

Modul Pintas
Biologi
Kertas 1
4551/1
Ogos
2025



NAMA: KELAS:

**MODUL PINTAS 2025
TINGKATAN 5
BIOLOGI
KERTAS 1**

1 jam 15 minit

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU

Arahan: Kertas soalan ini mengandungi **40** soalan. Jawab **semua** soalan. Setiap jawapan diikuti dengan empat pilihan jawapan, **A, B, C** dan **D**. Bagi setiap soalan, pilih satu sahaja. Penggunaan kalkulator yang tidak boleh diprogramkan adalah dibenarkan.

Instruction: This question paper consist of **40** questions. Answer **all** question. Each question is followed by four choices of answers, **A, B, C** and **D**. For each question, choose one answer only. The use of non-programmable calculators is allowed.

Jawab **semua** soalan.
*Answer **all** the questions.*

1. Berikut merupakan senarai beberapa bahan sisa biologi.

The following lists are some biological waste substances.

Kertas tisu, sarung tangan, bekas kultur plastik, piring petri dan agar yang telah mengeras
Tissue papers, gloves, plastic culture containers, petri dishes and hardened agar

Antara berikut, yang manakah kategori bagi bahan sisa biologi di atas?

Which of the following is the category for the above biological waste substances?

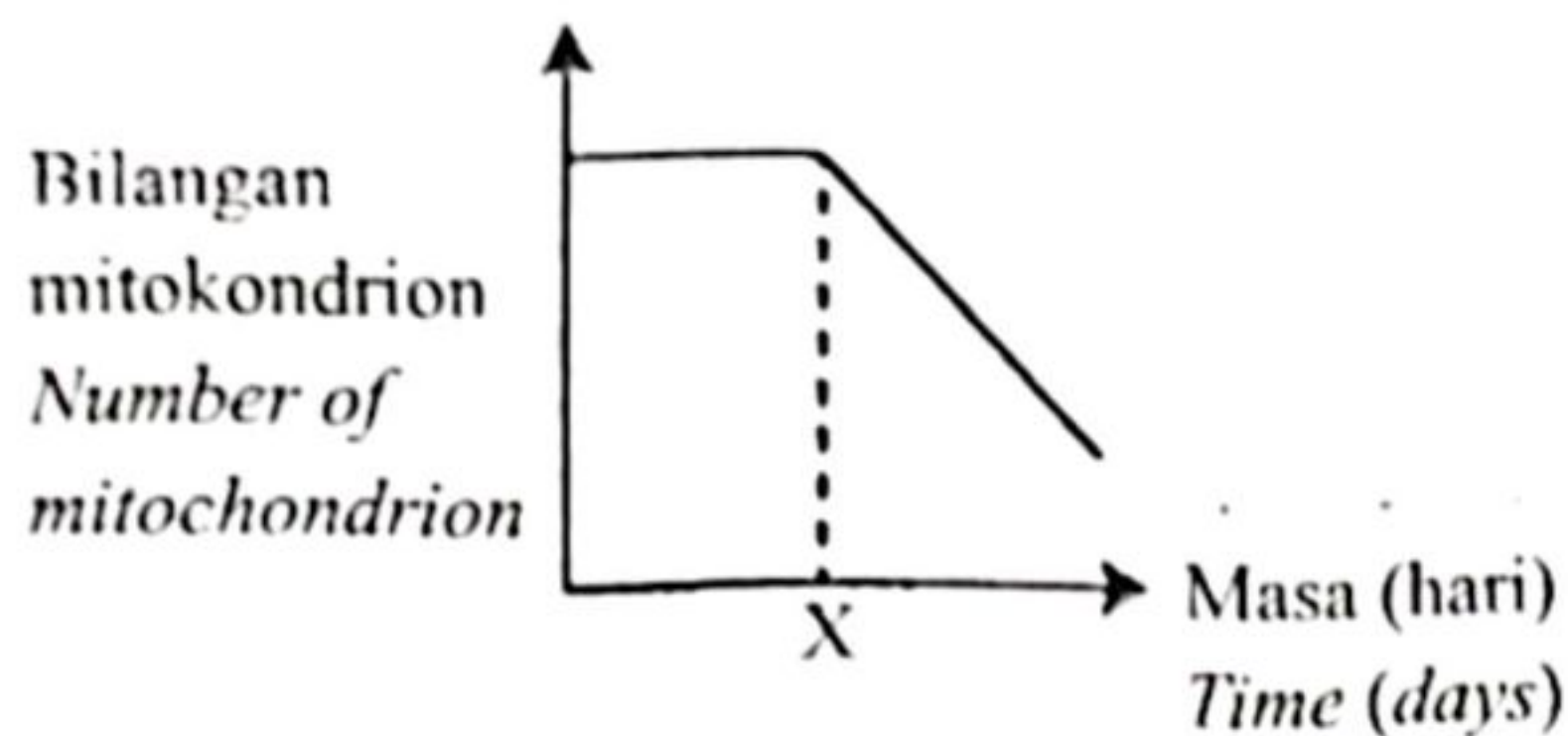
- A Kategori A
Category A
 - B Kategori B
Category B
 - C Kategori C
Category C
 - D Kategori D
Category D
2. Antara yang berikut, yang manakah punca penyakit Tay-Sachs?
- Which of the following is cause of Tay-Sachs disease?*
- A Berlaku pada peringkat tua
Occur at an older age
 - B Kegagalan mitokondrion untuk menjana tenaga
Failure of mitochondrion to generate energy
 - C Diwarisi melalui gen dominan pada autosom
Inherited by the dominant gene in the autosome
 - D Berlaku akibat kegagalan penghasilan enzim dalam lisosom
Cause by the failure of enzymes to produce in the lysosomes

