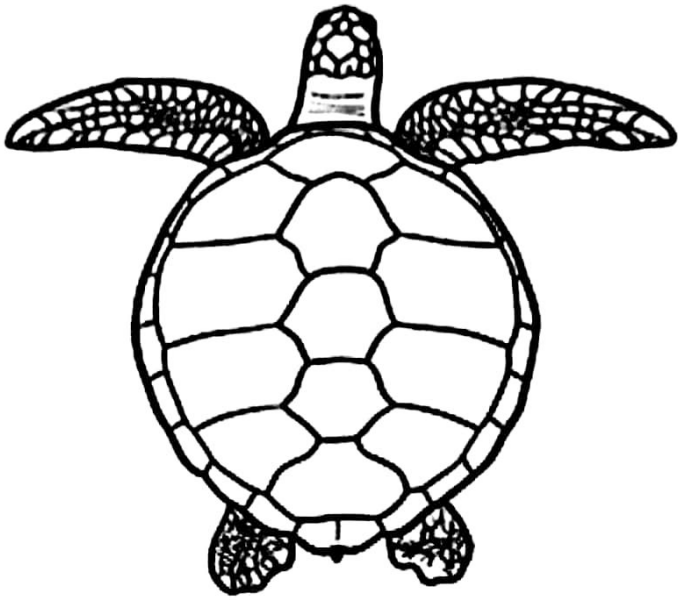
Jawab **semua** soalan

Answer **all** the question

1. Rajah 1 menunjukkan pandangan dari atas bagi seekor penyu.

Diagram 1 *shows a top view of a turtle.*



Rajah 1 / *Diagram* 1

Apakah arah pandangan tersebut?

What is the direction of the view?

A Posterior

Posterior

B Anterior

Anterior

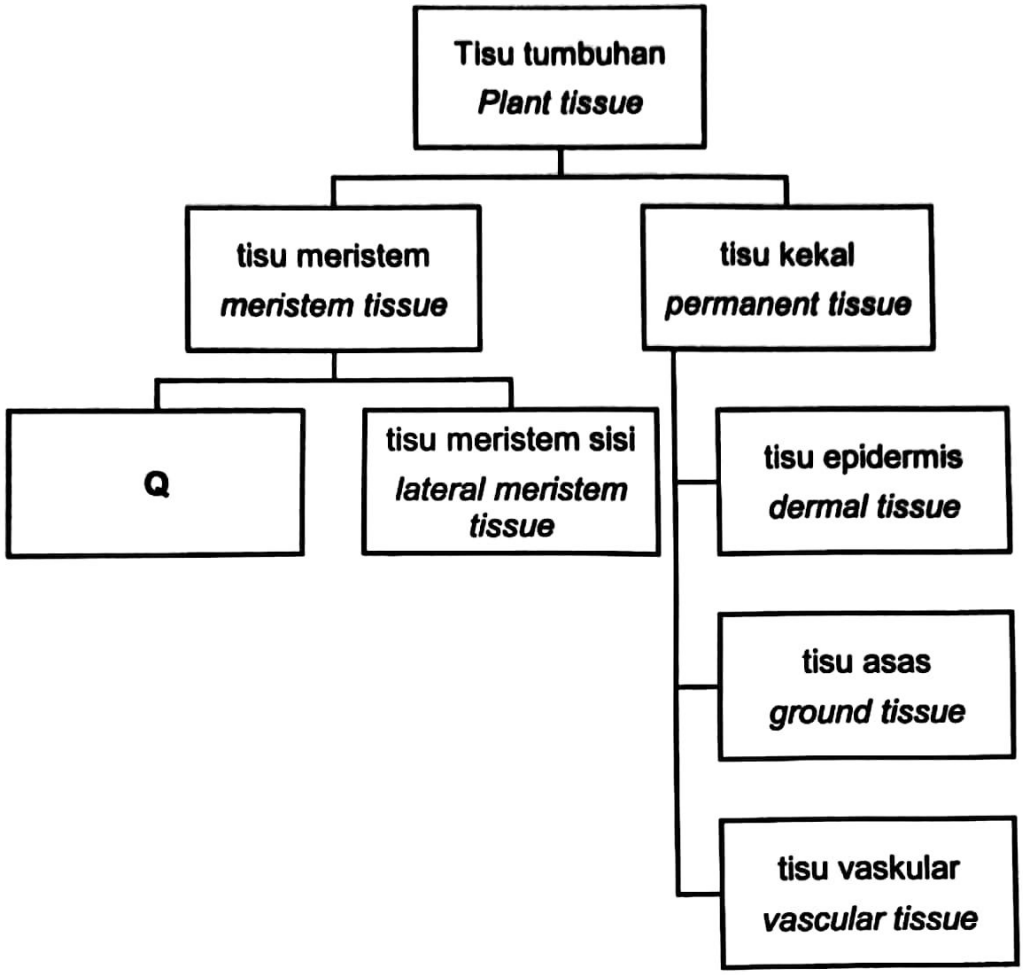
C Ventral

Ventral

D Dorsal

Dorsal

2. Rajah 2 menunjukkan satu organisasi tisu dalam tumbuhan.
Diagram 2 shows a tissue organisation in plant.



Rajah 2 / *Diagram 2*

Antara yang berikut, komponen sel yang manakah paling banyak dijumpai dalam tisu Q?
Which of the following cell component is mostly found in tissue Q?

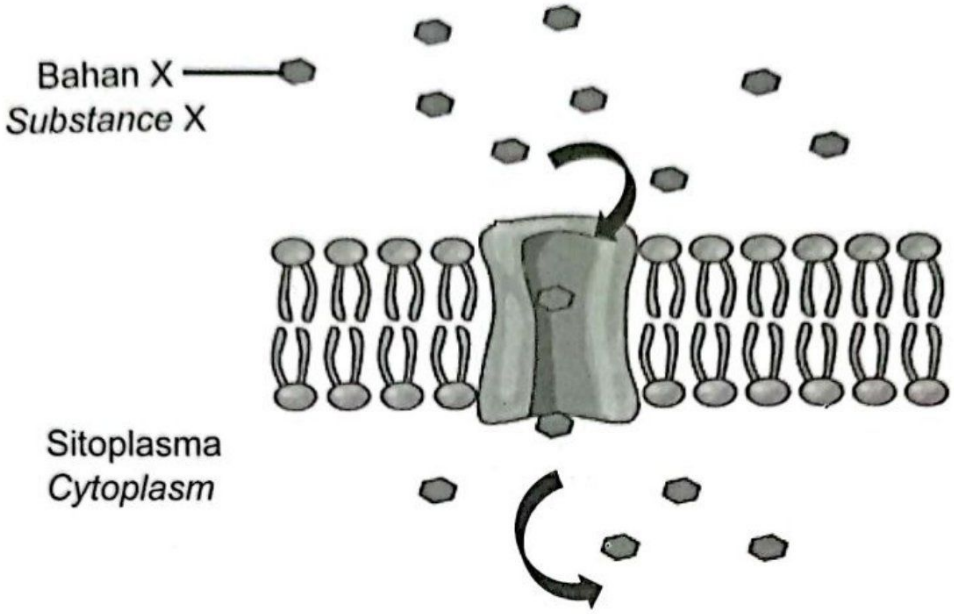
A Kloroplas
Chloroplast

B Mitokondrion
Mitochondrion

C Jasad Golgi
Golgi apparatus

D Jalinan endoplasma kasar
Rough endoplasmic reticulum

3. Rajah 3 menunjukkan satu proses pergerakan bahan X merentasi membran plasma.
Diagram 3 shows a movement of substance X *across a plasma membrane.*



Rajah 3 / *Diagram* 3

Apakah fungsi bahan X terhadap sel tersebut?
What is the function of substance X *to the cell*?

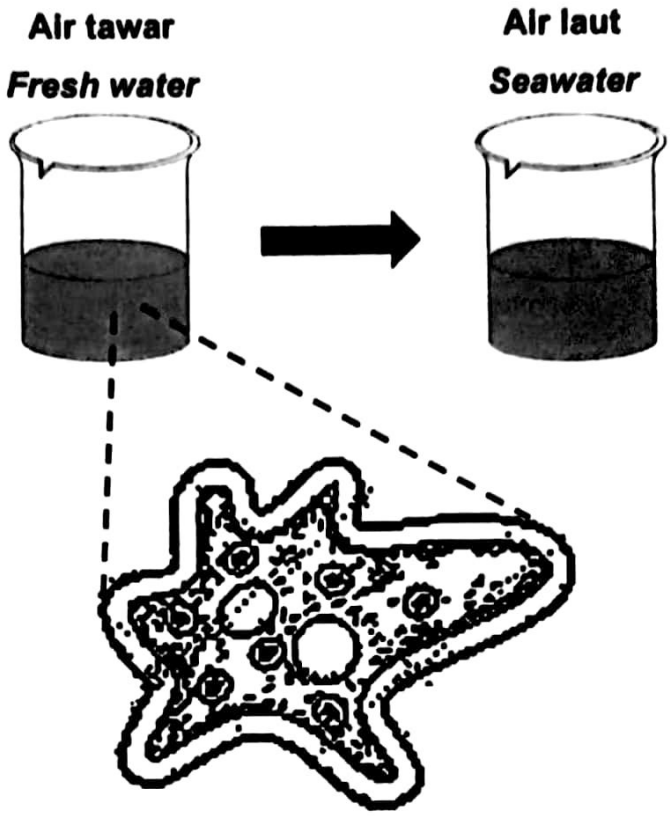
A Mempercepatkan pengangkutan zat terlarut ke dalam sel.
Speed up the transport of solutes into the cells.

