

Nama :

Kelas :

SULIT
4551/1
Biologi
Kertas 1
Ogos
2018

4551/1



1¼ jam

MAKTAB RENDAH SAINS MARA

PEPERIKSAAN AKHIR SIJIL PENDIDIKAN MRSM 2018

BIOLOGI

Kertas 1

Satu jam lima belas minit

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU

1. *Kertas soalan ini adalah dalam dwibahasa.*
2. *Soalan dalam bahasa Inggeris mendahului soalan yang sepadan dalam bahasa Melayu.*
3. *Calon dikehendaki membaca maklumat di halaman belakang buku soalan ini.*

Kertas soalan ini mengandungi 42 halaman bercetak.

4551/1

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[Lihat halaman sebelah

SULIT

1. Diagram 1 shows the structure of an animal cell.
Rajah 1 menunjukkan struktur satu sel haiwan.

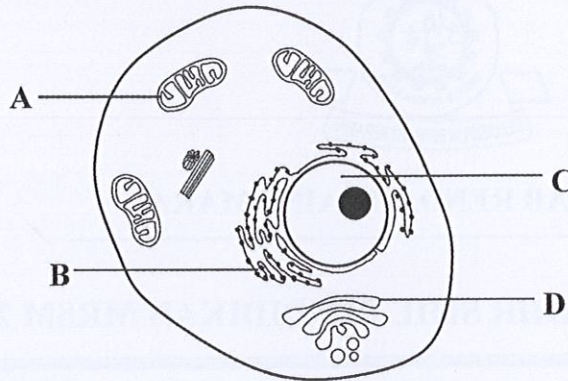


Diagram 1
Rajah 1

Which organelle A, B, C or D contains chromosome?
Antara organel A, B, C dan D yang manakah mengandungi kromosom?

2. Diagram 2 shows an organelle in a cell.
Rajah 2 menunjukkan satu organel di dalam sel.

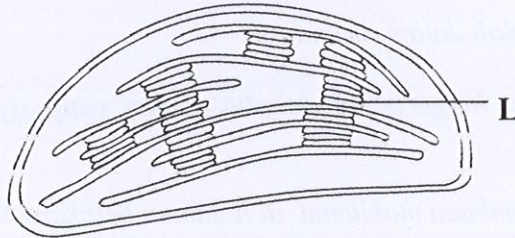


Diagram 2
Rajah 2

What process occur in structure labelled L?
Apakah proses yang berlaku dalam struktur berlabel L?

- A Oxidation of sugar
Pengoksidaan gula
- B Cellular respiration
Respirasi sel
- C Photolysis of water
Fotolisis air
- D Reduction of carbon dioxide
Penurunan karbon dioksida.

3. Diagram 3 shows few major parts of a system in human.
Rajah 3 menunjukkan beberapa bahagian utama satu sistem dalam badan manusia.

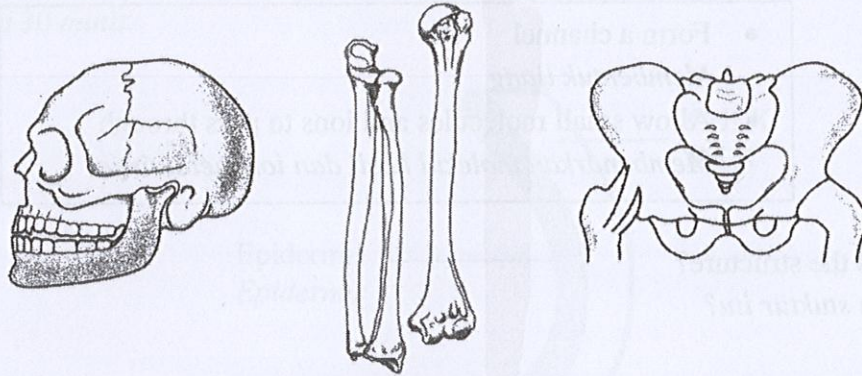


Diagram 3
Rajah 3

What is the system?
Apakah sistem itu?

- A Integumentary system
Sistem kulit
- B Skeletal system
Sistem tulang
- C Muscular system
Sistem otot
- D Endocrine system
Sistem endokrin

4. The following statements are the characteristics of a structure in plasma membrane.
Pernyataan berikut adalah ciri-ciri suatu stuktur dalam membran plasma.

- Form a channel
Membentuk liang
- Allow small molecules and ions to pass through
Membenarkan molekul kecil dan ion melaluinya.

What is the structure?

Apakah stuktur itu?

- A Pore protein
Protein liang
- B Carrier protein
Protein pembawa
- C Hydrophilic head
Kepala hidrofilik
- D Plasma membrane
Membran plasma

5. Diagram 4 shows a strip of mustard green after being immersed in distilled water for 30 minutes.
Rajah 4 menunjukkan keadaan sepotong batang sawi setelah direndam dalam air suling selama 30 minit.

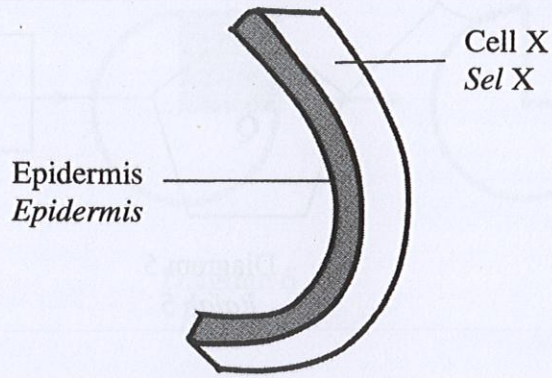
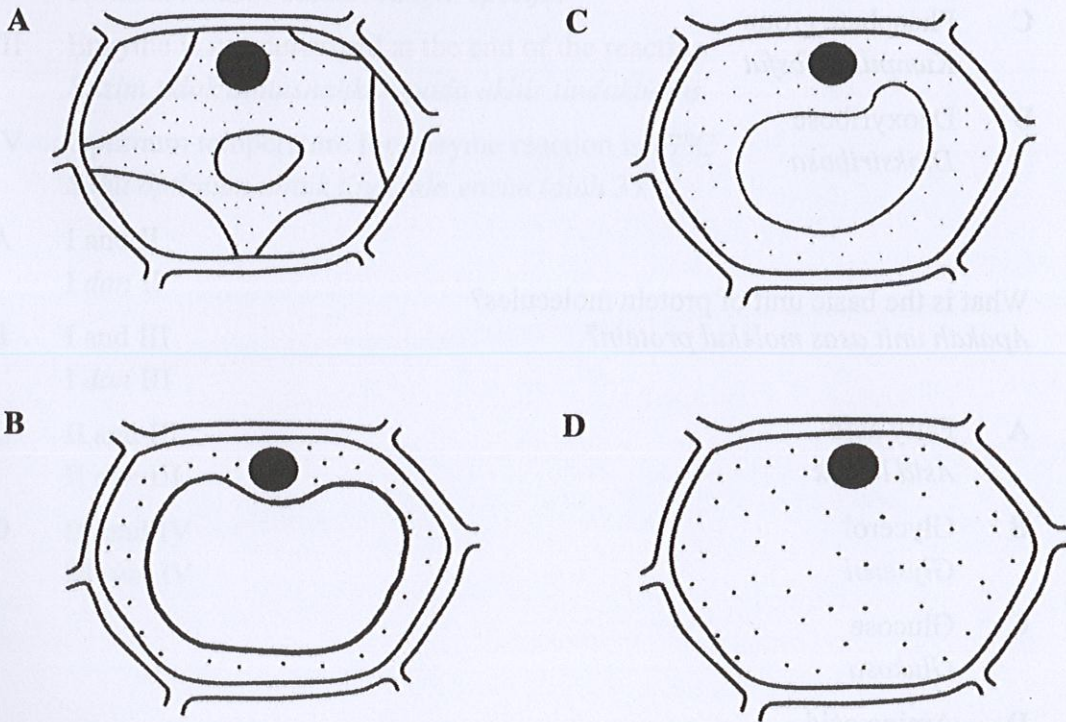


Diagram 4
Rajah 4

Which diagram shows the condition of the cell X?
Antara rajah berikut, yang manakah menunjukkan keadaan sel X?



6. Diagram 5 shows a nucleotide unit of DNA.
Rajah 5 menunjukkan satu unit nukleotida dalam DNA.

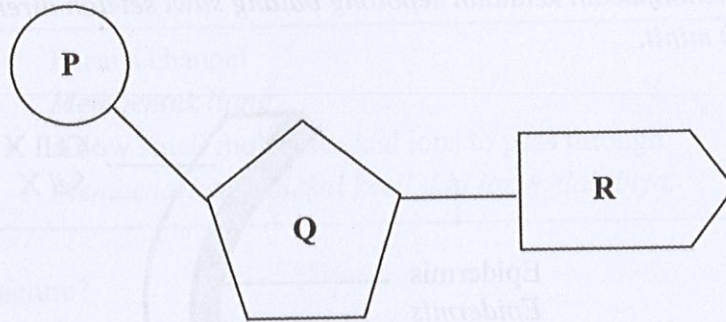


Diagram 5
Rajah 5

What is R?
Apakah R?

