



Nama

Tingkatan

MAJLIS PENGETUA SEKOLAH MALAYSIA

CAWANGAN MELAKA

PEPERIKSAAN PERCUBAAN TINGKATAN LIMA
TAHUN 2011

BIOLOGI

Kertas 3

Satu jam tiga puluh minit

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU

1. Tuliskan **Nama** dan **Tingkatan** anda dalam ruangan yang disediakan.
2. Calon dikehendaki menjawab **semua** soalan.
3. Calon dikehendaki membaca maklumat yang terdapat di halaman belakang kertas soalan ini.

Untuk kegunaan Pemeriksa		
Soalan	Markah Penuh	Markah Diperoleh
1	33	
2	17	
Jumlah		

Kertas soalan ini mengandungi **14** halaman bercetak



Answer **all** questions
Jawab *semua* soalan

1. A group of students carried out an experiment to study the growth curve of a rodent. They choose guinea pig for the study. The mass of the guinea pig was measured with a weighing scale every week for 6 weeks.

Diagram 1 below shows the initial reading of body mass for newborn guinea pig.

Sekumpulan pelajar menjalankan eksperimen untuk mengkaji lengkung pertumbuhan rodensia. Mereka memilih tikus belanda untuk kajian tersebut. Berat tikus belanda diukur dengan penimbang setiap minggu selama 6 minggu.

Rajah 1 di bawah menunjukkan bacaan awal berat tikus belanda yang baru lahir.

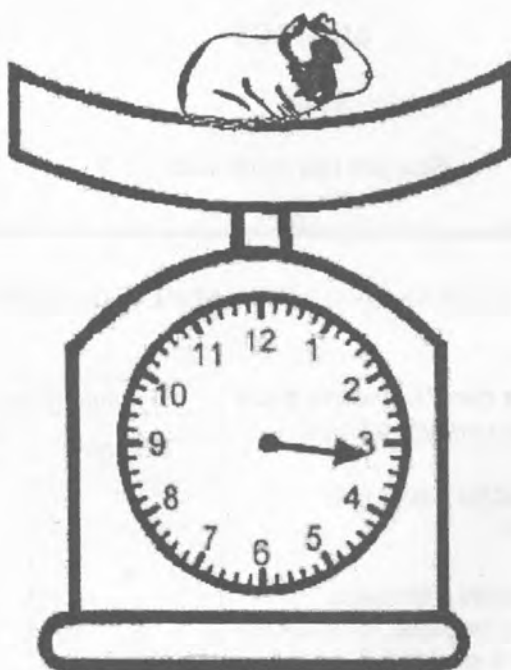


Diagram 1
Rajah 1

Initial body mass of guinea pig = _____ (g)
Berat awal tikus belanda

Table 1 show the results of the body mass of the guinea pig for the first week until the sixth week.

Jadual 1 menunjukkan keputusan berat tikus belanda tersebut pada minggu pertama hingga minggu yang ke enam.

Time (week) Masa (minggu)	Body mass of guinea pig (g) Berat tikus belanda (g)
1	
2	
3	
4	



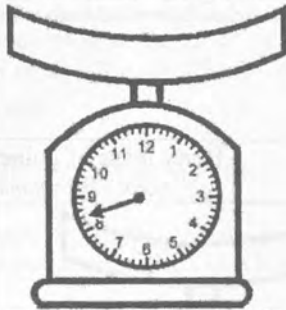
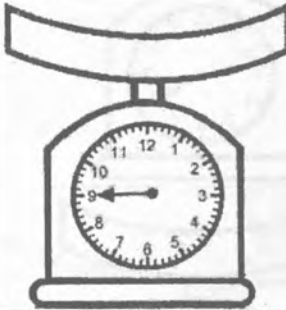
Time (week) Masa (minggu)	Body mass of guinea pig (g) Berat tikus belanda (g)
5	
6	

Table 1
Jadual 1

- (a)(i) Record the initial body mass for the newborn guinea pig in the spaces provided in Diagram 1.

Catatkan berat awal tikus belanda yang baru lahir dalam ruang yang disediakan pada Rajah 1.

- (ii) Record the body mass of the guinea pig in the space provided in Table 1.

Catatkan berat tikus belanda tersebut pada ruang yang disediakan dalam Jadual 1.

[3 marks]
[3 markah]

1 (a)(i)(ii)

3

- (b) (i) Based on Table 1 state two different observations.