B Menstabil dan menguatkan sel.
Stabilize and strengthen the cell.

C Menjadikan membran plasma lebih fleksibel.
Make plasma membrane more flexible.

D Membolehkan sel mensintesis plasma protein dan enzim.
Enable the cell to synthesis plasma protein and enzymes.

4. Rajah 4 menunjukkan keadaan organisma unisel dalam air tawar.
Diagram 4 shows the condition of unicellular organism in fresh water.



Rajah 4 / *Diagram* 4

Apakah yang akan berlaku kepada organisma tersebut sekiranya diletakkan di dalam air laut?
What will happen to the organism if it is placed in seawater?

A Tidak mengalami sebarang perubahan
Not experience any changes

B Mengembang dengan lebih cepat
Expand faster

C Mengecut dan akhirnya mati
Shrink and eventually die

D Pecah dan mati
Burst and die

5. Antara yang berikut, yang manakah merupakan bes bernitrogen bagi RNA?
Which of the following is the nitrogenous base for RNA?

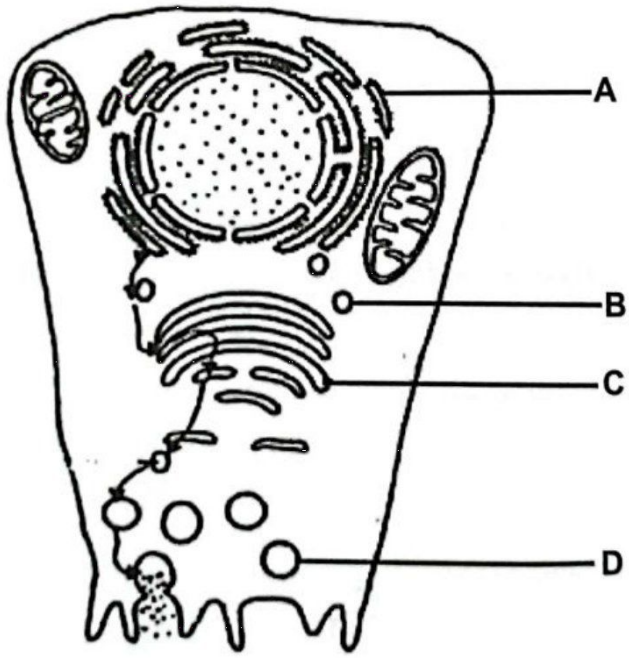
A Adenina, guanina, timina, urasil
Adenine, guanine, thymine,uracil

B Adenina, guanina, sitosina, timina
Adenine, guanine, cytosine, thymine

C Adenina, guanina, sitosina, urasil
Adenine, guanine, cytosine, uracil

D Adenina, sitosina, timina, urasil
Adenine, cytosine, thymine, uracil

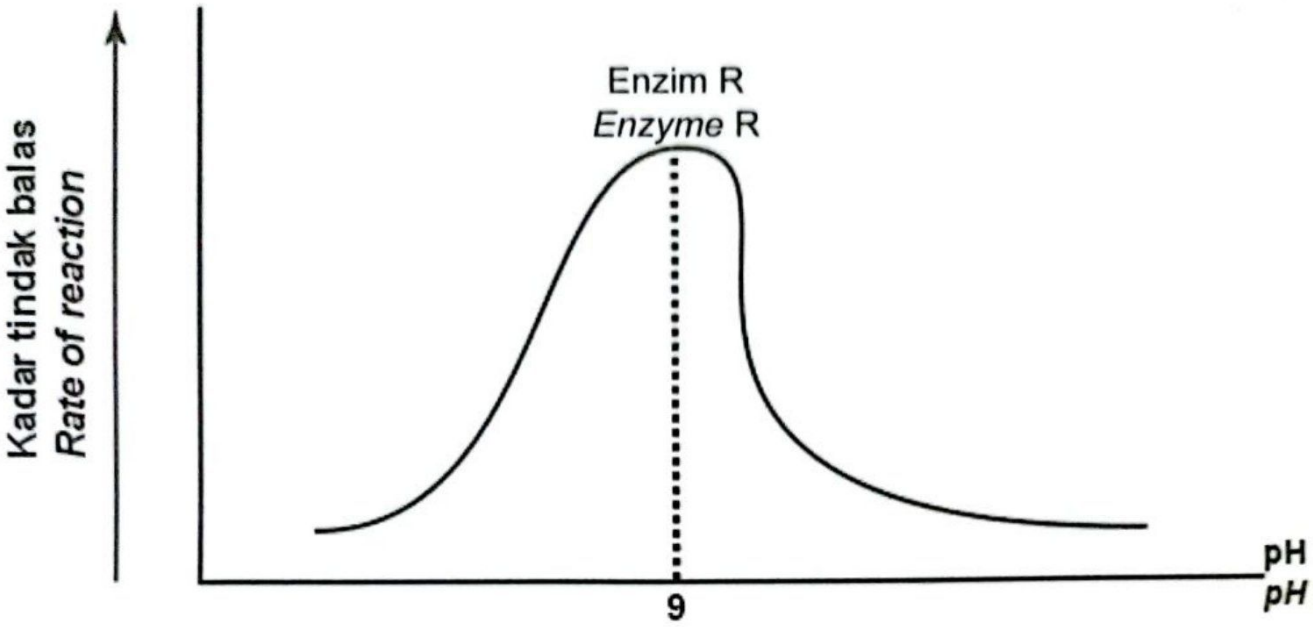
6. Rajah 5 menunjukkan proses penghasilan enzim ekstrasel.
Diagram 5 shows the process of extracellular enzymes production.



Rajah 5 / *Diagram 5*

Antara bahagian yang berlabel **A, B, C** dan **D,** yang manakah adalah vesikel rembesan?
*Which parts labelled **A, B, C** or **D** is a secretory vesicle?*

7. Rajah 6 ialah satu graf yang menunjukkan kesan pH ke atas aktiviti enzim R.
Diagram 6 *is a graph that shows the effect of pH on the enzyme R activity.*



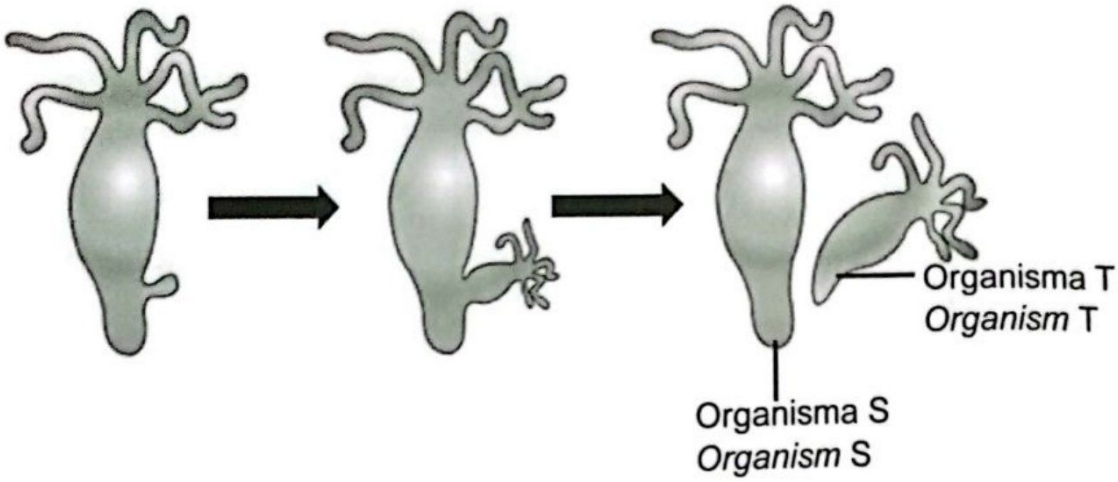
Rajah 6 / *Diagram* 6

Antara yang berikut, yang manakah menerangkan kegunaan enzim R?
Which of the following describe the uses of enzyme R?

	Nama enzim *Name of enzyme*	Kegunaan enzim dalam industri *The use of enzymes in industry*
A	Pepsin *Pepsin*	Mengasingkan kulit ikan *Separates the fish skin*
B	Tripsin *Trypsin*	Digunakan dalam bio detergen *Used in bio detergent*
C	Pepsin *Pepsin*	Menguraikan protein di dalam jus buah *Breakdown proteins in the fruit juice*
D	Tripsin *Trypsin*	Mengeluarkan bulu daripada kulit haiwan *Extract fur from animal hide*

8. Rajah 7 menunjukkan proses pembahagian sel oleh satu organisma yang mempunyai 30 kromosom.

Diagram 7 shows the process of cell division by an organism that has 30 chromosomes.