- A Pentose sugar
Gula Pentosa
 - B Nitrogenous base
Bes bernitrogen
 - C Phosphate group
Kumpulan fosfat
 - D Deoxyribose
Dioksiribosa
7. What is the basic unit of protein molecules?
Apakah unit asas molekul protein?
- A Fatty acid
Asid lemak
 - B Glycerol
Glyserol
 - C Glucose
Glukosa
 - D Amino acid
Asid amino

8. Diagram 6 shows the mechanism of enzyme action.
Rajah 6 menunjukkan mekanisme tindakan enzim.

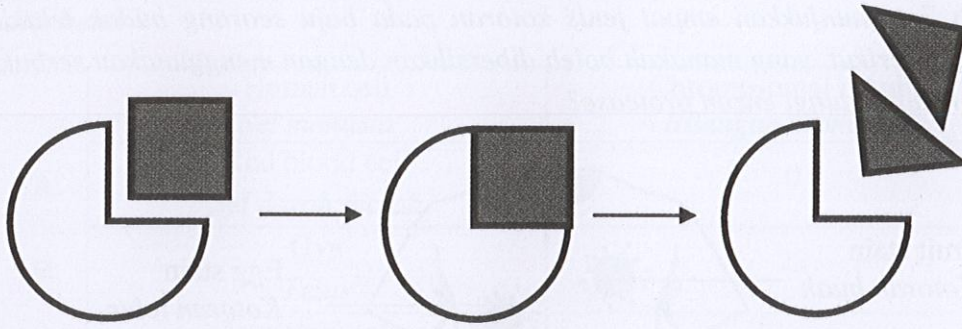


Diagram 6
Rajah 6

Which of the following can be deduced from Diagram 6?

Antara yang berikut, yang manakah kesimpulan daripada Rajah 6?

- I Enzyme reaction is reversible
Tindakan enzim adalah berbalik
 - II Enzyme action is highly specific
Tindakan enzim adalah sangat spesifik
 - III Enzyme is not destroyed at the end of the reaction
Enzim tidak dimusnahkan pada akhir tindakbalas
 - IV Optimum temperature for enzyme reaction is 37°C
Suhu optimum untuk tindakan enzim ialah 37°C
- A I and II
I dan II
 - B I and III
I dan III
 - C II and III
II dan III
 - D III and IV
III dan IV

9. Diagram 7 shows four types of stains on a boy's shirt. Which stain can be removed by using the washing powder that contains protease?

Rajah 7 menunjukkan empat jenis kotoran pada baju seorang budak lelaki. Antara kotoran berikut, yang manakah boleh dibersihkan dengan menggunakan serbuk pencuci yang mengandungi enzim protease?

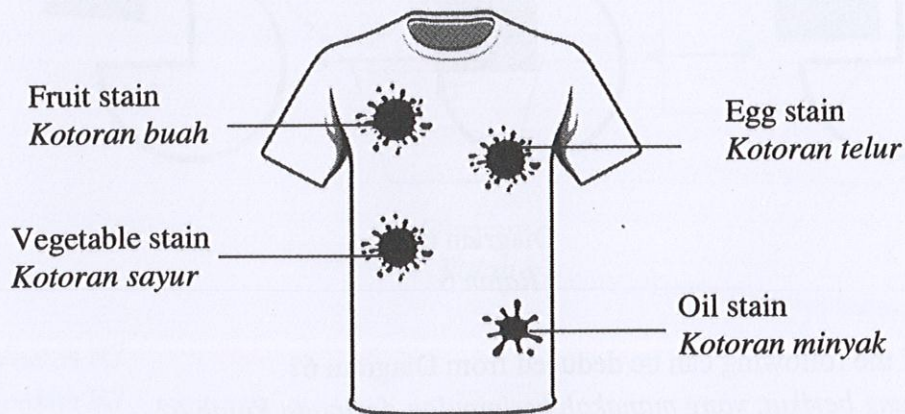


Diagram 7
Rajah 7

- A Vegetable stain
Kotoran sayuran
- B Fruit stain
Kotoran buahan
- C Egg stain
Kotoran telur
- D Oil stain
Kotoran minyak

10. Which of the following human cells does **not** have correct chromosomal number?
Antara sel-sel manusia berikut, yang manakah tidak mempunyai bilangan kromosom yang betul?

	Human cell <i>Sel manusia</i>	Chromosomal number <i>Bilangan kromosom</i>
A	Red blood cell <i>Sel darah merah</i>	0
B	Ova <i>Telur</i>	23
C	Intestinal cells <i>sel intestin</i>	46
D	Skin cells <i>Sel kulit</i>	23

11. Diagram 8 shows a pair of chromosomes in an animal cell.
Rajah 8 menunjukkan satu pasangan kromosom satu sel haiwan.

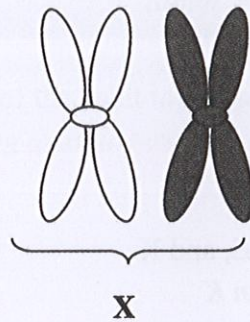


Diagram 8
Rajah 8

What is X?
Apakah X?

- A Chromatid
Kromatid
- B Chromosomes
Kromosom
- C Sister chromatid
Kromatid seinduk
- D Homologous Chromosomes
Kromosom homologous

12. The diploid chromosomal number of a salt water crocodile is 34.
If one pair of the homologous chromosome does not separate during Meiosis I, how many chromosomes can be found in the gametes?

Bilangan kromosom diploid bagi seekor buaya air masin ialah 34.

Jika satu daripada pasangan kromosom homolog tidak terpisah semasa Meiosis I, berapakah bilangan kromosom yang mungkin didapati pada gamet?

- A 16
B 17
C 33
D 34
13. Which is the process that occurs only in a liver cell?
Antara proses berikut, yang manakah hanya berlaku di dalam sel hati?
- A Synthesize of bile
Sintesis hempedu
- B Synthesis of lypase enzyme
Sintesis enzim lipase
- C Synthesis of insulin hormone
Sintesis hormon insulin
- D Synthesis of vitamin A, D, E, and K
Sintesis vitamin A, D, E, dan K

14. Diagram 9 shows a young boy with bad eating habit.
Rajah 9 menunjukkan seorang budak lelaki dengan amalan pemakanan yang tidak sihat.



Diagram 9
Rajah 9

What is the long term effect of the habit towards the boy?
Apakah kesan jangka panjang amalan tersebut terhadap budak itu?

- A Bulimia
Bulimia
- B Anorexia
Anoreksia
- C Gastric
Gastrik
- D Obesity
Obesiti

15. Table 1 shows the nutrient content in different types of food.

Jadual 1 menunjukkan kandungan nutrient dalam jenis makanan yang berbeza.

Type of food <i>Jenis makanan</i>	Ferum <i>Ferum</i> (mg/100g)	Calcium <i>Kalsium</i> (mg/100g)	Vitamin C <i>Vitamin C</i> (mg/100g)	Vitamin D <i>Vitamin D</i> (mg/100g)
Fish <i>Ikan</i>	0.4	35	0	6.3
Banana <i>Pisang</i>	0.4	7	10	0
Nuts <i>Kekacang</i>	7.6	35	0	0
Milk <i>Susu</i>	0.1	120	0.5	0.02

Table 1
Jadual 1

Which food are the best for preventing osteoporosis?

Antara makanan berikut, yang manakah terbaik untuk mencegah osteoporosis?

- A Banana and nuts
Pisang dan kekacang
- B Banana and milk
Pisang dan susu
- C Fish and milk
Ikan dan susu
- D Fish and nuts
Ikan dan kekacang