Berdasarkan Jadual 1, nyatakan dua pemerhatian yang berbeza.

Observation 1 /Pemerhatian 1:

.....

.....

.....

Observation 2 /Pemerhatian 2:

.....

.....

.....

[3 marks]
[3 markah]

1 (b)(i)

3

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Use

- (ii) State the inference which corresponds to the observations in 1 (b) (i).
Nyatakan inferens yang sepadan dengan pemerhatian di 1(b)(i).

Inference from observation 1 / *Inferens daripada pemerhatian 1:*

.....

.....

.....

Inference from observation 2 / *Inferens daripada pemerhatian 2:*

.....

.....

.....

[3 marks]
[3 markah]

1 (b)(ii)

	3
--	---

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[Lihat sebelah
SULIT

(c) Complete Table 2 based on this experiment.
Lengkapkan Jadual 2 berdasarkan eksperimen ini.

Variable <i>Pembolehubah</i>	Method to handle the variable <i>Cara mengendali pembolehubah</i>
Manipulated variable <i>Pembolehubah dimanipulasikan</i>	
Responding variable <i>Pembolehubah bergerak balas</i>	
Constant variable <i>Pembolehubah dimalarkan</i>	

Table 2
Jadual 2

[3 marks]
[3 markah]

1 (c)

3

(d) State the hypothesis for this experiment.
Nyatakan hipotesis bagi eksperimen ini.

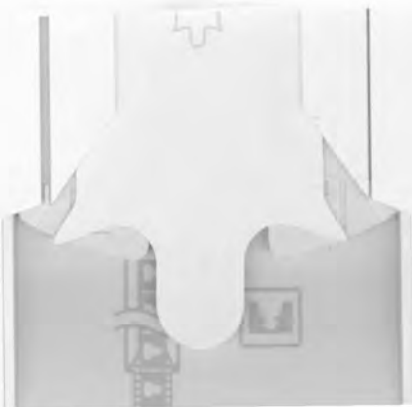
.....

.....

[3 marks]
[3 markah]

1 (d)

3



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Use

- (e) (i) Construct a table and record all the data collected in this experiment.
Bina satu jadual dan rekodkan semua data yang dikumpul dalam eksperimen ini.

Your table should have the following aspects:

Jadual anda hendaklah mengandungi aspek-aspek berikut:

- Time
Masa
- Body mass of guinea pig within the 6th week period; including the initial body mass
Berat tikus belanda dalam tempoh 6 minggu; termasuk berat awal
- Rate of growth
Kadar pertumbuhan

Use the formula :

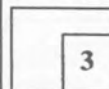
$$\text{Rate of growth} = \frac{\text{Final body mass} - \text{Initial body mass}}{\text{Time}}$$

Gunakan formula :

$$\text{Kadar Pertumbuhan} = \frac{\text{Berat akhir} - \text{Berat awal}}{\text{Masa}}$$

[3 marks]
[3 markah]

1 (e)(i)



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[Lihat sebelah
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For
Examiner's
Use

- (e)(ii) Use the graph paper provided to answer this question.

Using the data in 1(e)(i), draw a line graph of body mass of guinea pig against time.

Gunakan kertas graf yang disediakan untuk menjawab soalan ini.

Menggunakan data di 1(e)(i), lukis graf garis berat tikus belanda melawan masa.

[3 marks]

[3 markah]

1 (e) (ii)

	3
--	---

- (f) Based on the graph in 1 (e) (ii), explain the relationship between the body mass of guinea pig and time.

Berdasarkan graf di 1 (e) (ii), terangkan hubungan antara berat tikus belanda dengan masa.

.....

.....

.....

.....

[3 marks]

[3 markah]

1 (f)

	3
--	---

- (g) Throughout this experiment, the guinea pig was given only milk as its diet. If in this experiment the guinea pig is given solid food after the 4th week and onwards, predict the body mass of the guinea pig.

Explain your prediction.

Sepanjang eksperimen ini, tikus belanda tersebut hanya diberi susu sahaja. Jika dalam eksperimen ini tikus belanda tersebut diberi makanan pejal selepas minggu ke-4 dan seterusnya, ramalkan berat tikus belanda tersebut.

Terangkan ramalan anda.

.....

.....

.....

.....

[3 marks]

[3 markah]

1 (g)

	3
--	---

- (h) Based on the experiment, state the operational definition for growth.