<https://t.me/cikgufazliebiosensei>

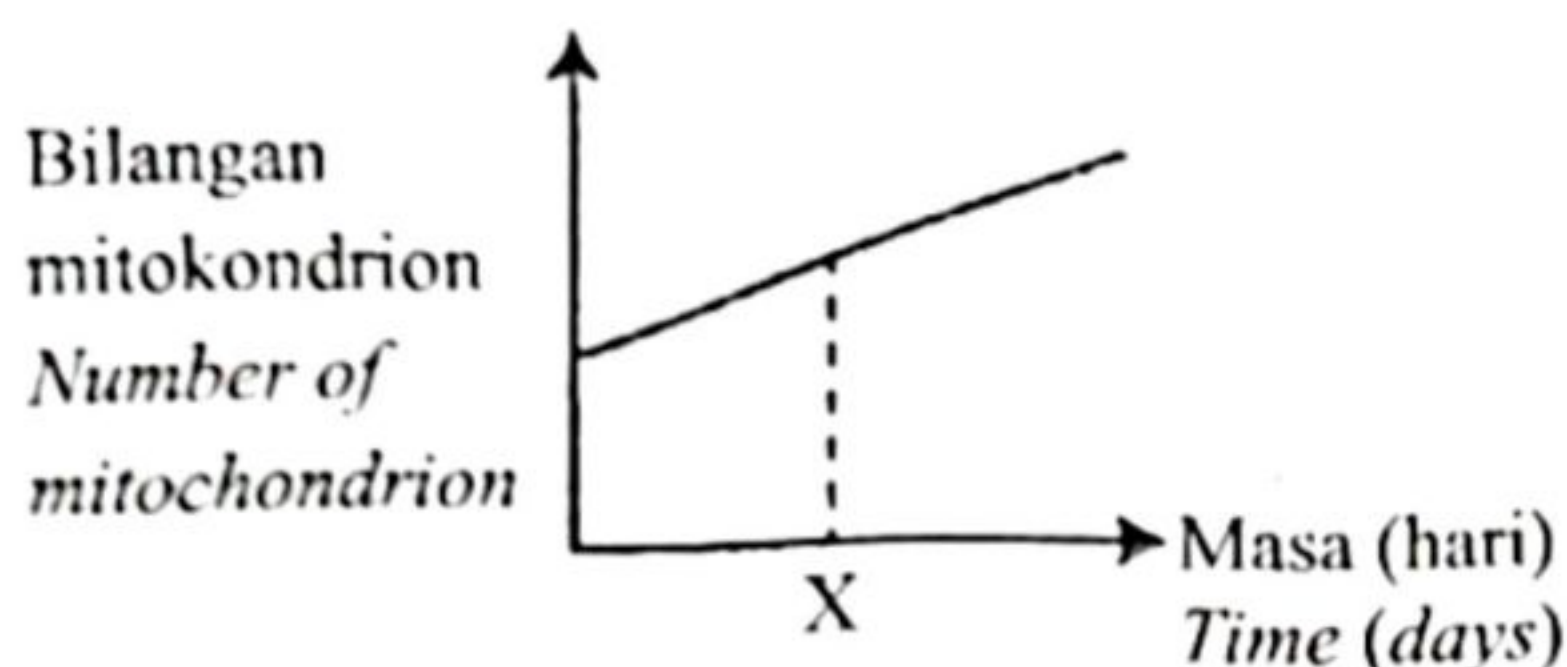
3. Seorang atlet bercadang untuk mengambil bahagian dalam acara larian 10 000 m pada SUKMA 2026. Dia memulakan latihan daya ketahanan pada hari X. Graf manakah yang menunjukkan perubahan bilangan mitokondrion dalam sel otot kakinya?