16. Diagram 10 shows the digestive system of a rodent.
Rajah 10 menunjukkan sistem penghadaman rodensia.

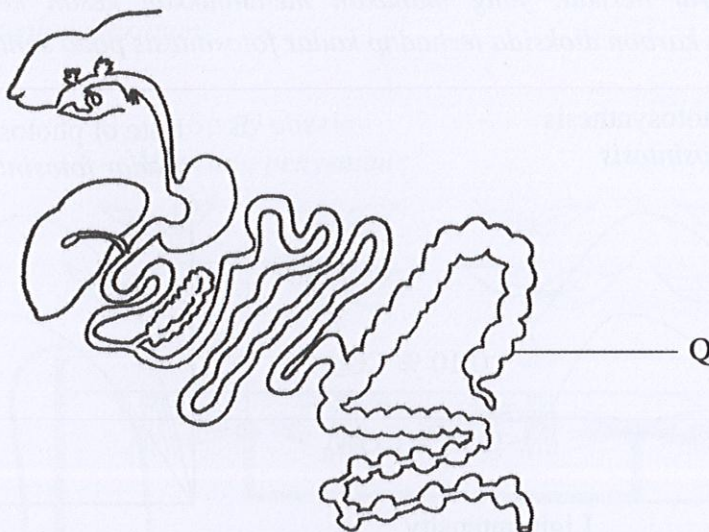


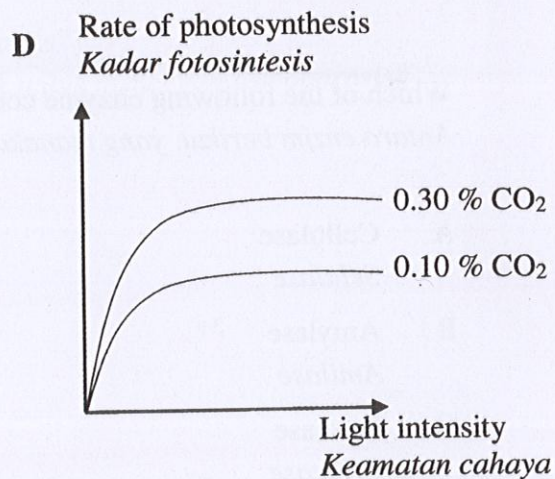
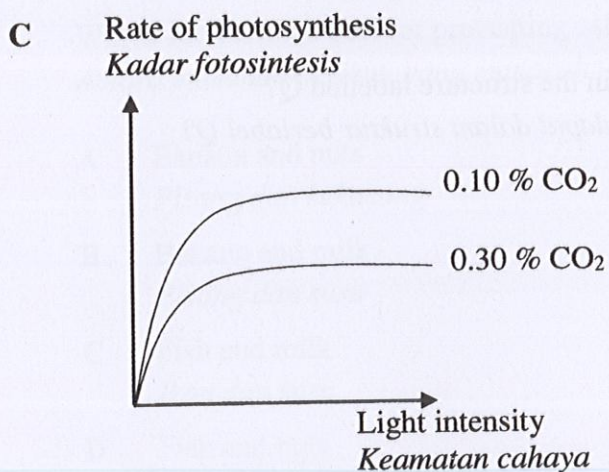
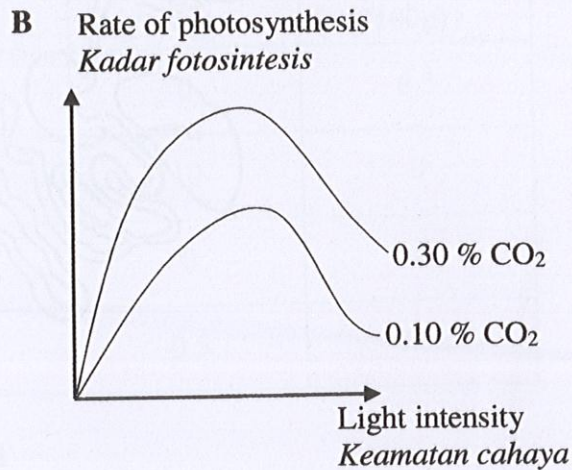
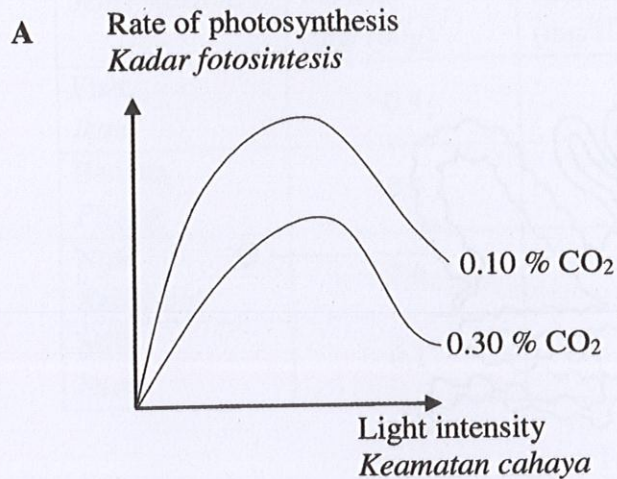
Diagram 10
Rajah 10

Which of the following enzyme contain in the structure labelled Q?
Antara enzim berikut, yang manakah terdapat dalam struktur berlabel Q?

- A Cellulase
Selulase
- B Amylase
Amilase
- C Protease
Protease
- D Lipase
Lipase

17. Which graph shows the effect of light intensity and carbon dioxide concentration on the rate of photosynthesis at 25 °C?

Antara graf berikut, yang manakah menunjukkan kesan keamatan cahaya dan kepekatan karbon dioksida terhadap kadar fotosintesis pada suhu 25 °C?



18. Diagram 11 shows a method used to improve the quality and quantity of food production.

Rajah 11 menunjukkan satu kaedah yang digunakan untuk meningkatkan kualiti dan kuantiti penghasilan makanan.

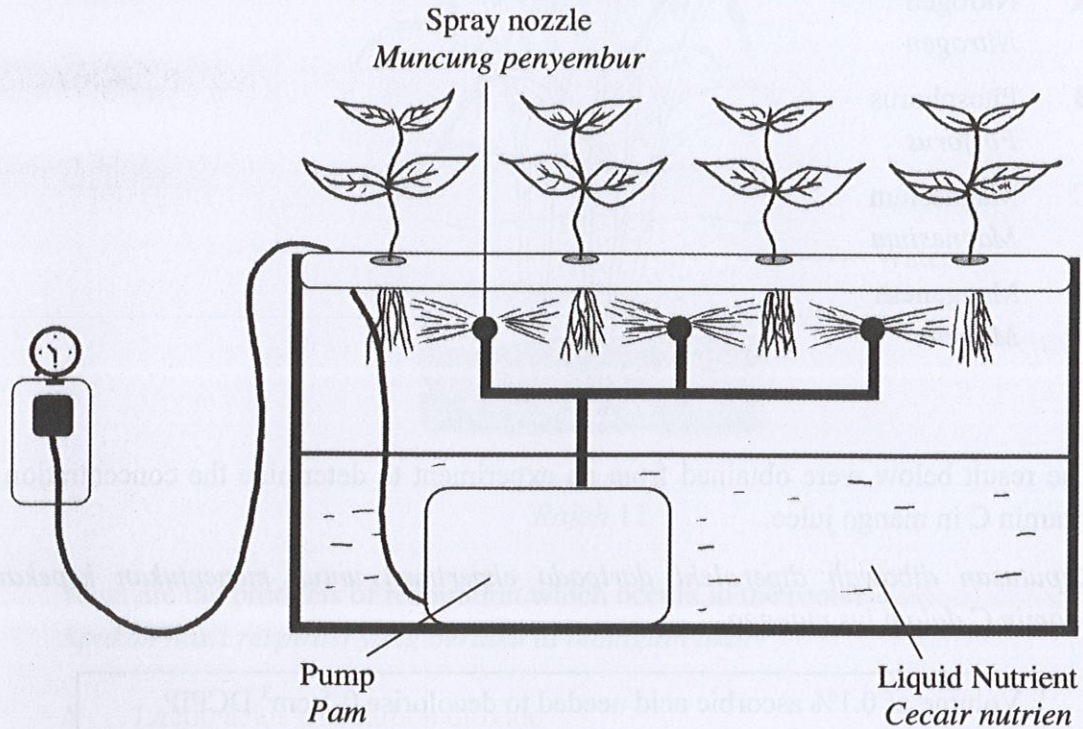


Diagram 11
Rajah 11

What is the technique used?
Apakah kaedah yang digunakan?

- A Direct Seedling
Pembenihan langsung
- B Aeroponics
Aeroponik
- C Hydroponics
Hidroponik
- D Tissue culture
Kultur tisu

19. Micronutrients are needed in small quantity by plant.

Which of the following is a micronutrient?

Mikronutrien diperlukan dalam kuantiti yang sedikit oleh tumbuhan.

Antara berikut, yang manakah merupakan mikronutrien?

- A Nitrogen
Nitrogen
- B Phosphorus
Fosforus
- C Magnesium
Magnesium
- D Manganese
Mangan

20. The result below were obtained from an experiment to determine the concentration of vitamin C in mango juice.

Keputusan dibawah diperolehi daripada eksperimen untuk menentukan kepekatan vitamin C dalam jus mangga.

Volume of 0.1% ascorbic acid needed to decolorise 0.1 cm³ DCPIP solution = 0.2 cm³

Isipadu 0.1% asid askorbik yang diperlukan untuk melunturkan warna 0.1 cm³ larutan DCPIP = 0.2 cm³

Volume of mango juice needed to decolorise 0.1 cm³ DCPIP solution = 4.0 cm³

Isipadu jus mangga yang diperlukan untuk melunturkan warna 0.1 cm³ larutan DCPIP = 4.0 cm³

What is the concentration of vitamin C in the mango juice?

Apakah kepekatan vitamin C dalam jus mangga?