Berdasarkan kepada eksperimen di atas, nyatakan definisi secara operasi bagi pertumbuhan.

.....

.....

.....

[3 marks]

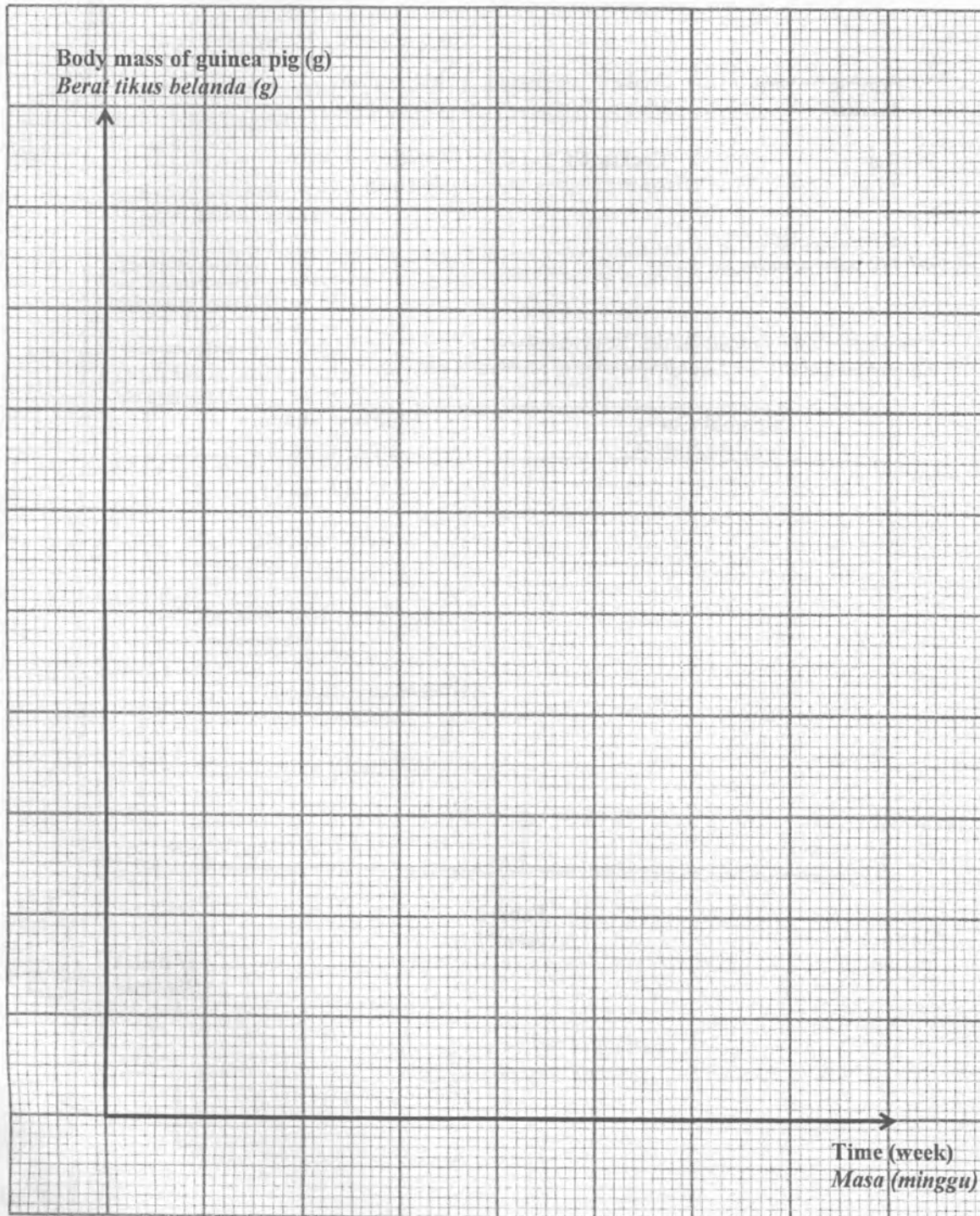
[3 markah]

1 (h)

	3
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Graph of the body mass of guinea pig against time.
Graf berat tikus belanda melawan masa.



- (i) The following list is a group of organisms that can be classified according to the growth curve of the organisms.

Senarai berikut adalah sekumpulan organisma yang boleh dikelaskan berdasarkan lengkung pertumbuhan organisma tersebut.