Rajah 7 / *Diagram 7*

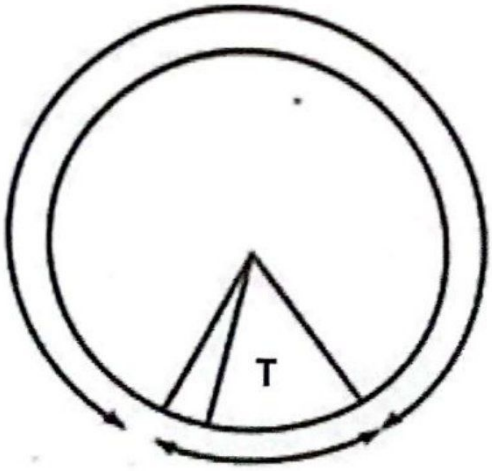
Berapakah bilangan kromosom organisma S dan T selepas pembahagian tersebut?

How many numbers of chromosomes in organism S *and* T *after the division*?

	Organisma S *Organism* S	Organisma T *Organism* T
A	30	30
B	30	15
C	15	15
D	15	30

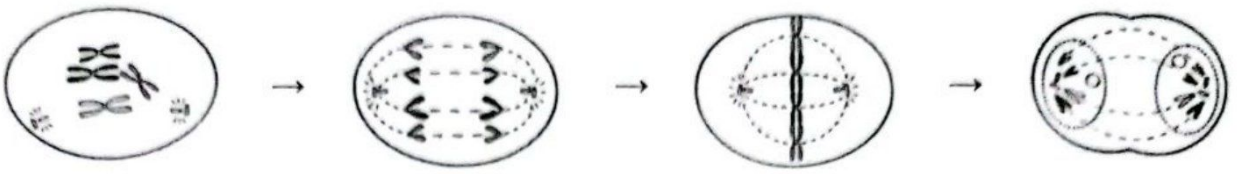
9. Rajah 8 menunjukkan fasa-fasa berbeza bagi suatu kitar sel.

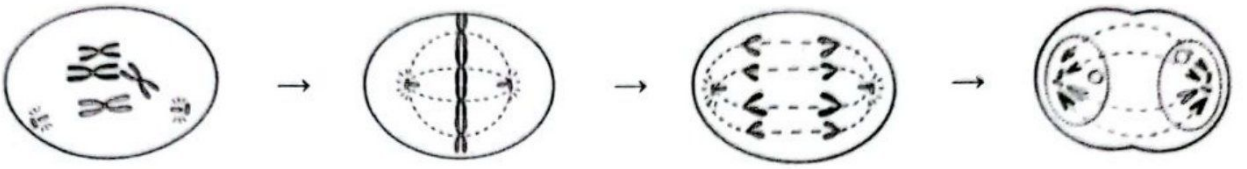
Diagram 8 *shows the different phases of a cell cycle.*

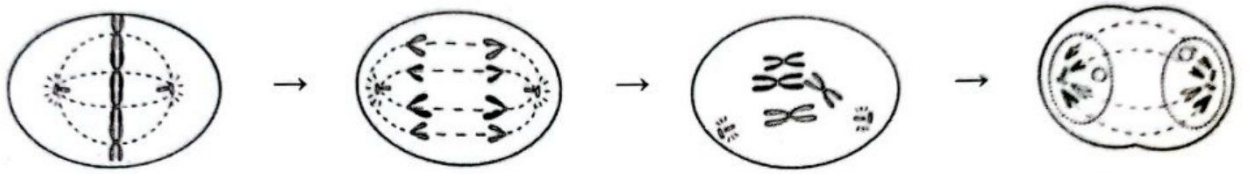


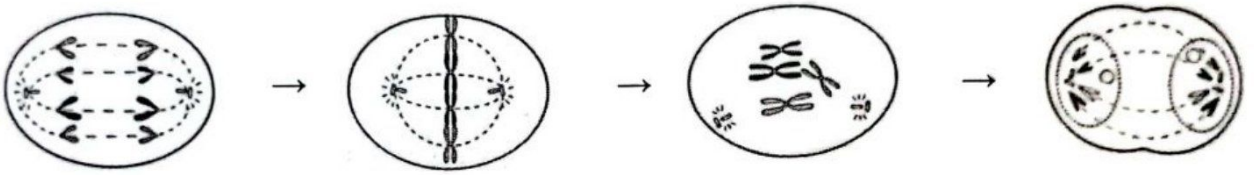
Rajah 8 / *Diagram* 8

Antara yang berikut, urutan yang manakah betul menunjukkan fasa yang berlaku di T?
Which of the following sequences correctly shows the phase occurred in T?

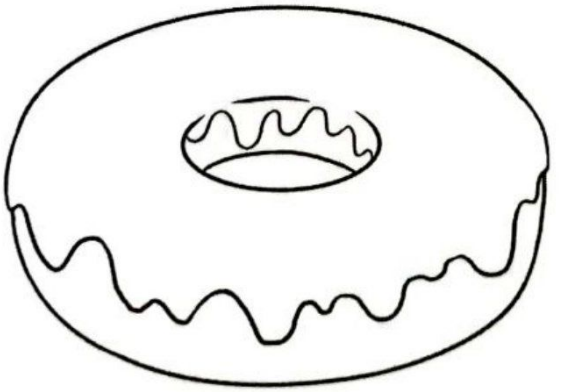
A 

B 

C 

D 

10. Rajah 9 menunjukkan satu produk hasil daripada proses respirasi.
Diagram 9 *shows a product resulting from the respiration process.*



Rajah 9 / *Diagram* 9

Apakah proses tersebut?
What is the process?

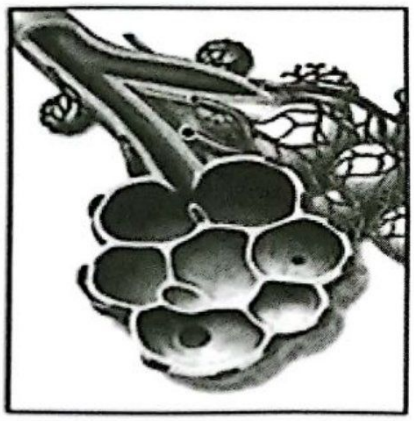
A Fermentasi alkohol
Alcohol fermentation

B Respirasi aerob
Aerobic respiration

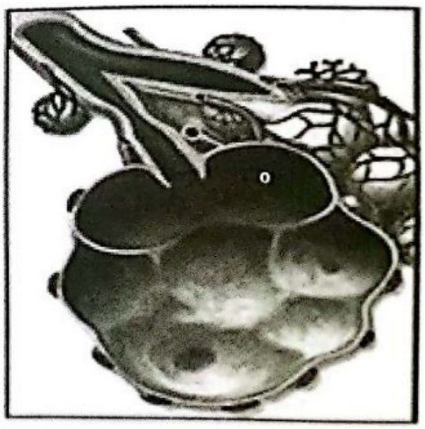
C Fermentasi asid laktik
Lactic acid fermentation

11. Rajah 10 menunjukkan keadaan alveolus seorang individu yang mengidap penyakit R.
Diagram 10 *shows the condition of the alveolus of an individual suffering disease* R.

Alveolus individu normal
Alveolus of normal individual



Alveolus pengidap penyakit R
Alveolus of patient with disease R



Rajah 10 / *Diagram* 10

Antara yang berikut, yang manakah adalah simptom penyakit R?
Which of the following is a symptom of disease R?

A Kahak berlebihan
Excessive mucus

B Sukar bernafas
Shortness breathing

C Batuk kering
Dry cough

D Demam
Fever

12. Jadual 1 menunjukkan kaedah penyerapan makanan tercerna di ileum.
Table 1 shows the absorption method of digested food at ileum.

Makanan tercerna *Digested food*	Diserap melalui *Absorbed through*	Cara penyerapan *Method of absorption*
Fruktosa *Fructose*	Kapilari darah *Blood capillary*	Proses M *Process* M
Glukosa *Glucose*	Struktur N *Structure* N	Pengangkutan aktif *Active transport*

Jadual 1 / *Table* 1

Antara yang berikut, padanan yang manakah betul tentang proses M dan struktur N?
Which of the following is the correct match of process M *and structure* N?

	Proses M *Process* M	Struktur N *Structure* N
A	Osmosis *Osmosis*	Lakteal *Lacteal*
B	Resapan ringkas *Simple diffusion*	Lakteal *Lacteal*
C	Resapan berbantu *Facilitated diffusion*	Kapilari darah *Blood capillary*
D	Pengangkutan aktif *Active transport*	Kapilari darah *Blood capillary*

13. Rajah 11 menunjukkan seorang individu yang mengalami masalah berkaitan dengan tabiat pemakanan.

Diagram 11 shows an individual that has the problem related to eating habits.

Rajah 11 / *Diagram 11*

Antara yang berikut, langkah yang manakah perlu diambil untuk mengatasi masalah tersebut?