- A 5.0 mg cm⁻³
- B 0.5 mg cm⁻³
- C 0.05 mg cm⁻³
- D 0.005 mg cm⁻³

21. Diagram 12 shows a cluster of a paddy plants in a paddy field.
Rajah 12 menunjukkan serumpun padi dalam sawah padi.

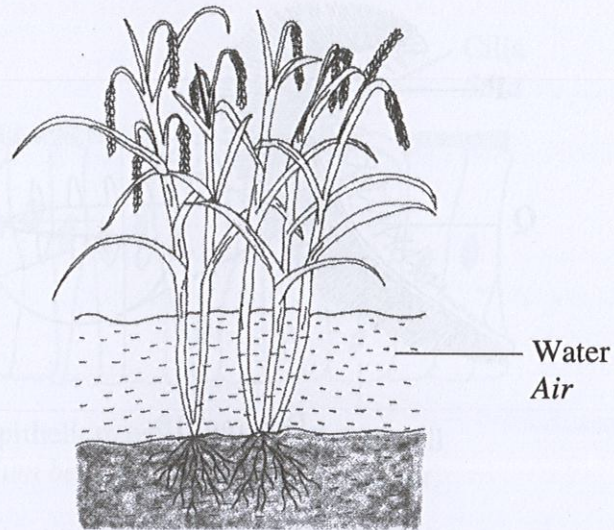


Diagram 12
Rajah 12

What are the products of respiration which occurs in the roots?
Apakah hasil respirasi yang berlaku di bahagian akar?

- A Lactic acids and carbon dioxide
Asid laktik dan karbon dioksida
- B Ethanol and carbon dioxide
Etanol dan karbon dioksida
- C Lactic acids and water
Asid laktik dan air
- D Ethanol and water
Etanol dan air

22. Diagram 13 shows gills of a fish.
Rajah 13 menunjukkan insang ikan.

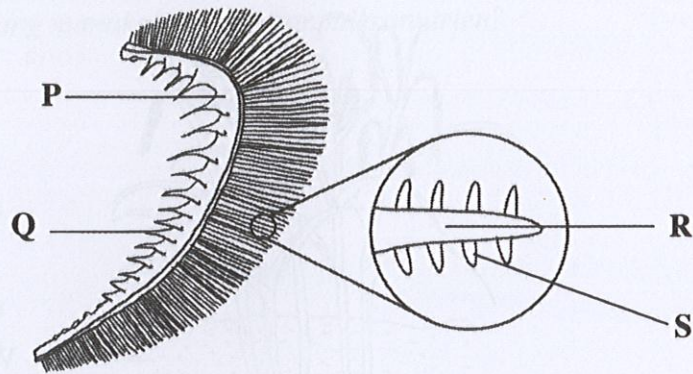


Diagram 13
Rajah 13

Which part labelled **P**, **Q**, **R** and **S** is the site where the rate of gaseous exchange is the highest?

Antara bahagian **P**, **Q**, **R** dan **S** yang manakah tempat berlaku kadar pertukaran gas yang paling tinggi.

- A P
B Q
C R
D S

23. Diagram 14 shows tissues of bronchiole wall in the human respiratory tract.
Rajah 14 menunjukkan tisu pada dinding bronkiol dalam saluran respirasi manusia.

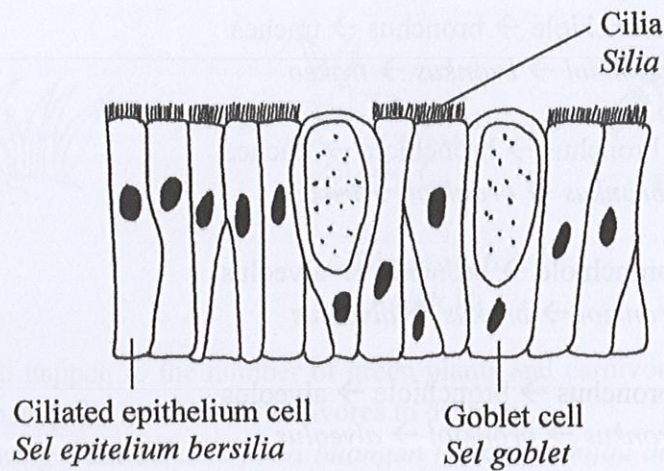


Diagram 14
Rajah 14

What is the function of cilia?
Apakah fungsi silia?

- A Trapping particles
Memerangkap habuk
- B Moving air towards the alveoli
Menggerakkan udara ke arah alveolus
- C Moving mucus towards the mouth
Menggerakkan mukus ke arah mulut
- D Providing a large surface area for gaseous exchange
Membekalkan keluasan permukaan untuk pertukaran gas

24. What is the pathway of carbon dioxide when it leaves the lungs?
Apakah laluan gas karbon dioksida apabila keluar dari paru?

- A Alveolus → bronchiole → bronchus → trachea
Alveolus → bronkiol → bronkus → trakea
- B Alveolus → bronchus → bronchiole → trachea
Alveolus → bronkus → bronkiol → trakea
- C Trachea → bronchiole → bronchus → alveolus
Trakea → bronkiol → bronkus → alveolus
- D Trachea → bronchus → bronchiole → alveolus
Trakea → bronkus → bronkiol → alveolus

25. Diagram 15 shows a type of interaction between two organisms.
Rajah 15 menunjukkan sejenis interaksi antara dua organisma.

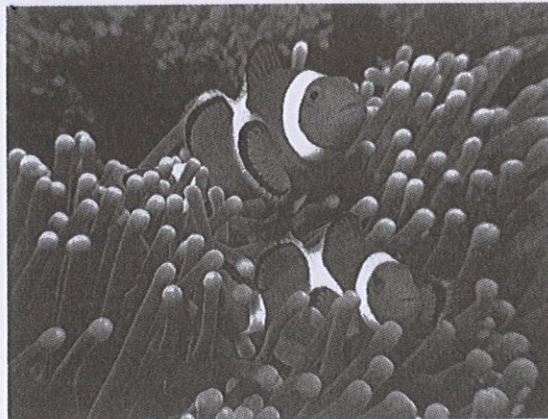


Diagram 15

Rajah 15

What is the interaction?

Apakah interaksi tersebut?

- A Commensalism
Komensalisme
- B Mutualism
Mutualisme
- C Parasitism
Parasitisme
- D Saprophytism
Saprofitisme

26. Diagram 16 shows a food chain in an ecosystem.
Rajah 16 menunjukkan satu rantai makanan dalam satu ekosistem.

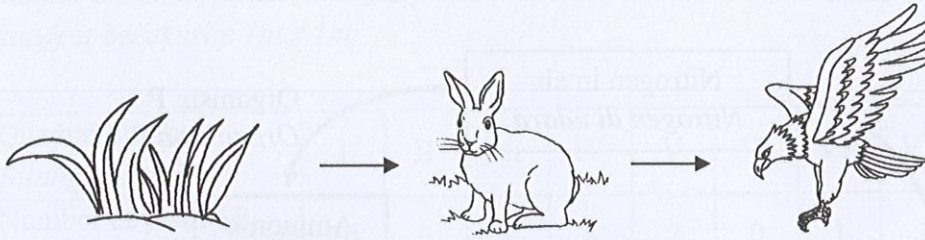


Diagram 16
Rajah 16

What will happen to the number of green plants and carnivores if a disease outbreak occur, causing the number of herbivores to decrease.

Apakah yang akan berlaku pada bilangan tumbuhan hijau dan haiwan karnivor jika satu wabak penyakit menyebabkan bilangan haiwan herbivor berkurang.

	Green plants <i>Tumbuhan hijau</i>	Carnivores <i>Karnivor</i>
A	Decrease <i>Berkurangan</i>	Decrease <i>Berkurangan</i>
B	Decrease <i>Berkurangan</i>	Increase <i>Bertambah</i>
C	Increase <i>Bertambah</i>	Decrease <i>Berkurangan</i>
D	Increase <i>Bertambah</i>	Increase <i>Bertambah</i>

27. Diagram 17 shows a Nitrogen Cycle.
 Rajah 17 menunjukkan Kitar Nitrogen.

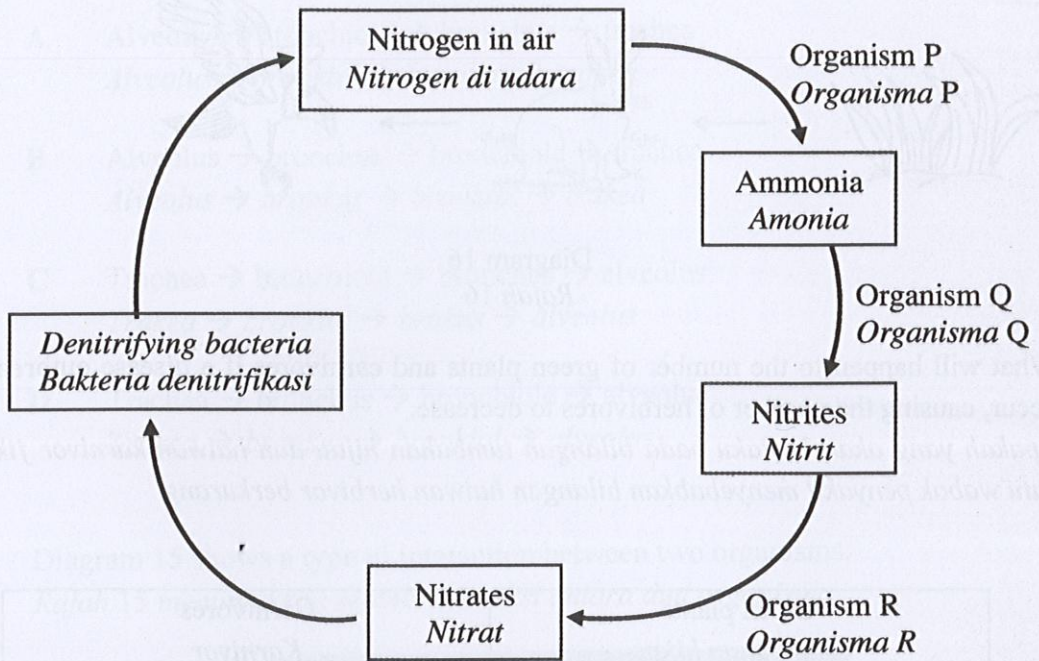


Diagram 17
 Rajah 17

What are organism P, Q and R?
 Apakah organisma P, Q dan R?