Praying mantis
Mentadak

Snake
Ular

Maize plant
Pokok jagung

Rat
Tikus

Cockroach
Lipas

Beetle
Kumbang

Hibiscus plant
Pokok bunga raya

Complete Table 3 based on the list given above.

Lengkapkan Jadual 3 berdasarkan senarai yang diberikan di atas.

Sigmoid Curve <i>Lengkung Sigmoid</i>	Staircase Shape <i>Bentuk Tangga</i>

Table 3
Jadual 3

[3 marks]
[3 markah]

1 (i)

3

Total

33

2. Phloem is a vascular tissue that involved in transporting the organic substances from the leaves down to the storage organs.

A group of students planning to carry out an experiment to study the function of phloem tissue in transporting the organic substances by observing the diameter of ring and unringed branches of a hibiscus plant.

Describe how the students can plan the experiment by using two different branches of the same hibiscus plant. The planning of the investigation should cover the following aspects:

Tisu floem adalah tisu vaskular yang berfungsi untuk mengangkut bahan organik daripada daun ke bahagian bawah organ simpanan.

Sekumpulan pelajar bercadang untuk menjalankan satu eksperimen bagi mengkaji fungsi tisu floem dalam mengangkut sebatian organik dengan membuat pemerhatian ke atas diameter keratan ranting yang bergelang dan tidak bergelang bagi satu pokok bunga raya.

Terangkan bagaimana pelajar-pelajar tersebut dapat merancang eksperimen tersebut dengan menggunakan dua keratan ranting pada pokok bunga raya yang sama. Perancangan eksperimen haruslah mempunyai aspek-aspek yang berikut :

- Problem statement
Pernyataan masalah
- Statement of hypothesis
Hipotesis
- Variables
Pembolehubah
- List of apparatus and materials
Senarai radas dan bahan
- Experimental procedure
Prosedur
- Presentation of data
Persembahan data

[17 marks]
[17 markah]

END OF QUESTION PAPER
KERTAS SOALAN TAMAT



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Biology
Paper 3
2011

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MAJLIS PENGETUA SEKOLAH MALAYSIA
CAWANGAN MELAKA

PEPERIKSAAN PERCUBAAN TINGKATAN LIMA
TAHUN 2011

BIOLOGY

Paper 3

PERATURAN PEMARKAHAN
UNTUK KEGUNAAN PEMERIKSA SAHAJA

Peraturan pemarkahan ini mengandungi 11 halaman bercetak

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SULIT

Sample Answers
Question 1

No.	Mark Scheme	Score																
1(a)(i)	Able to record all the initial body mass for the newborn guinea pig in Table 1 correctly. <table><tr><th>Time</th><th>Weight of the guinea pig (g)</th></tr><tr><td>0 week</td><td>3.2 ± 0.1</td></tr><tr><td>1st week</td><td>4.0 ± 0.1</td></tr><tr><td>2nd week</td><td>5.2 ± 0.1</td></tr><tr><td>3rd week</td><td>6.5 ± 0.1</td></tr><tr><td>4th week</td><td>7.6 ± 0.1</td></tr><tr><td>5th week</td><td>8.4 ± 0.1</td></tr><tr><td>6th week</td><td>9.0 ± 0.1</td></tr></table>	Time	Weight of the guinea pig (g)	0 week	3.2 ± 0.1	1 st week	4.0 ± 0.1	2 nd week	5.2 ± 0.1	3 rd week	6.5 ± 0.1	4 th week	7.6 ± 0.1	5 th week	8.4 ± 0.1	6 th week	9.0 ± 0.1	3
Time	Weight of the guinea pig (g)																	
0 week	3.2 ± 0.1																	
1 st week	4.0 ± 0.1																	
2 nd week	5.2 ± 0.1																	
3 rd week	6.5 ± 0.1																	
4 th week	7.6 ± 0.1																	
5 th week	8.4 ± 0.1																	
6 th week	9.0 ± 0.1																	
	Able to list 4-6 for readings correctly	2																
	Able to list 2-3 readings correctly	1																
	Able to list 1 reading correctly or no response or incorrect response	0																

