyroxine / thyroid hormone -higher level of thyroxine in the blood increases the metabolic rate -and thus increases the generation of heat in the body / increases the body temperature / / the opposite when there is lower level of thyroxine in the blood -the release of thyroxin is under the control of another hormone from pituitary i.e thyroid stimulating hormone -which is stimulated by another hormone from hypothalamus	 1 1 1 1 1 1	 Max 4

		Role of nervous system : - increase / decrease / change of the surrounding temperature is detected by thermal receptors in the skin - the impulse is then sent to hypothalamus - which initiates the negative feedback mechanism (in order to maintain the normal body temperature) - hypothalamus transmits impulse to the hot / cold centres in the brain - that will bring about : • decrease / increase sweating, • vasodilation / vasoconstriction and • the raising / lowering of skin hairs • shivering	 1 1 1 1 1 1 1 1	 Max 6
Total				20

No	Sec.	Accepted points / description / explanation	M 1	M Sum
8	(a)			
		Diagram = 1 m Label = 1m	1 1	
		F - The partial pressure of oxygen in the alveolus is higher then the partial pressure of oxygen in the blood capillaries	1	
		E - Oxygen diffuse from alveolus into blood capillaries.	1	
		F - The partial pressure of carbon dioxide in the blood capillaries of the alveolus is higher then the partial pressure of carbon dioxide in the alveolus.	1	
		E - Carbon dioxide diffuses out of the blood capillaries into the alveolus to be expelled out during exhalation	1	
		F - The alveolus wall is only one cell thick.	1	
		E - This enables oxygen and carbon dioxide to diffuse easily	1	
		F - The alveolus surface is moist.	1	
		E - Oxygen and carbon dioxide can dissolve / diffuse easily into and out of the alveolus	1	
		F - The alveolus is very small in size and there are millions of alveoli in each lungs.	1	
		E - Provide a huge surface area for gaseous exchange	1	

		F - Large network of blood capillaries covering outer surface of each alveolus. F - The capillaries are also one cell thick E - To enable rapid diffusion of gases in the alveoli	1 1 1	Max = 12 *marks*
	(b)	Able to descibe how the content of carbon dioxide is regulated in the body during strenuous exercise by using the figure given in the question. When the concentration of carbon dioxide increases as the result of active cellular respiration during vigorous exercise, the carbon dioxide reacts with water to form carbonic acid. This cause pH value in the blood drop. The drop in pH is detected by the central chemoreceptors in the medulla oblongata and detected by peripheral chemoreceptors (carotid bodies and aortic bodies) The central and peripheral chemoreceptors send nerve impulses to the respiratory centre in the medulla oblongata. The respiratory centre, in turn, sends nerve impulses to the diaphragm and the intercostals muscles, causing the respiratory muscles to contract and relax faster. As a result, the breathing and ventilation rates increase As excess carbon dioxide is eliminated from the body, the carbon dioxide concentration and pH of the blood return to normal.	 1 1 1 1 1 1 1 1 1	Max = 8 *marks*

No. Item	Section	Accepted point / Description / Explanation	M1	M2 Sum
9	(a)	Sources of greenhouse gases; F1- Emission from exhaust of motor vehicles E1- release a lot of carbon dioxide gas and into atmosphere F2- Combustion of fossil fuel in factories E2- releases a large amount of carbon dioxide gas into atmosphere E3- and also releases oxides of nitrogen F3- Uses of aerosol spray/air conditioner E4- with contains CFC E5- CFC cause ozone depletion with bring about greenhouse effect F4- Fermentation in ruminant animals / anaerobic fermentation in paddy field E6- release methane gas into atmosphere F5- use of inorganic fertilizer E7- cause release of nitrogen oxide gas	 1 1 1 1 1 1 1 1 1 1 1	 Max. 10
9	(b)	The formation of Greenhouse effect caused by; P1 - Solar radiation penetrate earth atmosphere and warm the Earth surface P2 - Part of heat energy is reflected back by Earth surface to atmosphere in the form of infrared radiation / light P3 - Heat energy that are reflected back is trapped by greenhouse gases (such as carbon dioxide, carbon monoxide, oxides of nitrogen, methane and CFC) P4 - Human activities such as combustion of fossil fuel by factories and vehicles increase the amount of greenhouse gases P5 - Higher concentration of greenhouse gases on the atmosphere course more reflected energy being absorbed / trapped P6 - This will increase the Earth temperature / cause global warming	 1 1 1 1 1 1	 Max 5