	P	Q	R
A	<i>Rhizobium</i> sp.	<i>Nitrosomonas</i> sp.	<i>Nitrobacter</i> sp.
B	<i>Nitrosomonas</i> sp.	<i>Rhizobium</i> sp.	<i>Nitrobacter</i> sp.
C	<i>Thiobacillus denitrificans</i>	<i>Nitrosomonas</i> sp.	<i>Nitrobacter</i> sp.
D	<i>Thiobacillus denitrificans</i>	<i>Saprophytic fungi</i>	<i>Nitrosomonas</i> sp.

28. Table 2 shows the number of plant M present in 10 different quadrats, each quadrat measuring 1m x 1m.

Jadual 2 menunjukkan bilangan tumbuhan M dalam 10 kuadrat yang berlainan. Setiap kuadrat berukuran 1m x 1m.

Quadrat number <i>Bilangan kuadrat</i>	I	II	III	IV	V	VI	VII	VIII	IX	X
Number of plant M <i>Bilangan tumbuhan M</i>	10	5	7	8	2	0	1	0	3	15

Table 2
Jadual 2

Calculate the density of plant M.
Hitung kepadatan tumbuhan M.

- A 3.1m^{-2}
 B 4.1m^{-2}
 C 5.1m^{-2}
 D 6.1m^{-2}
29. The following information refers to the thinning of ozone layer.
Maklumat berikut merujuk kepada penipisan lapisan ozon.

- J - Chloroflourocarbon (CFC) leaks out of air conditioner.
Klorofluorocarbon (CFC) terbebas daripada penyaman udara.
- K - Chlorine atom breaks down ozone molecule.
Atom klorin menguraikan molekul ozon.
- L - Ultra-violet rays break down chlorofluorocarbon (CFC) molecule.
Sinaran ultraungu menguraikan molekul klorofluorokarbon (CFC).

Which sequence is correct ?
Urutan manakah yang betul?

- A L → K → J
 B L → J → K
 C J → K → L
 D J → L → K

30. Diagram 18 shows the effect of increasing carbon dioxide concentration in atmosphere.
Rajah 18 menunjukkan kesan peningkatan kepekatan gas karbon dioksida dalam atmosfera.

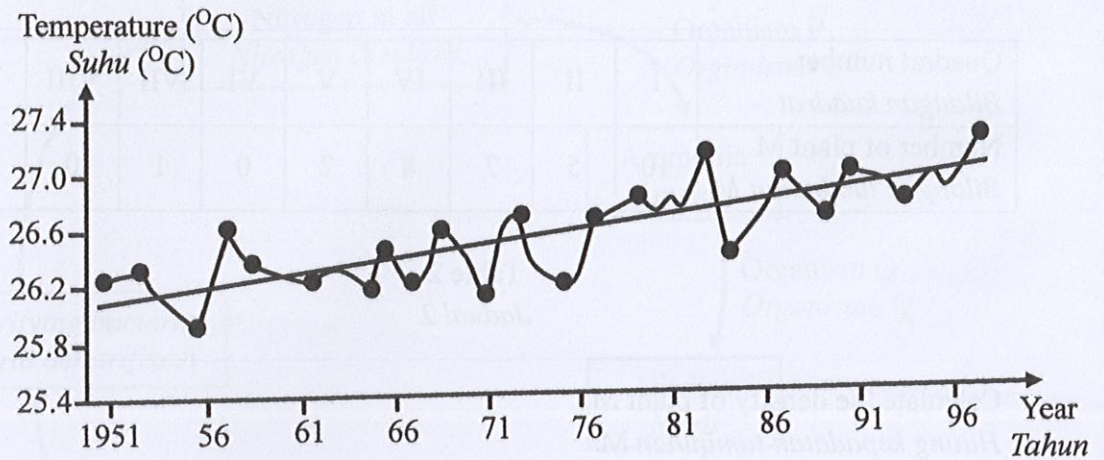


Diagram 18
Rajah 18

Which of the following is the result of this effect?
Antara berikut, yang manakah akibat kesan tersebut?

- A Acid rain
Hujan asid
- B Global warming
Global warming
- C Eutrophication
Eutrofikasi
- D Thinning of ozone layer
Penipisan lapisan ozon

31. The following statement is the process in an ecosystem.

Pernyataan berikut adalah satu proses dalam satu ekosistem.

The process whereby the species invades and occupies a newly formed area where no life has existed previously.

Satu proses dimana spesies menakluk dan menduduki satu kawasan baharu dimana tiada hidupan wujud sebelumnya.

Which of the following terms refer to above statement?

Antara istilah berikut, yang manakah merujuk kepada pernyataan di atas?

- A Succession
Sesaran
- B Competition
Persaingan
- C Prey – predator
Mangsa – pemangsa
- D Colonisation
Kolonisasi
32. Diagram 19 shows a slide of a human blood smear.
Rajah 19 menunjukkan satu slaid lumuran darah manusia.

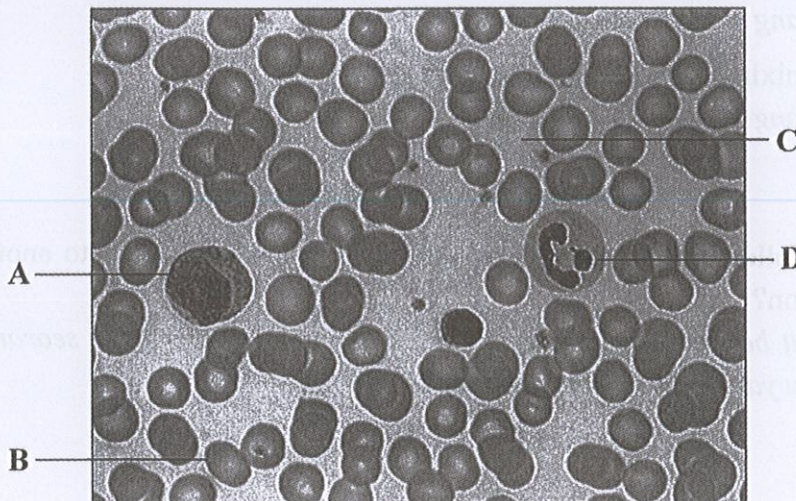


Diagram 19

Rajah 19

Which blood cell labelled A, B, C or D shows a lymphocytes?

Yang manakah antara sel darah yang berlabel A, B, C dan D adalah limfosit?

33. Diagram 20 shows a longitudinal section of human heart. Structure R is a pacemaker.
Rajah 20 menunjukkan keratan memanjang jantung manusia. Struktur R adalah perentak.

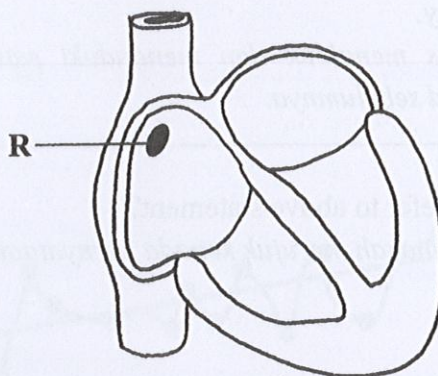


Diagram 20
Rajah 20

What is the function of R?
Apakah fungsi struktur R?

- A Carry blood to right ventricle
Membawa darah ke ventrikel kanan
- B Generate impuls to the walls of atria
Menghasilkan impuls ke dinding atrium
- C Prevent backflow of blood
Menghalang pengaliran balik darah
- D Prevent mixing of blood from the vena cava
Menghalang percampuran darah dari vena cava
34. Which of the following disease can be passed from one individual to another during blood transfusion?
Antara penyakit berikut, yang manakah boleh dipindahkan daripada seorang individu kepada individu yang lain semasa pemindahan darah.
- A Cholera
Kolera
- B AIDS
AIDS
- C Scurvy
Skurvi
- D Chronic obstructive pulmonary disease (COPD)
Penyakit pulmonari obstruktif kronik

35. A boy was infected with a chicken pox virus. He was only given antihistamine to reduce the itchiness.

Why he was not given any medication to cure the disease?

Seorang kanak-kanak terkena jangkitan virus cacar air. Dia hanya diberikan antihistamin untuk mengurangkan kegatalan.