No.	Mark Scheme	Score
1(b)(i)	Able to state two different observations based on Table 1 correctly. <u>Sample answers</u> 1 At 1st /2nd /3rd / 4th /5th /6th week, the body mass of the guinea pig is 3.2/4.0/5.2/6.5/7.6/8.4/9.0 g. 2 The longer the time, the more the body mass of the guinea pig. 3 The body mass of the guinea pig increases with time.	3
	Able to state one observation correctly and one-two inaccurate observation <u>Sample answers</u> 1 The body mass of the guinea pig increases.	2
	Able to state the observations at idea level <u>Sample answers</u> 1 The body mass change.	1
	No response or incorrect response	0

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Score	Accurate	Inaccurate	Idea	Wrong
3	2	-	-	-
2	1	1		
	-	2	-	-
1	1	-	1	-
	-	-	2	-
	-	1	1	-
0	-	1	-	1
	-	-	1	1

No.	Mark Scheme	Score
1(b)(ii)	Able to state two inferences correctly <u>Note</u> : Inference must match observation <u>Sample answers</u> P 1– cell division/formation of cell P2 – growth rate 1 At 1st/2nd/3rd week, the cell divide slowly // the formation of cell is less, the growth rate is slow. 2 At 4th/5th/6th week, the cell divide actively / rapidly /the formation of cell is more, the growth rate is fast.	3
	Able to state one correct inference and one-two inaccurate inference <u>Sample answers</u> 1 The cell divide slowly/actively/rapidly// the formation of cell is less/more. 2 The growth rate is slow/fast. (Any 1 P)	2
	Able to state inference at idea level. <u>Sample answers</u> 1 The guinea pig is growing.	1
	No response or incorrect response	0

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Score	Accurate	Inaccurate	Idea	Wrong
3	2	-	-	-
2	1	1		
	-	2	-	-
1	1	-	1	-
	-	-	2	-
	-	1	1	-
0	-	1	-	1
	-	-	1	1

No.	Mark Scheme	Score								
1(c)	Able to state all 3 variables and the methods to handle the variable <u>Sample answers</u> <table><tr><th>Variable</th><th>Method to handle the variable</th></tr><tr><td><u>Manipulated variable</u> Time</td><td>The body mass of guinea pig is weighed every week for 6 weeks.</td></tr><tr><td><u>Responding variable</u> Body mass of guinea pig/ Rate of growth</td><td>Weigh and record the body mass of guinea pig by using weighing scale./Calculate the rate of growth of the baby by using the formula : Rate of growth = $\frac{\text{Final weight} - \text{Initial weight}}{\text{Time}}$</td></tr><tr><td><u>Constant variable</u> Time interval//the Guinea pig</td><td>Fix the time interval to weigh the body mass of the guinea pig which is 1 week.//Use the same guinea pig throughout the experiment.</td></tr></table>	Variable	Method to handle the variable	<u>Manipulated variable</u> Time	The body mass of guinea pig is weighed every week for 6 weeks.	<u>Responding variable</u> Body mass of guinea pig/ Rate of growth	Weigh and record the body mass of guinea pig by using weighing scale./Calculate the rate of growth of the baby by using the formula : Rate of growth = $\frac{\text{Final weight} - \text{Initial weight}}{\text{Time}}$	<u>Constant variable</u> Time interval//the Guinea pig	Fix the time interval to weigh the body mass of the guinea pig which is 1 week.//Use the same guinea pig throughout the experiment.	3
Variable	Method to handle the variable									
<u>Manipulated variable</u> Time	The body mass of guinea pig is weighed every week for 6 weeks.									
<u>Responding variable</u> Body mass of guinea pig/ Rate of growth	Weigh and record the body mass of guinea pig by using weighing scale./Calculate the rate of growth of the baby by using the formula : Rate of growth = $\frac{\text{Final weight} - \text{Initial weight}}{\text{Time}}$									
<u>Constant variable</u> Time interval//the Guinea pig	Fix the time interval to weigh the body mass of the guinea pig which is 1 week.//Use the same guinea pig throughout the experiment.									
	Able to state 2 of any variables and the methods handle the variable (4-5 ✓)	2								
	Able to state 1 of any variables and the methods handle the variable (2-3 ✓)	1								
	No response or incorrect response (0-1 ✓)	0								