	(c)	Effect of greenhouse effect on living things and ecosystem; P1 - Increase of carbon dioxide in atmosphere / temperature of Earth will increase the rate of photosynthesis / agriculture yield P2 - Global warming / increase in earth temperature will accelerate evaporation of water / reduce soil humidity P3 - Climatic change / changes in wind direction / changes in distribution of rainfall bring about storm / drought / flood P4 - Melting of ice in north and south poles increase sea level and cause flooding of low level areas P5 - Yield of crop / domestic animal reduced P6 – Mass destruction of animals habitat result in the animal emigration P7 – reduces of animal population	1 1 1 1 1 1 1	Max. 5
			JUMLAH	**20**

MARK SCHEME / MIDYEAR EXAM. SBP 2007
BIOLOGY FORM 5 / PAPER 3

Question 1

Question	Score	Criteria	Remarks
1(a)(i)	3	**Able to state two observations correctly.** Sample answer 1.The final total length of the potato discs immersed in 0% sucrose solution is 13.0cm 2. The final total length of the potato discs immersed in 15% sucrose solution is 8.6cm 3. The final total length of the potato discs immersed in 3% sucrose solution is 11.4 cm 4. The final total length of the potato discs immersed in 5% sucrose solution is 9.5 cm	
	2	Able to state 1 observation correctly/ 2 observations but not so clearly	
	1	Able to give a general observation	
a(ii)	3	**Able to state a correct inference for each observation.** Sample answer 1. For the 0% sucrose solution/ distilled water, or 3 % sucrose solution the increase in length is caused by the diffusion of water molecules into the cell sap by osmosis. 2. For the 15% sucrose solution, the decrease in length is caused by the diffusion of water molecules out of the cell sap by osmosis. 3. For the 5% sucrose solution, there is no change in length as the rate of diffusion of water molecules into the cell sap is the same as the rate of diffusion of water molecules out of the cell sap. No osmosis occurred.	
	2	**Able to state at least one inference correctly/ 2 inference but incomplete.**	
	1	**Able to state 1 inference but incomplete**	

<table>
<tr><td>(b)</td><td>3</td><td>Able to give all correct measurements :

Group P : 13.0 cm
Group Q : 11.4 cm
Group R : 9.5 cm
Group S : 8.6 cm</td><td></td></tr>
<tr><td></td><td>2</td><td>3 correct</td><td></td></tr>
<tr><td></td><td>1</td><td>2 correct</td><td></td></tr>
<tr><td>(c) (i)</td><td>3</td><td>Able to state all the variables and method of operating the variables correctly.
Sample answer

<table><tr><th>Variables</th><th>Method</th></tr><tr><td>Manipulated:
Concentration of sucrose solutions</td><td>Use different concentration of sucrose solutions: 0%,3%,5%and 15%</td></tr><tr><td>Responding:
Final length of potato discs/ Change in length of potato discs/ percentage change in length of potato discs.</td><td>Measure the final length by using the given scale.</td></tr><tr><td>Controlled variable:
Duration of immersion/ Size of potato discs/ volume of sucrose solutions</td><td>Fix the time duration for the immersion of the potato discs./
Fix the diameter of the potato discs by using the same cork borer for all the discs / measure the same volume of sucrose solutions using a measuring cylinder,</td></tr></table></td><td></td></tr>
<tr><td></td><td>2</td><td>Able to state only 2 variables and methods correctly</td><td></td></tr>
<tr><td></td><td>1</td><td>Able to state only 1 variable and 1method correctly
Criteria</td><td>Remarks</td></tr>
<tr><td>(c)(ii)</td><td>3</td><td>Able to state the hypothesis correctly based on the following criteria:
K1 : State the manipulated variable
K2 : State the responding variable
K3 : Relate K1 with K2</td><td></td></tr>
</table>

<table>
<tr>
<td>(d)(i)</td>
<td>2

1</td>
<td>Sample answer
The higher the concentration of the sucrose solution the shorter the length of the potato discs.