Mengapakah dia tidak diberikan apa-apa ubat untuk merawat penyakit tersebut?

- A** The virus cannot be killed
Virus itu tidak boleh dibunuh
- B** The immune system will produce antibody to fight the virus
Sistem imun akan menghasilkan antibodi untuk melawan virus
- C** Antihistamine can kill the chicken pox virus
Antihistamin boleh membunuh virus cacar air
- D** The boy already has antibody for chicken pox in his blood
Kanak-kanak itu telah mempunyai antibodi untuk virus cacar air di dalam darahnya

Q	P	
Forest	Tropical rain forest	A
Coast	Humid region tropics	B
Mangrove swamp	Desert	C
Humid region tropics	Forest	D
Tropical rain forest	Humid region tropics	
Desert	Mangrove swamp	
Humid region tropics	Humid region tropics	

36. Diagram 21 shows the cross section of a stem from plant P and Q which live in different habitats.

Rajah 21 menunjukkan keratan rentas batang tumbuhan P dan Q yang hidup dalam habitat yang berbeza.

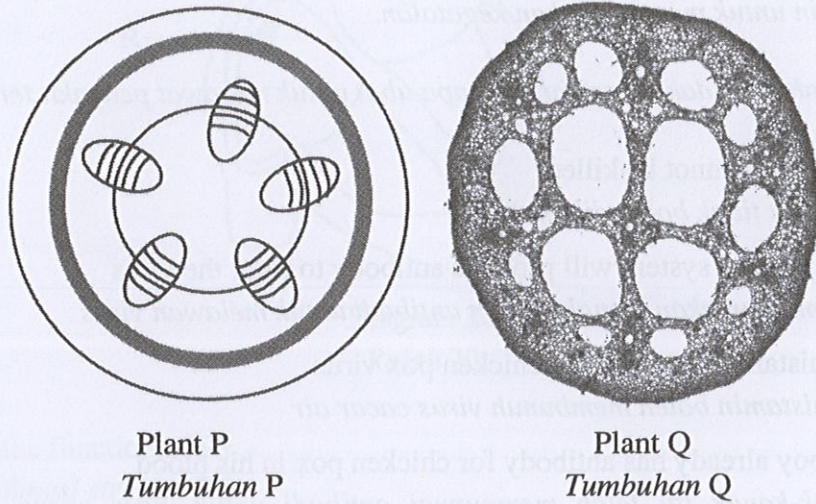


Diagram 21
Rajah 21

What is the habitat of plant P and Q?
Apakah habitat tumbuhan P dan Q?

	P	Q
A	Tropical rain forest <i>Hutan hujan tropika</i>	Pond <i>Kolam</i>
B	Desert <i>Gurun</i>	Mangrove swamp <i>Hutan paya bakau</i>
C	Pond <i>Kolam</i>	Tropical rain forest <i>Hutan hujan tropika</i>
D	Mangrove swamp <i>Hutan paya bakau</i>	Desert <i>Gurun</i>

37. Diagram 22 shows structure of human brain. Accidents can cause a person to lose the ability to talk.

Rajah 22 menunjukkan struktur otak manusia. Kemalangan boleh menyebabkan seseorang itu kehilangan keupayaan untuk bercakap.

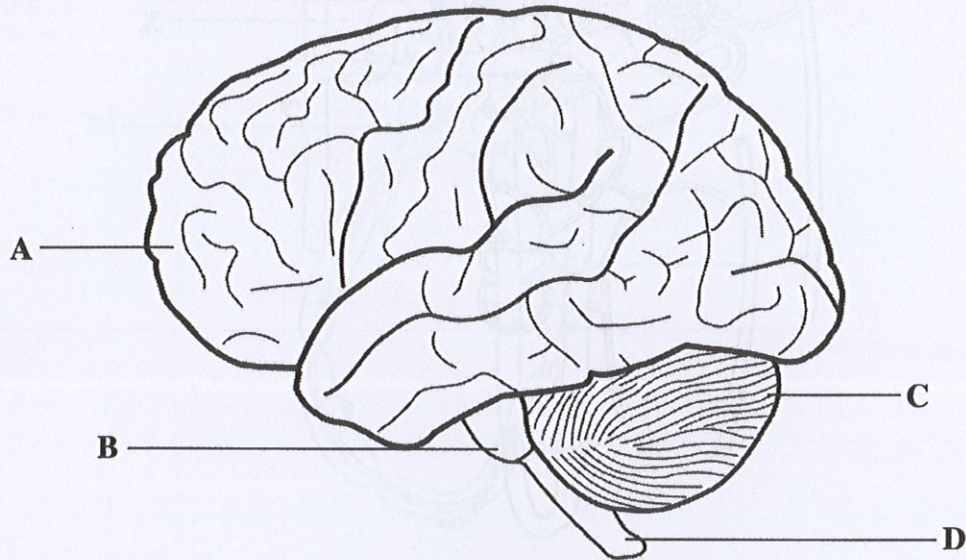


Diagram 22
Rajah 22

Which part labelled A, B, C or D of the brain is affected?

Antara bahagian otak berlabel A, B, C atau D manakah yang terkesan?

38. Diagram 23 shows the structure of nephron.
Rajah 23 menunjukkan struktur satu nefron.

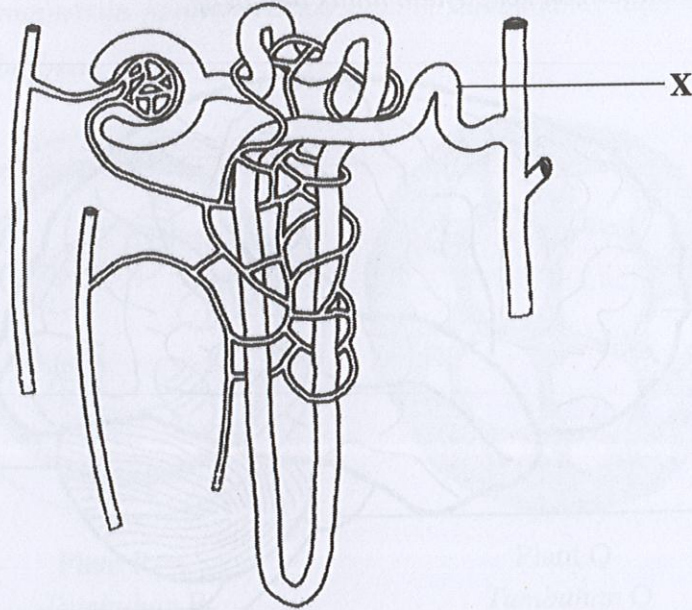


Diagram 23
Rajah 23

Name the hormone that react at X when a student takes a lot of juicy fruits?
Namakan hormon yang bertindakbalas pada struktur X apabila seorang pelajar memakan banyak buah-buahan berjus?

- | | |
|------------------------------------|-----------------------------------|
| A ADH
<i>ADH</i> | C Tyroxine
<i>Tiroksina</i> |
| B Aldosterone
<i>aldosteron</i> | D Adrenaline
<i>Adrenalina</i> |

39. Diagram 24 shows a type of neurone.
Rajah 24 menunjukkan satu jenis neuron.

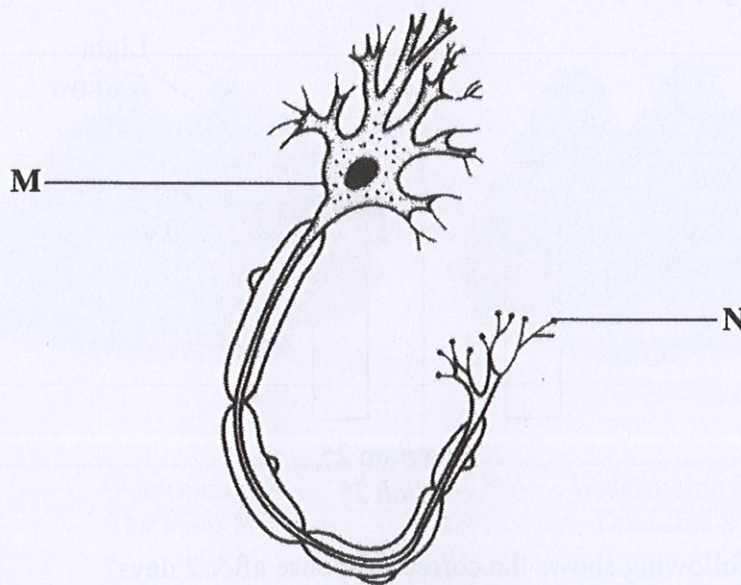


Diagram 24
Rajah 24

Name the part labelled **M** and **N**?
Namakan bahagian yang berlabel M dan N?

	M	N
A	Axon <i>Akson</i>	Dendrites <i>Dendrit</i>
B	Body cell <i>Sel Badan</i>	Synaptic knob <i>Bonggol sinaps</i>
C	Axon <i>Akson</i>	Body cell <i>Sel badan</i>
D	Synaptic knob <i>Bonggol sinaps</i>	Dendrites <i>Dendrit</i>

40. Diagram 25 shows a shoot with coleoptile removed and then agar is inserted between the coleoptile and shoot.
Rajah 25 menunjukkan pucuk yang dibuang koleoptil dan kemudian agar diletakkan diantara koleoptil dan pucuk.