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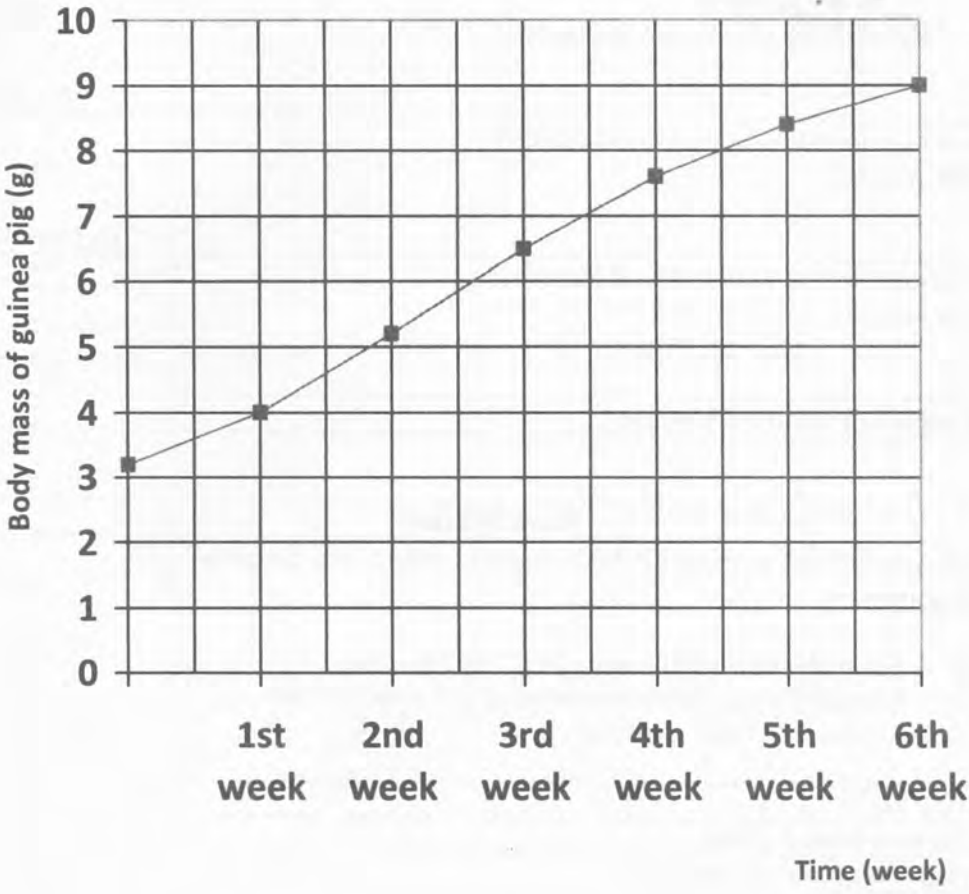
No.	Mark Scheme	Score
1(d)	Able to state hypothesis correctly <u>Sample answers</u> 1. The longer the time taken, the higher the body mass /growth rate of the guinea pig. 2. As the time increases, the body mass of the guinea pig increases. 3. The body mass of the guinea pig increases with time.	3
	Able to make hypothesis relating the manipulated variable and the responding variable inaccurately <u>Sample answers</u> 1 The body mass of the guinea pig change with time. 2 The time taken affects the growth of guinea pig.	2
	Able to make a hypothesis at idea level <u>Sample answers</u> 1 The body mass of the guinea pig increases	1
	No response or incorrect response	0

No.	Mark Scheme	Score																		
1(e)(i)	Able to construct a table and record all the data correctly <u>Sample answers</u> <table><tr><th>Time (week)</th><th>Body mass of guinea pig (g)</th><th>Rate of growth (g/week)</th></tr><tr><td>0</td><td>3.2 ± 0.1</td><td rowspan="7">0.97//1.0</td></tr><tr><td>1</td><td>4.0 ± 0.1</td></tr><tr><td>2</td><td>5.2 ± 0.1</td></tr><tr><td>3</td><td>6.5 ± 0.1</td></tr><tr><td>4</td><td>7.6 ± 0.1</td></tr><tr><td>5</td><td>8.4 ± 0.1</td></tr><tr><td>6</td><td>9.0 ± 0.1</td></tr></table> Able to state all the title with units correctly – 1 m Able to record all data correctly – 1m Able to calculate and record the rate of growth – 1m	Time (week)	Body mass of guinea pig (g)	Rate of growth (g/week)	0	3.2 ± 0.1	0.97//1.0	1	4.0 ± 0.1	2	5.2 ± 0.1	3	6.5 ± 0.1	4	7.6 ± 0.1	5	8.4 ± 0.1	6	9.0 ± 0.1	3
Time (week)	Body mass of guinea pig (g)	Rate of growth (g/week)																		
0	3.2 ± 0.1	0.97//1.0																		
1	4.0 ± 0.1																			
2	5.2 ± 0.1																			
3	6.5 ± 0.1																			
4	7.6 ± 0.1																			
5	8.4 ± 0.1																			
6	9.0 ± 0.1																			
	Any 2 correct	2																		
	Any 1 correct	1																		
	No response or incorrect response	0																		