An athlete intends to take part in a 10 000 m running event in the SUKMA 2026. He begins his endurance training on day X. Which graph shows the changes in the number of mitochondrion in the muscle cells of his legs?

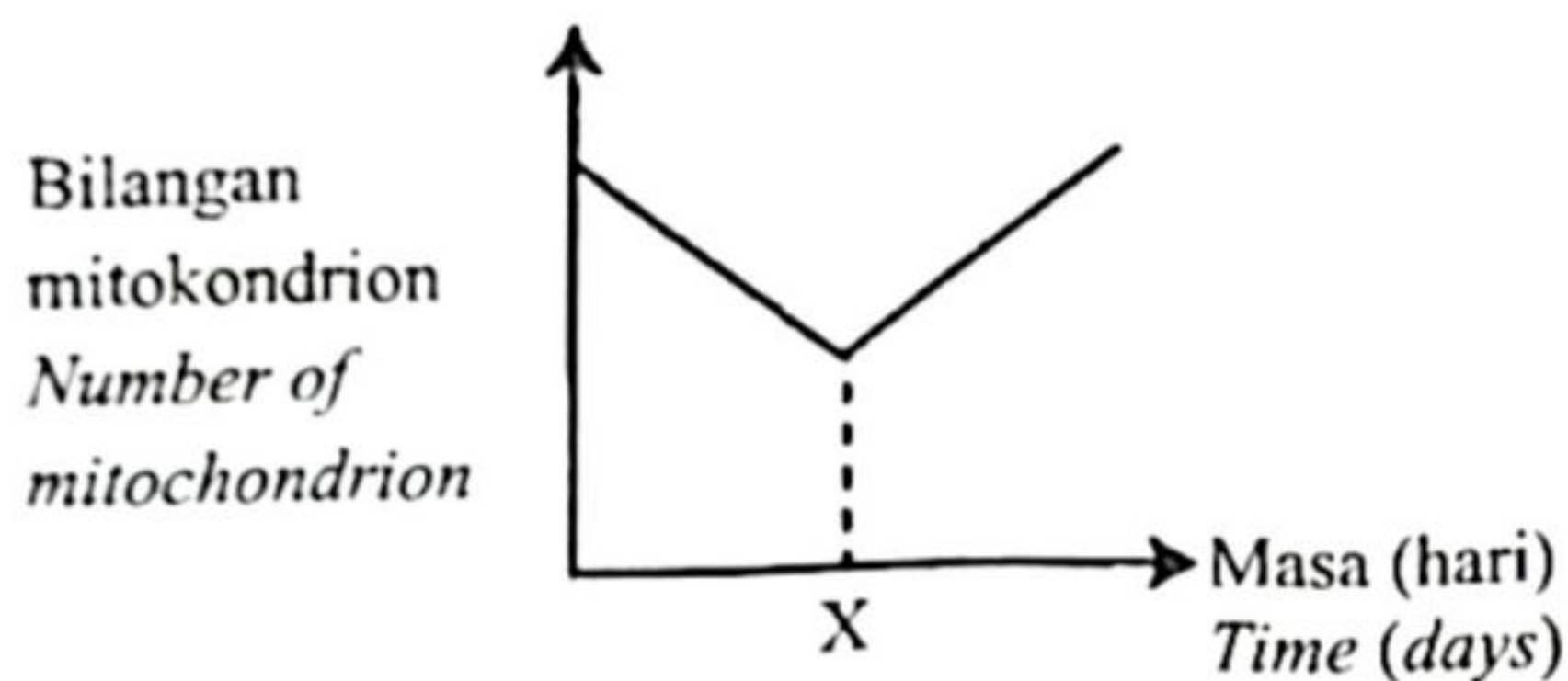
A



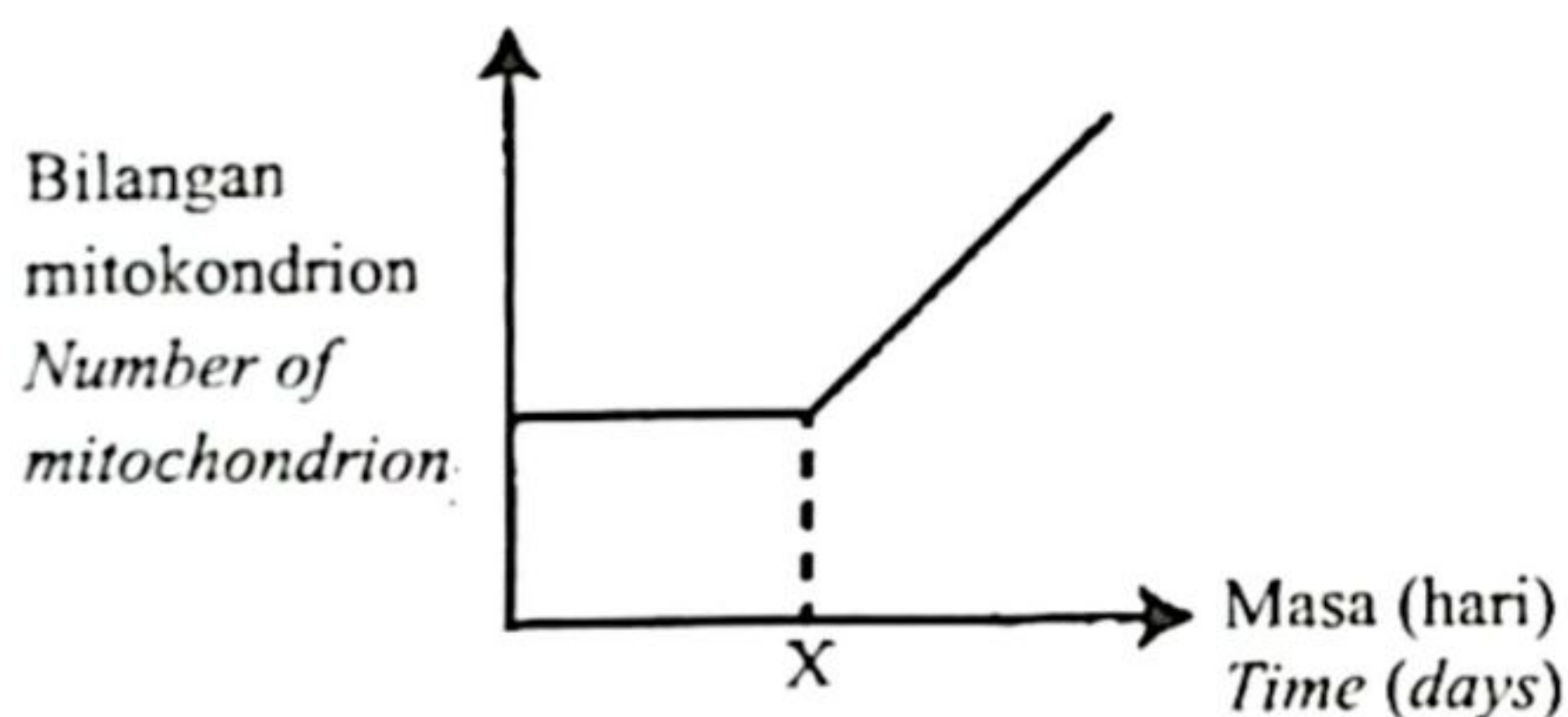
B



C



D



4. Rajah 1 menunjukkan seorang suri rumah menabur gula pada buah strawberi.
Diagram 1 shows a housewife sprinkling sugar on strawberries.



Rajah 1
 Diagram 1

Antara berikut, pernyataan yang manakah menerangkan situasi di atas?

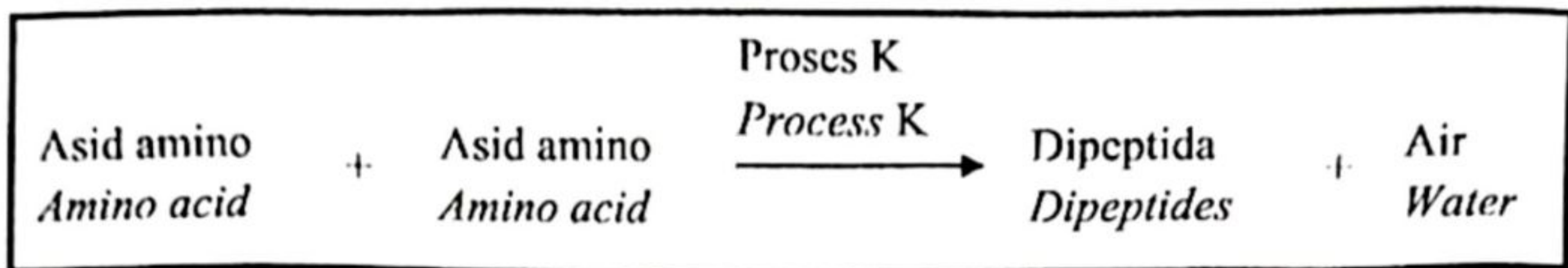
Which of the following statements explain the above situation?

- A** Pengangkutan aktif molekul gula ke dalam sap sel buah strawberi
Active transport of sugar molecules into the cell sap of strawberries fruit