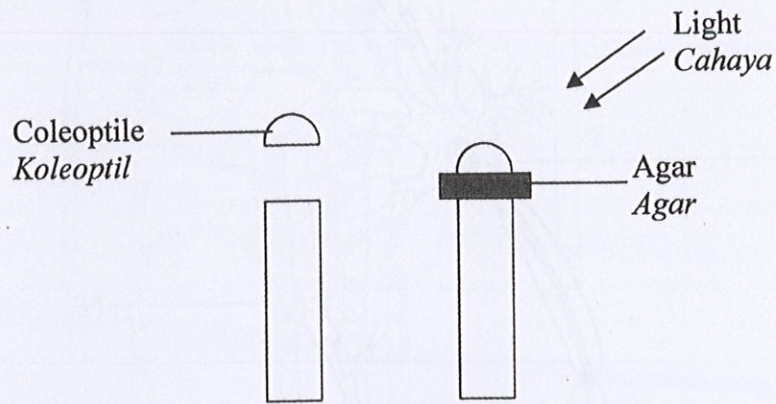
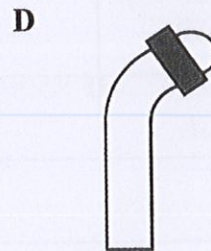
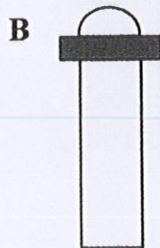
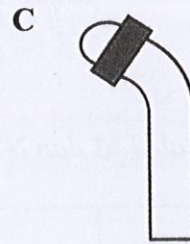
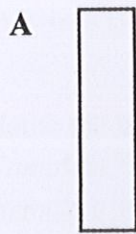


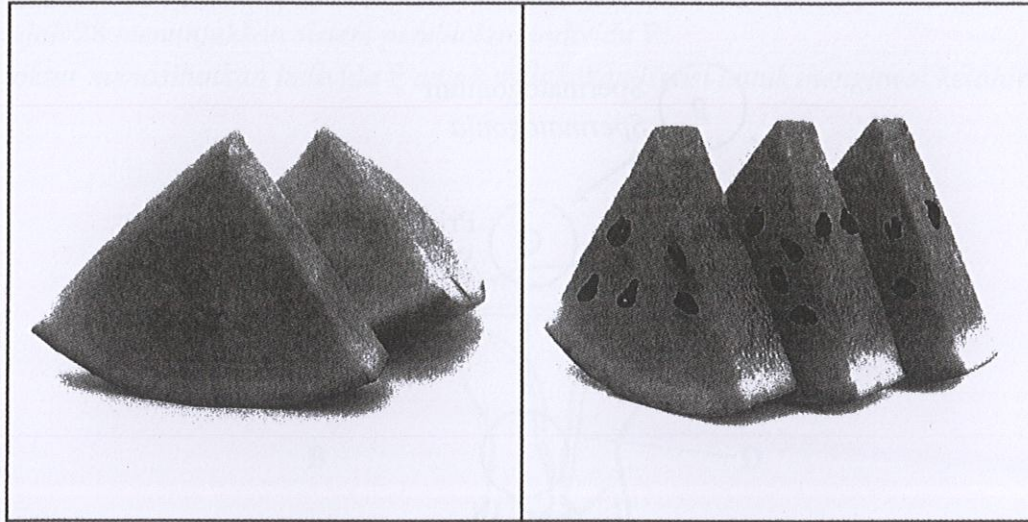
Diagram 25
Rajah 25

Which of the following shows the correct response after 2 days?

Antara berikut, yang manakah menunjukkan gerak balas yang betul selepas 2 hari?



41. Diagram 26 shows slices of watermelon R and S.
Rajah 26 menunjukkan potongan tembikai R dan S.



Watermelon R
Tembikai R

Watermelon S
Tembikai S

Diagram 26
Rajah 26

Why watermelon R is different from watermelon S?
Mengapakah tembikai R berbeza daripada tembikai S?

- A R is given ethylene to stimulate the ripening of fruit
R diberi etilena untuk merangsang pemasakan buah
- B R is given auxin to promote pathenocarpy
R diberi auksin untuk menggalakkan patenokarpi
- C R is given auxin to promote growth of fruit
R diberi auksin untuk merangsang pertumbuhan buah
- D R is given ethylene to stimulate production of cellulose
R diberi etilena untuk merangsang penghasilan selulosa

42. Diagram 27 shows the process of spermatogenesis.
Rajah 27 menunjukkan proses spermatogenesis.

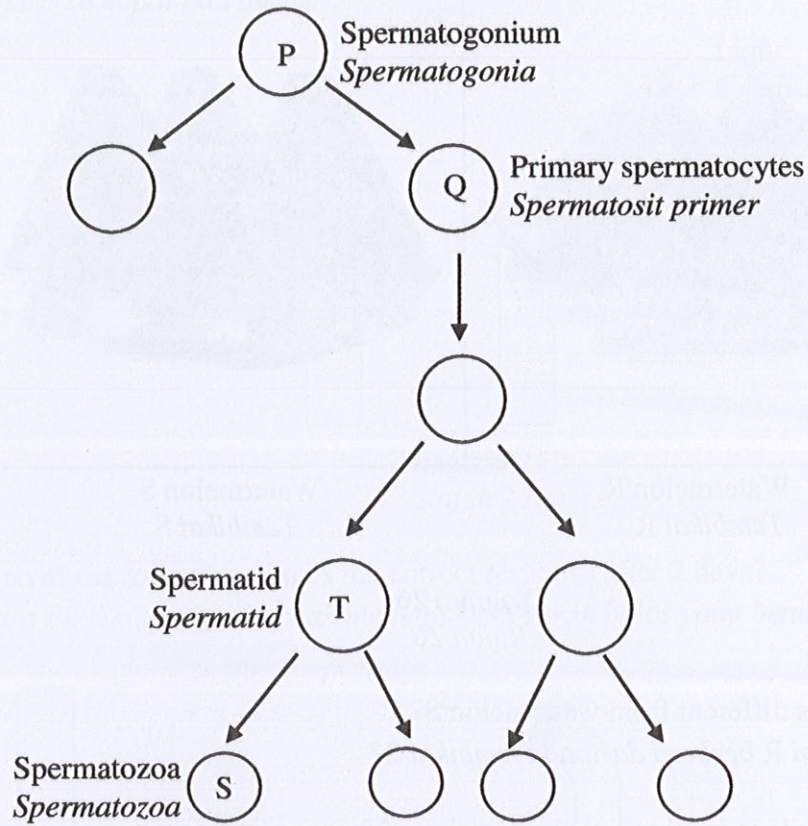


Diagram 27
Rajah 27

Which groups of the cells matched correctly?
Kumpulan sel yang manakah dipadankan dengan betul?

	Haploid cells	Diploid cells
A	Q and R <i>Q dan R</i>	S and T <i>S dan T</i>
B	R and S <i>R dan S</i>	Q and T <i>Q dan T</i>
C	S and T <i>S dan T</i>	P and Q <i>P dan Q</i>
D	Q and T <i>Q dan T</i>	R and S <i>R dan S</i>

43. Diagram 28 shows the reproductive system of individual P.
A doctor advice individual P to do ligation for the birth control.

Rajah 28 menunjukkan sistem pembiakan individu P.

Doktor menasihatkan individu P untuk melakukan ligasi untuk mengawal kelahiran.

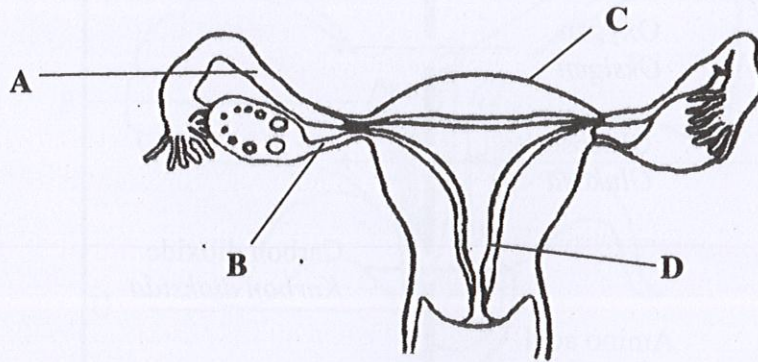


Diagram 28

Rajah 28

Which part label A, B, C or D is the location for the ligation?

Antara bahagian yang berlabel A, B, C dan D yang manakah tempat untuk ligasi?

44. Diagram 29 shows a part of organ M which involved in transferring of dissolved nutrients from pregnant mother to the fetus.

Rajah 29 menunjukkan satu bahagian organ M yang terlibat dalam pemindahan nutrient terlarut daripada ibu mengandung ke fetus.