Which of the following steps should be taken to overcome the problem?

I Elakkan makan dengan kuantiti yang banyak.
Avoid eating in large quantities.

II Mengamalkan senaman secara berkala.
Practices exercise regularly.

III Mengambil makanan tambahan berprotein tinggi.
Consumes high protein supplement.

IV Mendapatkan nasihat daripada pakar psikologi.
Get advises from the psychological expert.

A I dan II
I and II

B I dan III
I and III

C II dan IV
II and IV

D III dan IV
III and IV

14. Rajah 12 menunjukkan sejenis sel darah manusia.
Diagram 12 shows a type of human blood cell.

Rajah 12 / *Diagram* 12

Apakah sel tersebut?
What is the cell?

A Eosinofil
Eosinophil

B Neutrofil
Neutrophil

C Basofil
Basophil

D Monosit
Monocyte

BIOLOGI K1 [illegible]

15. Rajah 13 menunjukkan sejenis keimunan yang diperolehi oleh seorang bayi.
Diagram 13 *shows a type of immunity acquired by the baby.*

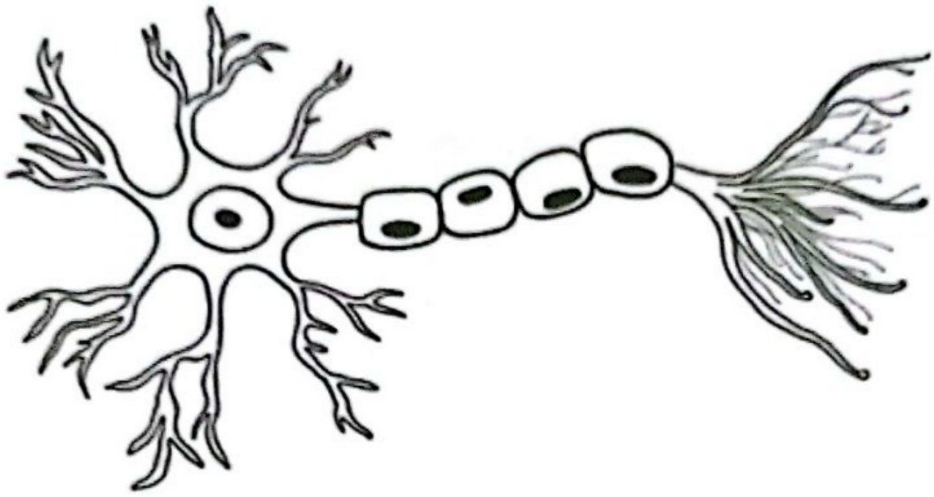
Rajah 13 / *Diagram* 13

Antara yang berikut, padanan yang manakah betul tentang keimunan tersebut?
Which of the following match is correct about the imunity?

	Jenis keimunan *Type of immunity*	Contoh penyakit *Example of the disease*
A	Keimunan aktif semulajadi *Natural active immunity*	Penyakit cacar air *Chicken pox*
B	Keimunan aktif buatan *Artificial active immunity*	Poliomielitis *Poliomielitis*
C	Keimunan pasif buatan *Artificial passive immunity*	Rabies *Rabies*
D	Keimunan pasif semulajadi *Natural passive immunity*	Tetanus *Tetanus*

16. Rajah 14 menunjukkan sejenis neuron dalam badan manusia di mana kemerosotan dan kematian neuron P menyebabkan gangguan dalam kawalan pergerakan otot seperti mengunyah.

Diagram 14 *shows a type of neurone in human body where the deterioration and death of the neurones* P *causes disturbances in the control of muscle movements such as chewing.*



Rajah 14 / *Diagram* 14

Apakah penyakit yang disebabkan neuron tersebut?

What is the disease caused by the neurone?

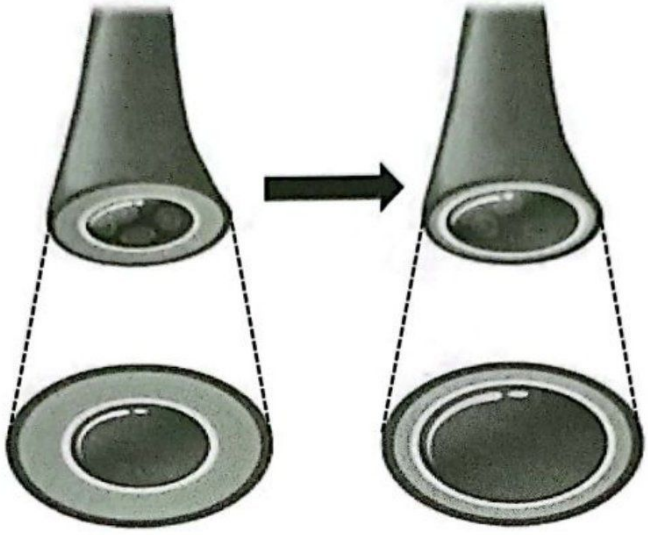
A ALS
ALS

B ADHD
ADHD

C Autisme
Autism

D Alzheimer
Alzheimer

17. Rajah 15 menunjukkan perubahan keadaan arteriol seorang individu apabila berada dalam bilik yang mempunyai suhu berbeza.
Diagram 15 *shows the changes in the state of an individual's arterioles when stays in room with different temperature.*



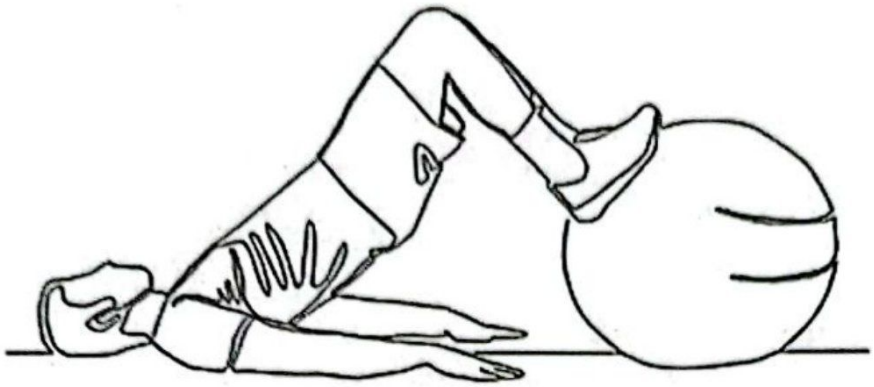
Bilik T
Room T

Rajah 15 / *Diagram* 15

Antara yang berikut, padanan yang manakah betul tentang perubahan arteriol apabila individu tersebut memasuki bilik T?
Which of the following match is correct about the changes in arteriole when the individual enters the room T?

	Keadaan arteriol *Condition of arteriole*	Pengaliran darah bawah kulit *Blood flow under the skin*
A	Pemvasocerutan *Vasoconstriction*	Kurang supaya sedikit haba dibebaskan *Less so that less heat to release*
B	Pemvasodilatan *Vasodilation*	Banyak untuk membebaskan banyak haba *More to release a lot of heat*
C	Pemvasocerutan *Vasoconstriction*	Kurang untuk membebaskan banyak haba *Less to release a lot of heat*
D	Pemvasodilatan *Vasodilation*	Banyak supaya sedikit haba dibebaskan *More so that less heat to release*

18. Rajah 16 menunjukkan seorang atlit sedang menjalani latihan otot.
Diagram 16 shows an athlete is undergoing muscle training.



Rajah 16 / *Diagram* 16

Antara yang berikut, yang manakah menerangkan gerakan kaki atlit tersebut?
Which of the following describes the movement of athlete's leg?

A Otot kuadrisep mengecut untuk mengangkat kaki.
Quadriceps muscle relax to lift the leg.

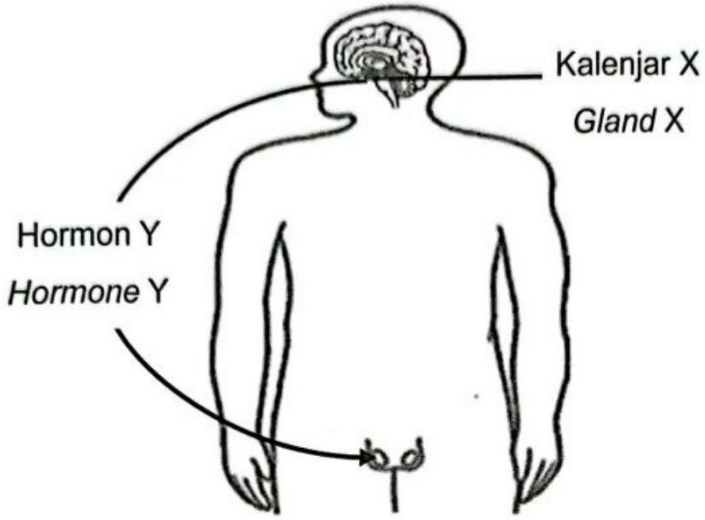
B Otot betis mengecut dan tapak kaki menolak ke atas.
Calf muscle contracts and the ball of the foot pushed up.