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No.	Mark Scheme	Score
1(e)(ii)	Able to draw the graph correctly Uniform scale on both axis – 1 m Able to transfer all data correctly – 1m Able to join all points correctly with smooth shape – 1m  Any 2 criteria correct Uniform scales on either the horizontal-axis or the vertical-axis No response or incorrect response	3 2 1 0

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No.	Mark Scheme	Score
1(f)	Able to explain the relationship between the body mass of the guinea pig and time. <u>Sample answers</u> R : As the time increases, the body mass of the guinea pig increases./ The longer the time, the heavier the body mass of the guinea pig/ The body mass of the guinea pig increases with time. E1 : the number of cell increases/the formation of cell is more/ the cell divide actively. E2 : thus the growth rate increases. (R+ 2Es)	3
	Able to interpret the relationship incompletely <u>Sample answers</u> (R+Any 1E)	2
	Able to interpret the relationship at idea level <u>Sample answers</u> (R only)	1
	No response or incorrect response	0

No.	Mark Scheme	Score
1(g)	Able to predict and explain the body mass of guinea pig correctly <u>Sample answers</u> P : The body mass will be more than 7.6g /increases E1 : because the cell divide/formation of cell is more/faster E2 : the rate of growth increases (P + 2Es)	3
	P + Any 1E	2
	P + No E or invalid explanation.	1
	No response or incorrect response	0

No.	Mark Scheme	Score
1(h)	Able to define growth operationally based on the result of this experiment. <u>Sample answers</u> P1 : Growth is a process of increases of P2 : the body mass of the newborn guinea pig P3 : with time / within the 6th week period (3Ps)	3
	Any 2Ps correct	2
	Any 1P correct	1
	No response or incorrect response	0

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No.	Mark Scheme	Score				
1(f)	Able to list all organisms according to the growth curve of the organisms correctly <u>Sample answers</u> <table><tr><th>Sigmoid Curve</th><th>Staircase Shape</th></tr><tr><td>Maize plant Hibiscus plant Rat Snake</td><td>Praying mantis Beetle Cockroach</td></tr></table> All correct – 3m 4-6 correct – 2m 2-3 correct – 1m 0-1 correct – 0m	Sigmoid Curve	Staircase Shape	Maize plant Hibiscus plant Rat Snake	Praying mantis Beetle Cockroach	3
Sigmoid Curve	Staircase Shape					
Maize plant Hibiscus plant Rat Snake	Praying mantis Beetle Cockroach					

Sample Answer
Question 2

CONSTRUCT	SAMPLE ANSWERS	NOTES ON SCORING
1. PROBLEM 2. STATEMENT 01	Able to relate P1, P2 and H in a question form. 1. What is the effect of bark ringing on the diameter of different branches// the transport of organic substances? 2. Does bark ringing affect the diameter of different branches// the transport of organic substances? 3. Does the presence of phloem is needed in transporting the organic substances?	P1 = MV P2 = RV P3 = question 3 marks MV = A branch that is ringed and a branch that is not ringed/Different branch/Presence of phloem tissue RV = diameter of the branch/ Condition of branch H = a question (?)
	Able to state problem statement inaccurately 1. What is the effect of bark ringing on the diameter of different branches// the transport of organic substances 2. Does bark ringing affect the diameter of different branches// the transport of organic substances 3. Does the presence of phloem is needed in transporting the organic substances	Any 2 Ps 2 marks
	Able to state problem statement at idea level 1. What is the effect of bark ringing	Only one aspect P1/P2 1 mark
2. HYPOTHESIS (Hp) 02	Able to state the hypothesis by relating two variables correctly (P1+P2+H) 1. The diameter of a ringed branch is larger/bigger compared to the diameter of unringed branch. 2. The diameter of a ringed branch increases whereas that is not ringed do not increase. 3. The presence of phloem is needed in transporting the organic substances. * Relationship of hypothesis is not necessarily correct.	P1 – manipulated variable P2 – responding variable H-relationship P1+P2+H = 3 marks