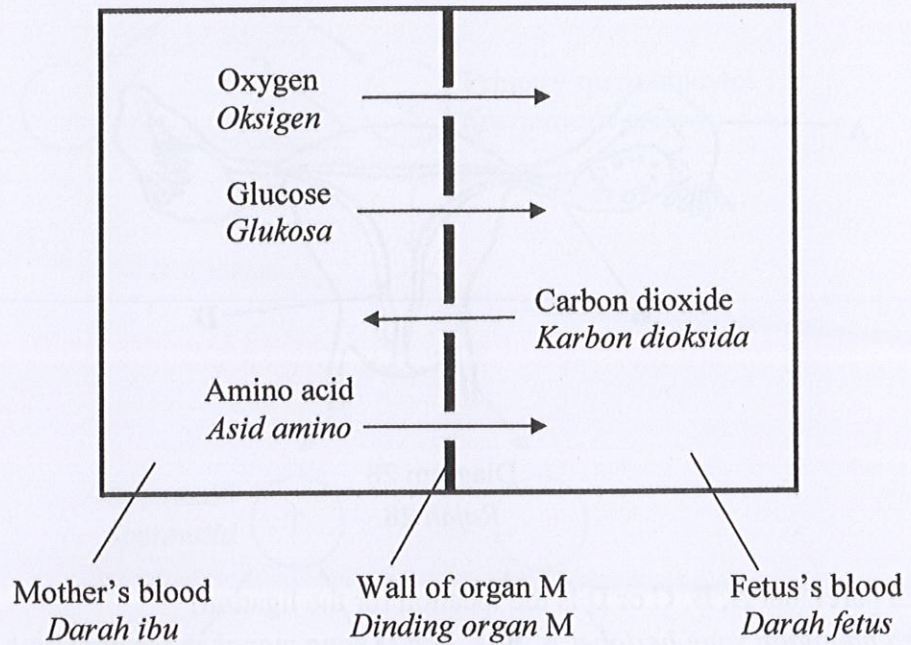


Diagram 29
Rajah 29

What is organ M.
Apakah organ M.

- A Kidney
 Ginjal
- B Liver
 Hati
- C Placenta
 Plasenta
- D Stomach
 Perut

45. . The diagram 30 shows a flower.
Rajah 30 menunjukkan sekuntum bunga.

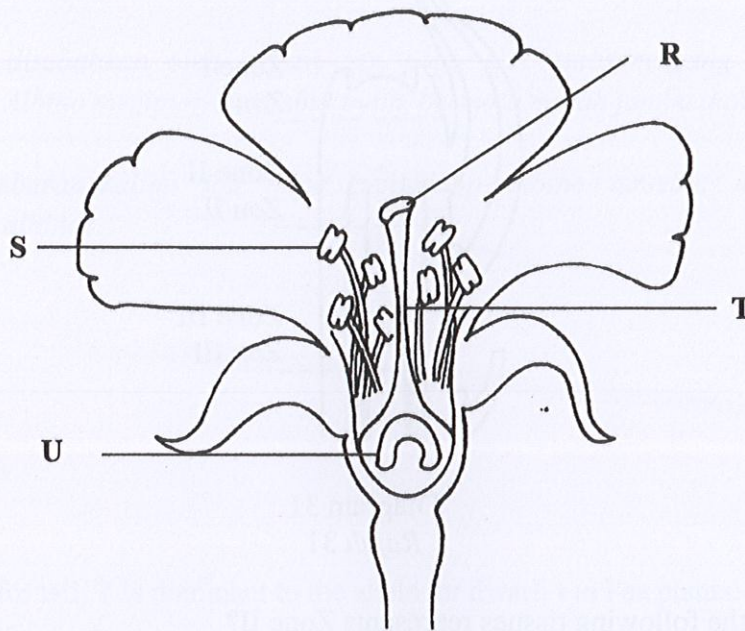


Diagram 30
Rajah 30

Where would pollen grain be found after pollination?
Dimanakah butir debunga boleh dijumpai selepas pendebungaan?

- | | |
|-----------------------------|-----------------------------|
| A T and U
T dan U | C S and T
S dan T |
| B R and U
R dan U | D R and S
R dan S |

46. Diagram 31 shows three different growth zones of a shoot tip.
Rajah 31 menunjukkan tiga zon tumbesaran pada hujung pucuk.

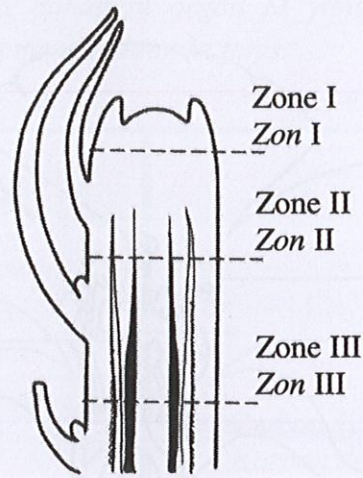
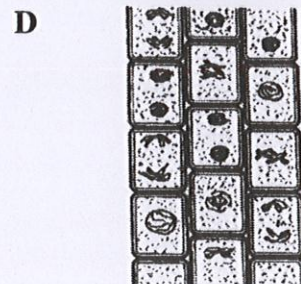
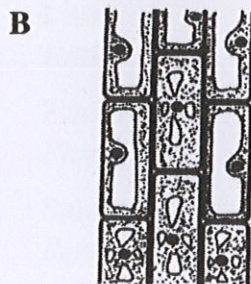
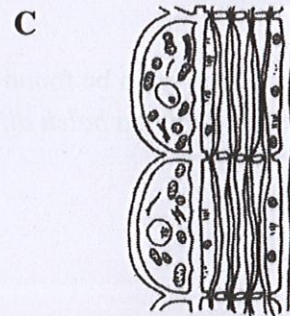
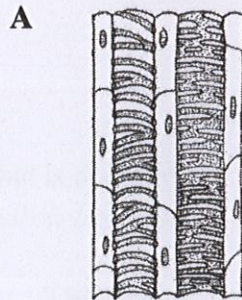


Diagram 31
Rajah 31

Which of the following tissues represents Zone II?
Antara tisu-tisu berikut, yang manakah mewakili Zon II?



47. Albinism is caused by a gene mutation of an autosomal recessive allele . Albinos have white hair, pink eyes and light colour skin.

What is the chances of albino parents to have an albino child?

Albinisme disebabkan oleh mutasi gen pada alel autosom yang resesif. Seorang penghidap Albino mempunyai rambut putih, bermata merah jambu dan berkulit cerah.

Apakah kebarangkalian ibu bapa penghidap albino tersebut mempunyai anak penghidap albino?

- A 0%
- B 25%
- C 75%
- D 100%

48. The allele for tall, T is dominant to the allele for dwarf, t in Pea plants.

Which of the following cross would produce plants in the ratio of 1 tall : 1 dwarf?

Alel untuk tinggi, T adalah dominan berbanding dengan alel kerdil, t dalam pokok kacang pea.

Antara kacukan berikut, yang manakah menghasilkan nisbah tumbuhan 1 tinggi : 1 kerdil?

- A TT X Tt
- B Tt X Tt
- C Tt X tt
- D tt X tt

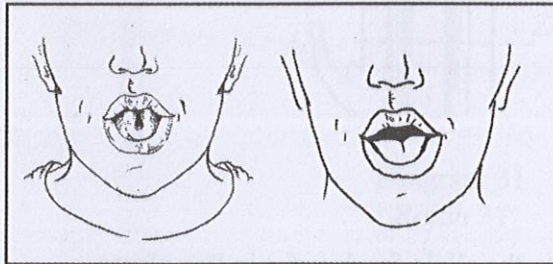
49. Which character shows continuous variation?

Karakter yang manakah menunjukkan variasi selanjar?

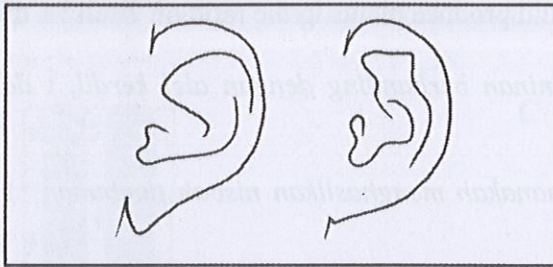
A



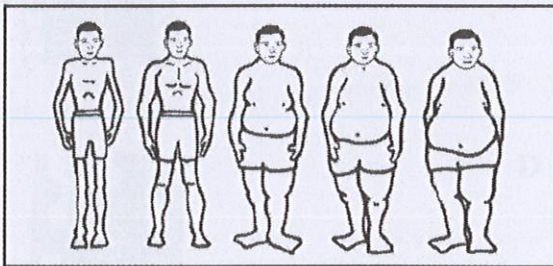
B



C



D



50. Diagram 33 shows an individual suffering from a type of syndrome
Rajah 33 menunjukkan seorang individu yang menghadapi sejenis sindrom



Diagram 33
Rajah 33

Which of the following is the number of chromosome of this individual?
Antara berikut yang manakah bilangan kromosom individu tersebut?

- A 47 + XX
- B 47 + XY
- C 45 + XX
- D 45 + XY