C Otot tibialis mengecut menyebabkan tumit kaki diangkat.
Tibialis muscle contracts causing the heel to lift.

D Otot biseps femoris mengecut dan kaki dibengkokkan pada sendi lutut.
Biceps femoris muscle contracts and bending the foot at knee joint.

19. Rajah 17 menunjukkan sebahagian daripada satu sistem yang terlibat dalam mengawal sistem pembiakan lelaki.

Diagram 17 shows a part of a system involved in controlling of male reproductive system.



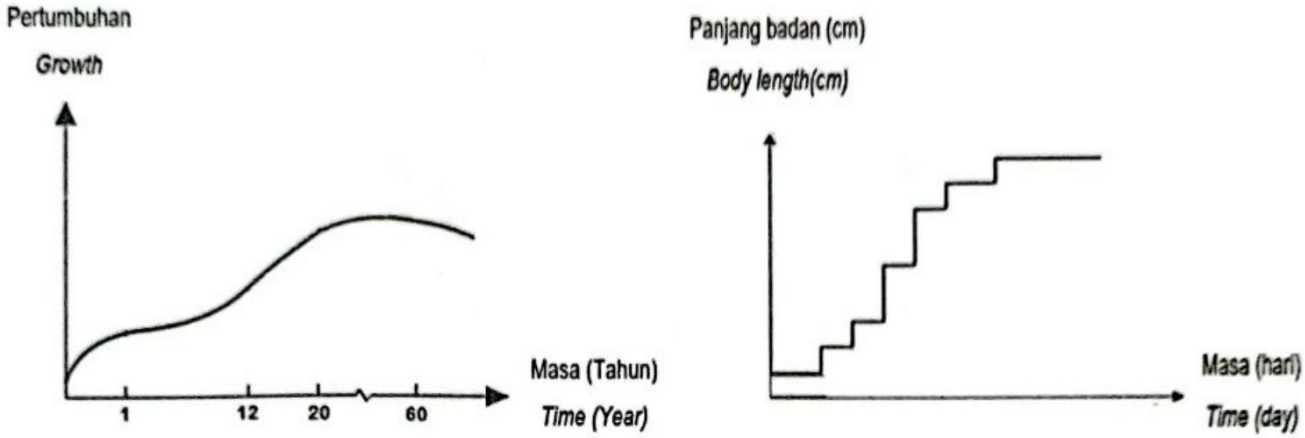
Rajah 17 / *Diagram 17*

Antara yang berikut, padanan yang manakah betul tentang penghasilan gamet yang melibatkan sistem tersebut?

Which of the following match is correct about gamete production involving the system?

	Kalenjar X *Gland X*	Hormon Y *Hormone Y*	Peranan hormon Y *Role of hormone Y*
A	Hipotalamus *Hypothalamus*	FSH	Merangsang perembesan testosteron *Stimulate the secretion of testosterone*
B	Kalenjar pituitari *Pituitary gland*	FSH	Merangsang proses spermatogenesis *Stimulate the spermatogenesis process*
C	Hipotalamus *Hypothalamus*	LH	Merangsang perembesan testosteron *Stimulate the secretion of testosterone*
D	Kalenjar pituitari *Pituitary gland*	LH	Merangsang proses spermatogenesis *Stimulate the spermatogenesis process*

20. Rajah 18 menunjukkan dua jenis lengkung pertumbuhan pada organisma.
Diagram 18 shows two types of growth curves in organism.



Rajah 18 / *Diagram* 18

Antara pernyataan yang berikut, yang manakah tepat menerangkan kedua-dua jenis lengkung pertumbuhan tersebut?
Which of the following statement correctly describe the both types of growth curve?

A Menunjukkan pertambahan saiz atau isipadu
Indicates an increase in size or volume

B Pertumbuhan berlaku secara selanjar
Growth happens continuously

C Melibatkan proses ekdisis
Involves the ecdysis process

D Pertumbuhan berlaku secara mendadak pada fasa tegak
Growth occurs abruptly in the upright phase

21. Rajah 19 menunjukkan keratan rentas batang pokok.
Diagram 19 *shows a cross section of tree trunk.*

Rajah 19 / *Diagram* 19

Apakah kepentingan mempunyai struktur tersebut kepada pertumbuhan ekonomi negara?
What is the importance of having such a structure to the economic growth of the country?

A Dapat dijadikan sebagai barang hiasan dan perabot yang menarik.
Can be used as a decorative item and interesting furniture.

B Menghasilkan resin untuk dikomersialkan sebagai minyak wangi.
Produce resin to be commercialized as perfume.

C Memberi sokongan dan kekuatan mekanikal.
Give support and mechanical strength.

22. Rajah 20 menunjukkan keadaan sel pengawal dalam satu tumbuhan.
Diagram 20 shows the condition of the guard cell in a plant.

Rajah 20 / *Diagram* 20

Antara yang berikut, yang manakah menyebabkan keadaan tersebut?
Which of the following causes the condition?

A Sel pengawal bengkak dan segah.
The guard cell swells and turgid.

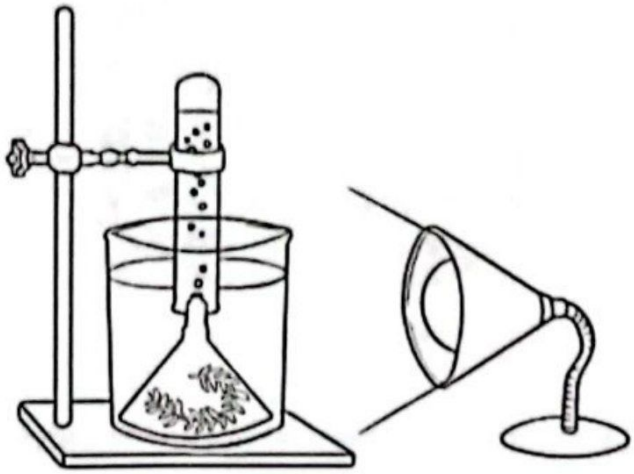
B Glukosa dihasilkan dalam sel pengawal.
Glucose is produced in the guard cell.

C Ion kalium bergerak keluar daripada sel pengawal.
Potassium ion move out from the guard cell.

D Keupayaan air dalam sel pengawal meningkat.
Water potential in the guard cell increases.

23. Rajah 21 menunjukkan satu eksperimen yang dijalankan untuk mengkaji satu proses dalam tumbuhan.

Diagram 21 *shows an experiment carried out to study a process in plants.*



Rajah 21 / *Diagram* 21

Apakah warna cahaya paling sesuai digunakan untuk mendapatkan bilangan gelembung gas yang maksimum?

What colour of light is the best used to get the maximum number of gas bubbles?

A Merah dan kuning
Red and yellow

B Merah dan biru
Red and blue

C Merah dan unggu
Red and purple

D Merah dan jingga
Red and orange

24. Maklumat menunjukkan antara kesan kekurangan magnesium pada tumbuhan.
The information shows some of the effects of magnesium deficiency on plants.

- Bintik merah pada permukaan daun
  Red sports on the leaf surface
- Bahagian antara urat daun matang menjadi kuning
  Parts between matured leaf veins become yellowish

Antara mikronutrien berikut, yang manakah menunjukkan kesan kekurangan yang sama?
Which of the following micronutrients shows the similar effect of deficiency?

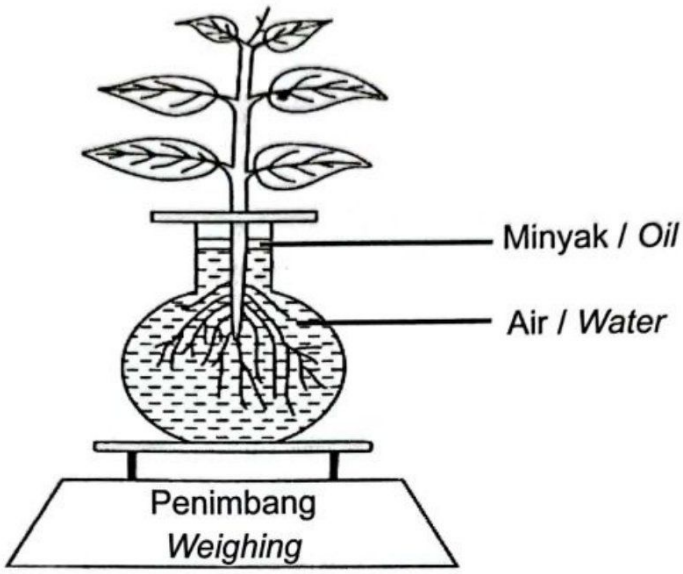
A Zink
Zink

B Ferum
Iron

C Klorin
Chlorine

D Molibdenum
Molybdenum

25. Rajah 22 menunjukkan suatu tumbuhan dibiarkan selama 8 jam pada keamatan cahaya tinggi. Bacaan penimbang menunjukkan pengurangan berat.
Diagram 22 shows a plant being left for 8 hours at high light intensity. A scale reading shows the reduction in weight.



Rajah 22 / *Diagram* 22

Apakah yang menyebabkan pengurangan berat tersebut?
What caused the weight loss?