Able to state the hypothesis but less accurate.
Able to state idea of the hypothesis.
Sample answer

<table>
<tr><td rowspan="2">Aspect</td><td colspan="4">Concentration of sucrose solutions(%)</td></tr>
<tr><td>0</td><td>3</td><td>5</td><td>15</td></tr>
<tr><td>Original length/cm</td><td>9.5</td><td>9.5</td><td>9.5</td><td>9.5</td></tr>
<tr><td>Final length/cm</td><td>13.0</td><td>11.4</td><td>9.5</td><td>8.6</td></tr>
<tr><td>Change in length/cm</td><td>+3.5</td><td>+1.9</td><td>0</td><td>-0.9</td></tr>
<tr><td>Percentage change in length/%</td><td>+36.84</td><td>+20.0</td><td>0</td><td>-9.47</td></tr>
</table>
</td>
<td>No marks allocated as the data obtained is for plotting the graph.</td>
</tr>
<tr>
<td>(d)(ii)</td>
<td>3</td>
<td>Graph drawn according to the following:

1. x axis and y axis with correct scales and units
2. correct transfer of points/coordinates
3. correct shape of curve</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Any 2 criteria correct</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Any 1 criteria correct</td>
<td></td>
</tr>
<tr>
<td>(d)(iii)</td>
<td>3</td>
<td>Sample answer

Concentration of sucrose solution which is isotonic to the cell sap is 5%

E: From the graph the point where the graph cuts the x axis indicates the concentration of the sucrose solution that does not cause any changes to the length of the potato discs/ no osmosis occurred.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Able to state the value correctly but no unit and correct explanation given.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Able to state value correctly but no explanation.</td>
<td></td>
</tr>
</table>

(e)	3	**Able to give correct prediction based on scientific reasoning** Sample answer The spinach stem strips will become shrunken and soft/flexible and curved inwards with the epidermis on the outside as water leaves the exposed tissues and not through the impermeable epidermis..	
	2	**Able to give incomplete prediction**	
	1	**Able to give a general idea only**	
Question	**Score**	**Criteria**	**Remark**
(f)	3	**Able to relate changes in time with the length of the potatoes.** Sample answer The longer the time of immersion, the longer the length of the potato discs until the maximum length is reached.	
	2	**Able to state the prediction but incomplete.**	
	1	**Able to give a general idea**	
(g)	3	**Able to include all the following criteria:** **K1: Movement of water molecules** **K2: Across the plasma membrane/semi permeable membrane** **K3: Show difference in concentration between the cell sap and the sucrose solutions.** Sample answer A process in which water molecules enter or leave the potato discs across the plasma membranes of the potato cells when there is a difference in osmotic concentration/ concentration gradient between the cell sap and the sucrose solutions.	
	2	**Able to give incomplete definition/ complete definition but conceptual**	
	1	**Able to give a general idea**	

<table>
<tr><td>(h)</td><td>3</td><td>Able to classify correctly and completely
Sample answer

<table><tr><td>0% sucrose/distilled water</td><td>Hypotonic solution</td></tr><tr><td>3% sucrose</td><td>Hypotonic solution</td></tr><tr><td>5% sucrose</td><td>Isotonic solution</td></tr><tr><td>15% sucrose</td><td>Hypertonic solution</td></tr></table></td><td></td></tr>
<tr><td></td><td>2</td><td>Able to give 2 classification correctly</td><td></td></tr>
<tr><td></td><td>1</td><td>Able to give 1 classification correctly</td><td></td></tr>
</table>