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	Able to state any two criteria correctly or inaccurate hypothesis 1. The bark ringing affects the diameter of different branch. 2. The phloem affects transporting of the organic substances.	Only two aspects P1+P2/ P1+H P2+H 2 marks															
	Able to state a hypothesis at idea level 1. Different diameter of branch (no P2+H)	Only one aspect P1/P2/H 1 mark															
3. VARIABLES (Vr) 03	<table><tr><td>Manipulated</td><td>A branch that is ringed and a branch that is not ringed/different branches/the presence of phloem tissue</td></tr><tr><td>Responding</td><td>diameter of the branch/ Condition of branch / transporting of organic substances</td></tr><tr><td>Fixed</td><td>Same plant/Hibiscus plant</td></tr></table>	Manipulated	A branch that is ringed and a branch that is not ringed/different branches/the presence of phloem tissue	Responding	diameter of the branch/ Condition of branch / transporting of organic substances	Fixed	Same plant/Hibiscus plant	MV – 1M RV - 1 M CV - 1M									
Manipulated	A branch that is ringed and a branch that is not ringed/different branches/the presence of phloem tissue																
Responding	diameter of the branch/ Condition of branch / transporting of organic substances																
Fixed	Same plant/Hibiscus plant																
4. APPARATUS AND MATERIALS (AM) 04	Able to list 4 materials and 2 apparatus correctly to make a functional experiment and able to get the data <u>MATERIALS:</u> 1. Hibiscus plant 2. Vaseline 3. Water 4. Nutrient <u>APPARATUS</u> 1. knife 2. measuring tape	<table><tr><td>Materials</td><td>Apparatus</td><td>Score</td></tr><tr><td>4M</td><td>2A</td><td>3 (✓)</td></tr><tr><td>3M (Hibiscus plant +Vaseline+ any 1M)</td><td>2A</td><td>2 (✓)</td></tr><tr><td>1M (Hibiscus)</td><td>2A@1A</td><td>1 (✓)</td></tr><tr><td>1M</td><td>0</td><td>0 (✓)</td></tr></table>	Materials	Apparatus	Score	4M	2A	3 (✓)	3M (Hibiscus plant +Vaseline+ any 1M)	2A	2 (✓)	1M (Hibiscus)	2A@1A	1 (✓)	1M	0	0 (✓)
Materials	Apparatus	Score															
4M	2A	3 (✓)															
3M (Hibiscus plant +Vaseline+ any 1M)	2A	2 (✓)															
1M (Hibiscus)	2A@1A	1 (✓)															
1M	0	0 (✓)															
5. PROCEDURE (K) 05	Able to state K1, K2, K3, K4 and K5 (5K) correctly 1. Two different branches from a same Hibiscus plant are chosen. 2. Both branches are labeled as Branch A and Branch B. 3. This plant is left in the sun and enough nutrients and water is given. 4. A knife is used to remove a complete ring of bark from Branch A. 5. Vaseline is applied on the exposed tissue.	K1+K2+K3+K4+K5 (5 K) = 3 marks Any 3 to 4 Ks = 2 marks Any 2 Ks only = 1 mark 0 K or 1 K = 0 mark															

	6. After two month, the condition and the diameter of the branch above the ring is measured. 7. Step 6 is repeated for Branch B. 8. The observations are recorded in a table. K1: The set up of materials and apparatus (S1,S2,S4,S6,S7) At least 3 K1 K2: Operating the constant variable (S1) K3: Operating the responding variable (S6) K4: Operating the manipulated variable (S7) K5: Precautions (S5).									
6. RECORDING DATA/RESULT (RD)	Able to construct a table to record all data with the following aspects: <table><tr><th>MV</th><th>RV</th></tr><tr><th>Branches</th><th>Diameter of the branch (cm)</th></tr><tr><td>Branch A/ Ringed</td><td></td></tr><tr><td>Branch B/ Not ringed</td><td></td></tr></table>	MV	RV	Branches	Diameter of the branch (cm)	Branch A/ Ringed		Branch B/ Not ringed		Mv - 1 Rv - 1 2 marks
MV	RV									
Branches	Diameter of the branch (cm)									
Branch A/ Ringed										
Branch B/ Not ringed										