A Air tersejat melalui kelalang kon.
Water evaporates through the conical flask.

B Gula yang terhasil ditukar menjadi kanji.
Sugar produces is converted into starch.

C Air telah digunakan untuk tujuan tumbesaran.
Water has been used for growth purposes.

D Air telah hilang daripada tumbuhan dalam bentuk wap air.
Water is lost from plants in a form of water vapour.

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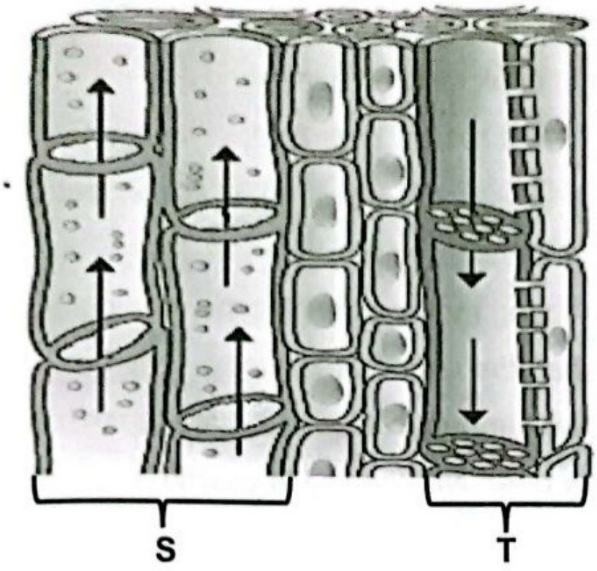
26. Rajah 23 menunjukkan dua jenis tisu vaskular dalam tumbuhan.
Diagram 23 shows two types of vascular tissue in plants.



Rajah 23 / *Diagram* 23

Antara pernyataan yang berikut, yang manakah tepat menerangkan pengangkutan yang berlaku dalam **S** dan **T**?
Which of the following statement correctly describe the transport that occur in S *and* T?

	Tisu **S** *Tissue* **S**	Tisu **T** *Tissue* **T**
A	Pengangkutan bahan berlaku dua hala *Transport of substance occurs in two ways*	Pengangkutan bahan berlaku sehala *Transport of substance occurs in one way*
B	Bahan diangkut secara pengangkutan aktif *Substances are transported by active transport*	Bahan diangkut secara pengangkutan pasif *Substances are transported by passive transport*
C	Pergerakan bahan dibantu oleh daya lekitan dan daya lekatan *Movement of substances is aided by adhesion and cohesion force*	Pergerakan bahan dibantu oleh tekanan hidrostatik *Movement of substances is aided by hydrostatic pressure*
D	Mengangkut bahan organik *Transport organic substances*	Mengangkut air dan garam mineral *Transport water and mineral salts*

27. Antara gerak balas tumbuhan berikut, yang manakah menunjukkan gerak balas nasti?
Which of the following plant responses shows the nastic response?

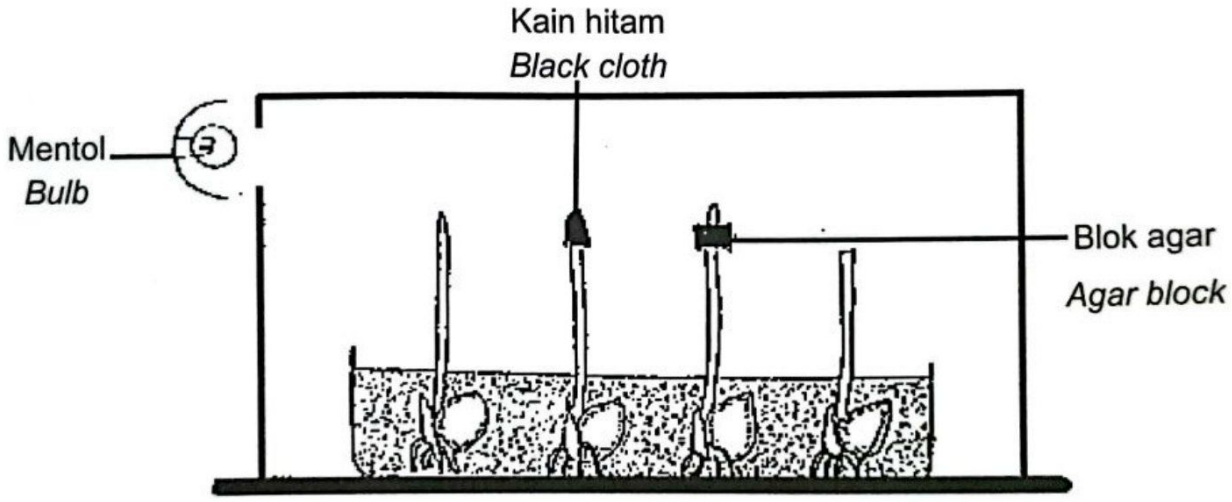
A Pembengkokan pucuk ke arah cahaya.
Bending of the shoot towards the light.

B Tendril tumbuhan kekacang melilit untuk sokongan.
Legume plant tendrils coiled for support.

C Bunga tulip kembang mekar apabila suhu meningkat.
Tulips bloom when the temperature rises.

D Tumbesaran akar tumbuhan jauh ke dalam tanah untuk mencari air.
Plant roots grow deep into the soil in search of water.

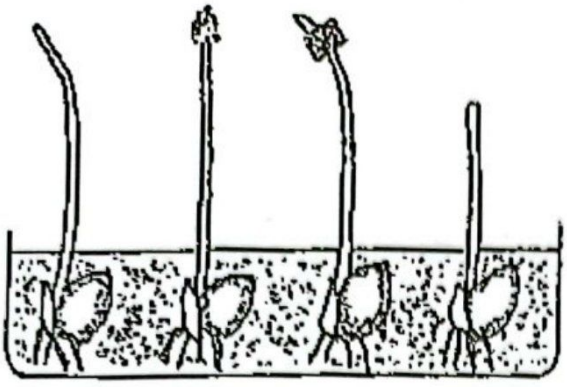
28. Rajah 24 menunjukkan eksperimen untuk mengkaji gerak balas tropisme pada kaleoptil.
Diagram 24 shows an experiment to study the tropism response in coleoptiles.



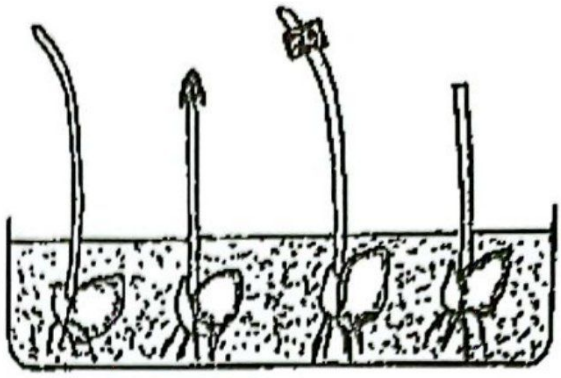
Rajah 24 / *Diagram 24*

Antara yang berikut, yang manakah menunjukkan gerak balas pada pucuk tersebut?
Which of the following shows the response of the shoots?

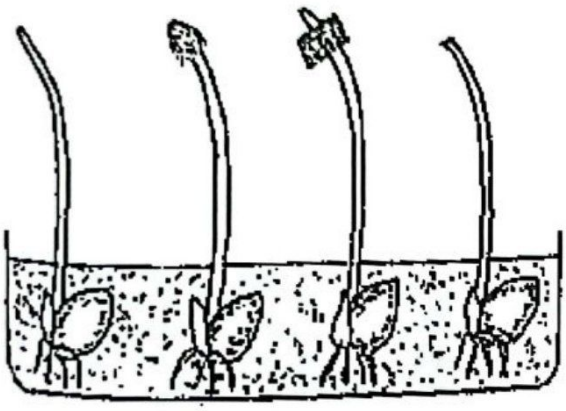
A



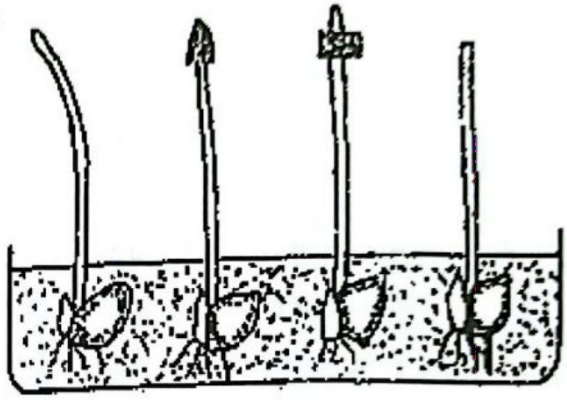
B



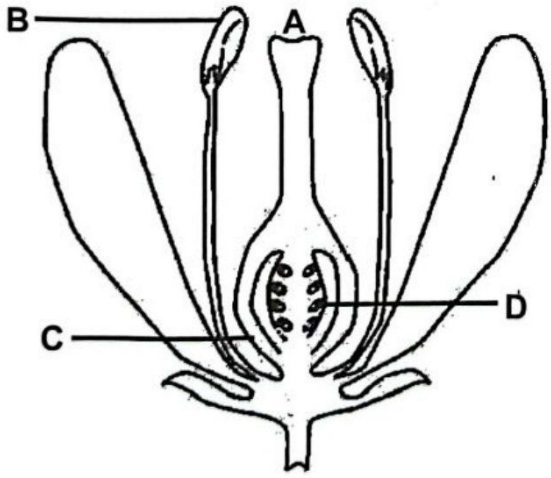
C



D



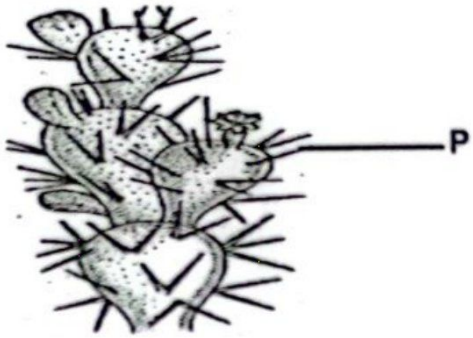
29. Rajah 25 menunjukkan satu keratan membujur sekuntum bunga.
Diagram 25 shows a longitudinal section of a flower.