Question 2

Aspect	Score	Criteria / Performance indicator
1. Statement of the problem	3	Complete as given in the suggested answer
	2	The statement shows relationship to the hypothesis
	1	At the level of an idea only
2. Hypothesis	3	Complete as given in the suggested answer / able to show the relationship between the manipulated and the responding variable.
	2	There is a relatonship between the two variables but not clearly / properly indicated / expressed
	1	At the level of an idea only
3. Apparatus / Materials	3	Complete as given in the suggested answer
	2	Must include the main apparatus/ materials, at least able to get the results.
	1	At the level of an idea only
4. Procedure	3	Complete as given in the suggested answer
	2	At least must include steps 1, 3,5 and 7
	1	At the level of an idea only
5. Planning of investigation	3	Should contain the following report titles: from S2 to S8
	2	Should at least contain the following report titles : S2, S3,S4, S5 and S7
	1	Should at least contain the following report titles: S3, S5 and S7
6 Bonus points	2	The variables, technique and tabulation of results are correct
	1	Any two of the above aspects are correct.

Total mark is 17.

Suggested Answer:

No	Bhg	Fakta / Penerangan	M 1	M 2
2		*Suggested answer* :		
S1	Aim / Objective	To compare the level of water pollution at different locations of the Gelam river	-	
S2	***Statement of the problem***	***Does water at different locations / places of the Gelam river have different level of pollution? //*** ***Is the level of water pollution at different places / locations in Gelam river different?***		
S3	***Hypothesis***	***The level of water pollution at different locations / places in the Gelam river is different***		
S4	Variables:			
	Man. Variable	*Water samples at different locations / places / at locations X, Y and Z of Gelam river*		
	Resp. Variable	*Comparative value of B.O.D / degree of water pollution at the locations X,Y and Z //* *Time taken for blue colour (of water) to decolourise / change to colourless*		
	Fixed variable	*Volume of water samples, concentration of methylene blue solution, volume of methylene blue solution (any one)*		
S5	***Apparatus*** ***Materials***	***Reagent bottles with stopper, dropper / pasteur pipette, stop watch / watch, beakers, syringes*** ***0.1% Methylene blue solution, water samples from locations X, Y and Z.***		
S6	*Technique of investigation*	*Observing , measuring and comparing the BOD level / level of pollution of water samples// time taken for decolourisation of blue colour of the water samples.*		
S7	***Procedure***	***1. Water samples are collected from three different locations / stations X,Y and Z of the Gelam river*** ***2. Water samples from stations X,Y and Z are filled into reagent bottles labelled X, Y and Z respectively (or any other labels)*** ***3. A syringe is used to add 1 ml of 0.1% methylene blue solution to the base of each of the reagent bottle .*** ***4. The reagent bottles are closed quickly but do not shake .*** ***5. All the bottles are placed in a dark cupboard and the stopwatch is started/ activated.***		

<table>
<tr>
<td>S8</td>
<td>Results</td>
<td>
6. Observe the changes of the blue colour of the water samples from time to time / for every one hour / any other suitable time intervals
7. The time taken for the water samples to turn colourless / decolourise is recorded.
8. The results are recorded in a table.

<table>
<tr><th>Reagent bottles</th><th>Locations</th><th>Time taken for methylene blue to decolourise/ hour</th><th>BOD of water (hypothetical)</th></tr>
<tr><td>X</td><td>X</td><td></td><td>(lowest)*</td></tr>
<tr><td>Y</td><td>Y</td><td></td><td>(average)*</td></tr>
<tr><td>Z</td><td>Z</td><td></td><td>(highest)*</td></tr>
</table>
* not necessary
</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S9</td>
<td>Preconclusion</td>
<td>The level of water pollution at different places / locations of the Gelam river is different / the highest at Z and the lowest at X // BOD level is the highest at Z, followed by Y and X.</td>
<td></td>
<td></td>
</tr>
</table>