Rajah 25 / *Diagram 25*

Antara bahagian berlabel **A**, **B**, **C** dan **D**, dimanakah proses percambahan debunga berlaku?
Which part labelled **A**, **B**, **C** or **D**, *the germination of pollen grain take place*?

30. Rajah 26 menunjukkan sejenis tumbuhan yang hidup di kawasan kekeringan melampau.
Diagram 26 shows a type of plant that lives in an area of extreme drought.



Rajah 26 / *Diagram* 26

Apakah kesan jika semua struktur **P** pada tumbuhan tersebut dibuang?
What is the effect if all of structure **P** *of the plant were removed?*

A Air yang diserap tidak dapat disimpan.
Absorbed water cannot be restored.

B Embun mudah dikumpul untuk bekalan air.
Dew is easily collected for water supply.

C Proses penyejatan air tidak dapat dikurangkan.
The process of water evaporation cannot be reduced.

D Jumlah luas permukaan besar menyebabkan banyak kehilangan air.
Large total surface area causes a lot of water loss.

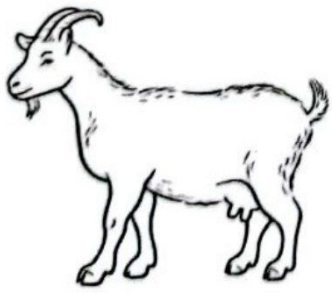
31. Jadual 2 menunjukkan satu kekunci dikotomi haiwan.
Table 2 shows an animal dichotomy key.

Kekunci dikotomi / *Dichotomy key*		
1a	Haiwan berkaki .....Rujuk 2 *Animal with leg*.....*Refer* 2	
1b	Haiwan tidak berkaki .....Rujuk 6 *Animal without leg*..... .....*Refer* 6	
2a	Berkaki empat .....Rujuk 3 *Four legs*..... .....*Refer* 3	
2b	Berkaki dua.....Rujuk 5 *Two legs*..... .....*Refer* 5	
3a	Berekor .... Rujuk 4 *Has tails*..... .....*Refer* 4	
3b	Tidak berekor.....**T** *Has no tail*..... .....**T**	

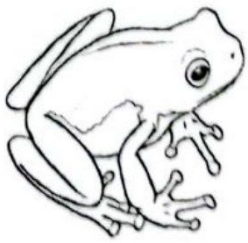
Jadual 2 / *Table* 2

Apakah haiwan **T**?
What is animal **T**?

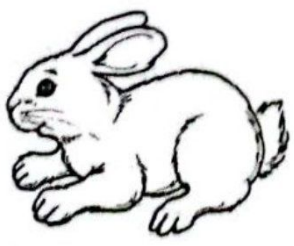
A



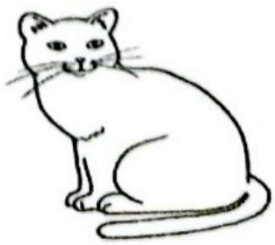
B



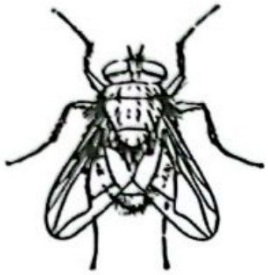
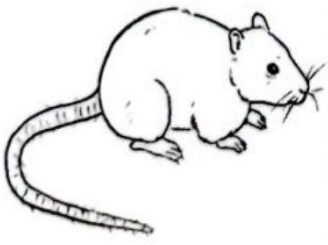
C



D



32. Antara yang berikut, yang manakah padanan yang betul?
Which of the following is the correct match?

	Jenis vektor *Type of vector*	Jenis patogen *Type of pathogen*	Nama penyakit *Name of the disease*
A		Bakteria *Vibrio cholerae* *Vibrio cholerae bacteria*	Penyakit kolera *Cholera disease*
B		Bakteria *Salmonella typhi* *Salmonella typhi bacteria*	Demam denggi *Denggi fever*
C		Protozoa *Plasmodium falciparum* *Plasmodium falciparum protozoa*	Demam malaria *Malaria fever*
D		Bakteria *Leptospiral* sp. *Leptospiral* sp. *bacteria*	Demam chikungunya *Chikungunya fever*

33. Kaedah tangkap-tanda-lepas-tangkap semula adalah satu kaedah yang digunakan untuk menganggarkan populasi suatu organisma. Bagi mendapatkan keputusan yang lebih tepat, beberapa andaian perlu diberi perhatian.
The capture-mark-release-recapture method is a method used to estimate the population of an organism. In order to get more accurate results, some assumptions need to be paid attention to.

Antara yang berikut, andaian yang manakah perlu bagi kaedah tersebut?
Which of the following assumptions is necessary for the method?

I Organisma bercampur secara rawak apabila dilepaskan
Organisms mix randomly when release

II Kadar kematian dan migrasi organisma adalah sama
Rate of death and migration of organisms is the same

III Organisma terganggu oleh tanda yang digunakan
Organism is disturbed by the mark used

IV Semua organisma adalah sama jantina
All organism has a same gender

A I dan II
I *and* II

B I dan III
I *and* III

C II dan IV
II *and* IV

D III dan IV
III *and* IV

34. Jadual 3 menunjukkan satu keputusan eksperimen dicatatkan untuk mengkaji kolonisasi kulat pada roti.

Table 3 shows a result of the experiment recorded to study the colonisation of fungi on bread.

Warna kulat *Fungus colour*	Luas kawasan yang diliputi oleh kulat (cm^2) *The area covered by fungus* (cm^2)				
	Hari ke 2 *Day 2*	Hari ke 4 *Day 4*	Hari ke 6 *Day 6*	Hari ke 8 *Day 8*	Hari ke 10 *Day 10*
Kuning *Yellow*	8	4	2	0	0
Hijau *Green*	0	3	4	2	0
Hitam *Black*	0	0	2	4	8

Jadual 3 / *Table 3*

Antara urutan berikut, yang manakah tepat menunjukkan sesaran kulat yang berlaku di atas roti?

Which of the following sequences is correctly shows fungal succession that occurs on the bread?

A Kuning → Hijau → Hitam
Yellow → Green → Black

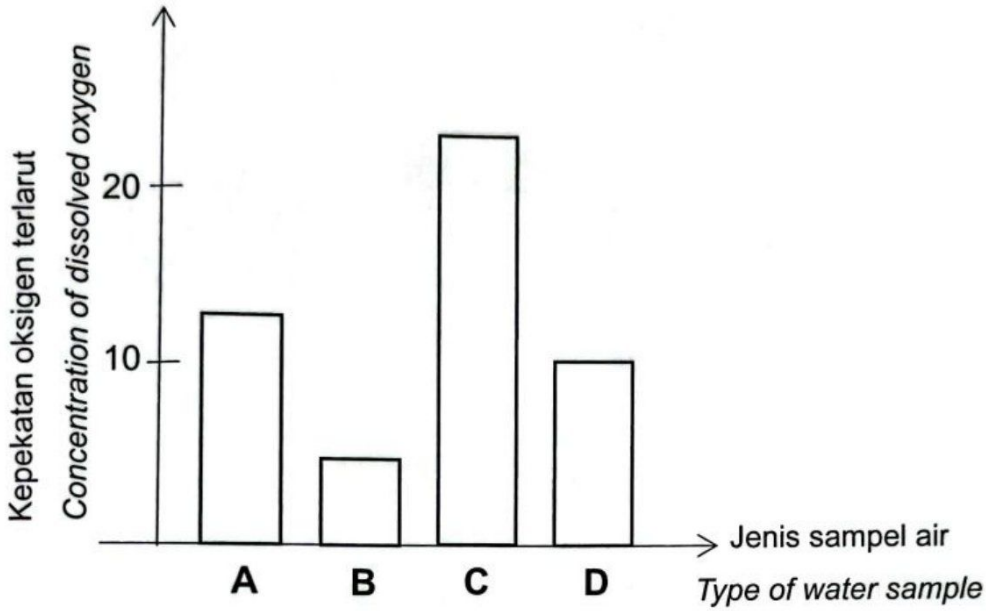
B Hijau → Kuning → Hitam
Green → Yellow → Black

C Hitam → Hijau → Kuning
Black → Green → Yellow

D Hitam → Kuning → Hijau
Black → Yellow → Green

35. Rajah 27 ialah carta bar yang menunjukkan kepekatan oksigen terlarut dalam sampel air yang berbeza.

Diagram 27 is bar chart shows the concentration of dissolved oxygen in different water sample.

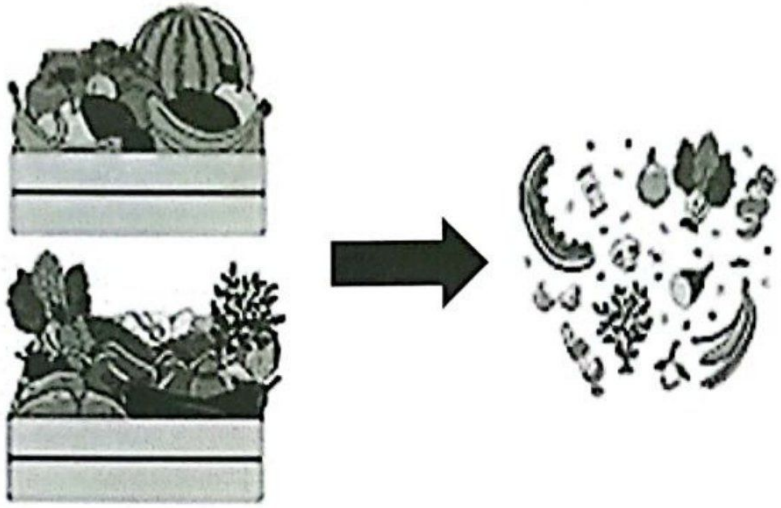


Rajah 27 / *Diagram 27*

Antara sampel air **A**, **B**, **C** dan **D**, yang manakah mempunyai bilangan pengurai yang paling sedikit?

Which water sample **A**, **B**, **C** or **D** *has the least number of decomposers*?

36. Rajah 28 menunjukkan sisa buangan daripada pasar basah yang dibuang setiap hari.
Diagram 28 shows the waste from the wet market that is thrown away every day.



Rajah 28 / *Diagram* 28

Apakah cara terbaik untuk menguruskan sisa ini mengikut amalan Teknologi Hijau?
What is the best way to manage this waste according to Green Technology practices?

A Menanam sisa buangan
Bury the waste

B Menghasilkan ekoenzim sebagai agen pembersihan
Produce eco enzymes as cleaning agent

C Diproses menjadi palet makanan bagi haiwan ternakan
Processed into food pallets for livestock

D Menghasilkan tepung sebagai bahan pembuatan bioplastik semulajadi
Produce flour as an ingredient for making natural bioplastic

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37. Seorang budak lelaki mempunyai kumpulan darah O dan kakaknya mempunyai kumpulan darah AB.

A boy has blood group O and his sister has blood group AB.

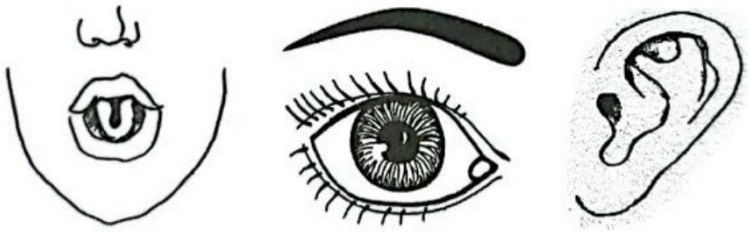
Antara yang berikut, yang manakah gabungan genotip kepunyaan ibubapa mereka yang betul?

Which of the following is correct combination of genotype belonging to their parent?

	Bapa *Father*	Ibu *Mother*
A	AA	BO
B	AO	AB
C	AO	BO
D	AB	OO

38. Rajah 29 menunjukkan ciri berbeza pada manusia.

Diagram 29 shows different characteristics in human.



Rajah 29 / *Diagram* 29

Antara yang berikut, penerangan yang manakah benar mengenai ciri tersebut?

Which of the following is correct explanation about the characteristic?

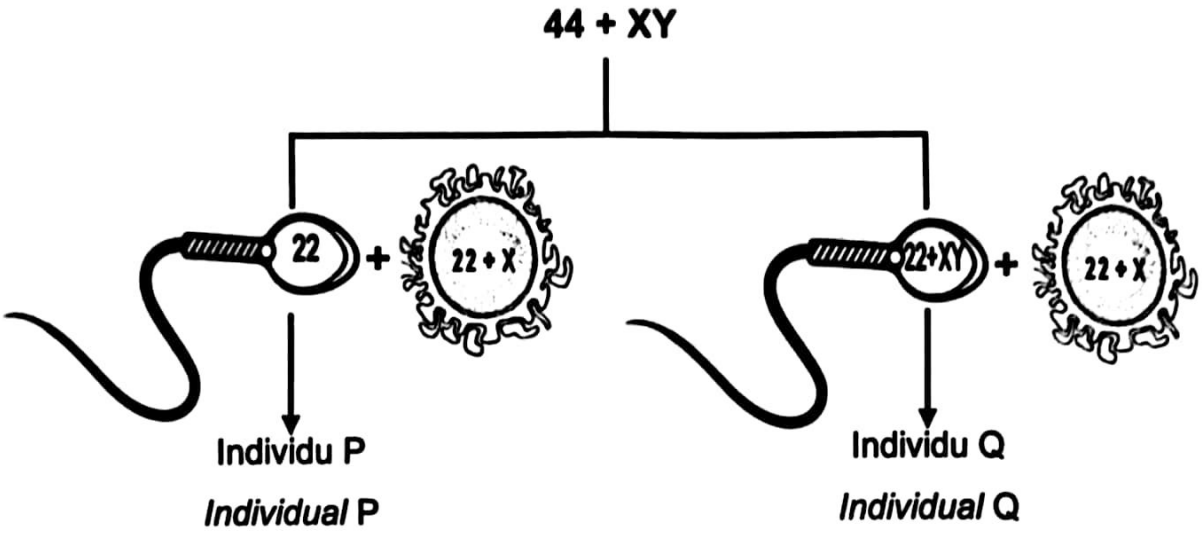
A Ciri boleh digredkan
Characteristic can be graded

B Trait dikawal oleh banyak gen
Trait is controlled by many gene

C Dipengaruhi oleh persekitaran
Affected by environment

D Boleh diwarisi untuk generasi seterusnya
Can be inherited for the next generation

39. Rajah 30 menunjukkan tak disjungsi berlaku semasa spermatogenesis.
Diagram 30 *shows the disjunction occurs during spermatogenesis.*

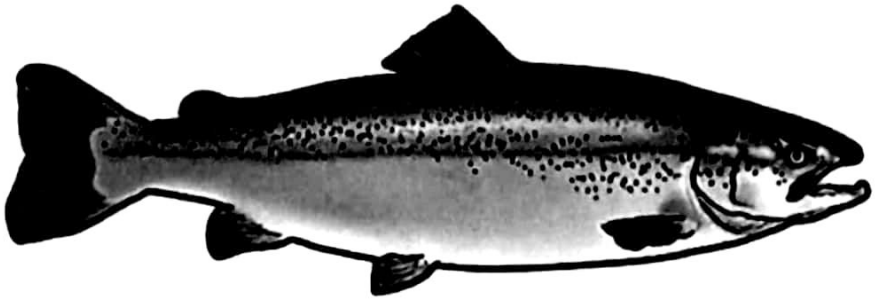


Rajah 30 / *Diagram* 30

Apakah jenis penyakit genetik yang dihidapi oleh individu P dan Q?
What type of genetic disease suffered by individual P *and* Q?

	Individu P *Individual* P	Individu Q *Individual* Q
A	Sindrom Turner *Turner syndrome*	Sindrom Jacob *Jacob syndrome*
B	Sindrom Klinefelter *Klinefelter syndrome*	Sindrom Jacob *Jacob syndrome*
C	Sindrom Jacob *Jacob syndrome*	Sindrom Klinefelter *Klinefelter syndrome*
D	Sindrom Turner *Turner syndrome*	Sindrom Klinefelter *Klinefelter syndrome*

40. Rajah 31 menunjukkan dua jenis ikan salmon pada umur yang sama.
Diagram 31 shows two types of salmon at the same age.



Ikan salmon X
Salmon X

Ikan salmon biasa
Normal salmon

Rajah 31 / *Diagram 31*

Apakah teknik yang digunakan untuk menghasilkan ikan X?
What is the technique used to produce fish X?

A Terapi gen
Gen therapy

B Bioteknologi
Biotechnology

C Kejuruteraan genetik
Genetic engineering

D Teknologi DNA rekombinan
DNA recombinant technology

Kertas Tamat