- B** Molekul gula yang larut di dalam sap sel buah strawberi menyebabkan sap sel menjadi pekat
Sugar molecules that are soluble in the cell sap of strawberries causing the cell sap to become concentrated
- C** Keadaan persekitaran luar menjadi hipertonic berbanding dengan sap sel di dalam sel strawberi menyebabkan molekul air meresap keluar secara osmosis daripada sap sel
The external environment becomes hypertonic compared to the cell sap within the strawberry causing water molecules diffuse out by osmosis from the cell sap
- D** Keadaan persekitaran luar menjadi hipotonik berbanding dengan sap sel di dalam sel strawberi menyebabkan molekul air meresap masuk ke dalam sap sel secara osmosis
The external environment becomes hypotonic compared to the cell sap within the strawberry causing water molecules diffuse into the cell sap by osmosis

SULIT
4551/1

5. Rajah 2 menunjukkan pembentukan dipeptida.

Diagram 2 shows the formation of dipeptides.



Rajah 2
Diagram 2

Apakah proses K?

What is process K?

- A Hidrolisis

Hydrolysis

- B Pencernaan

Digestion

- C Kondensasi

Condensation

- D Pendaminaan

Deamination

6. Antara yang berikut, yang manakah adalah kepentingan asid nukleik dalam sel?

Which of the following is the importance of nucleic acid in cell?

- A Mensintesis protein

Synthesises proteins

- B Membawa maklumat genetik

Carries genetic material

- C Mengawal atur aktiviti dalam nukleus

Regulates activity in nucleus

- D Menyokong struktur kromosom

Provides structural support to chromosomes

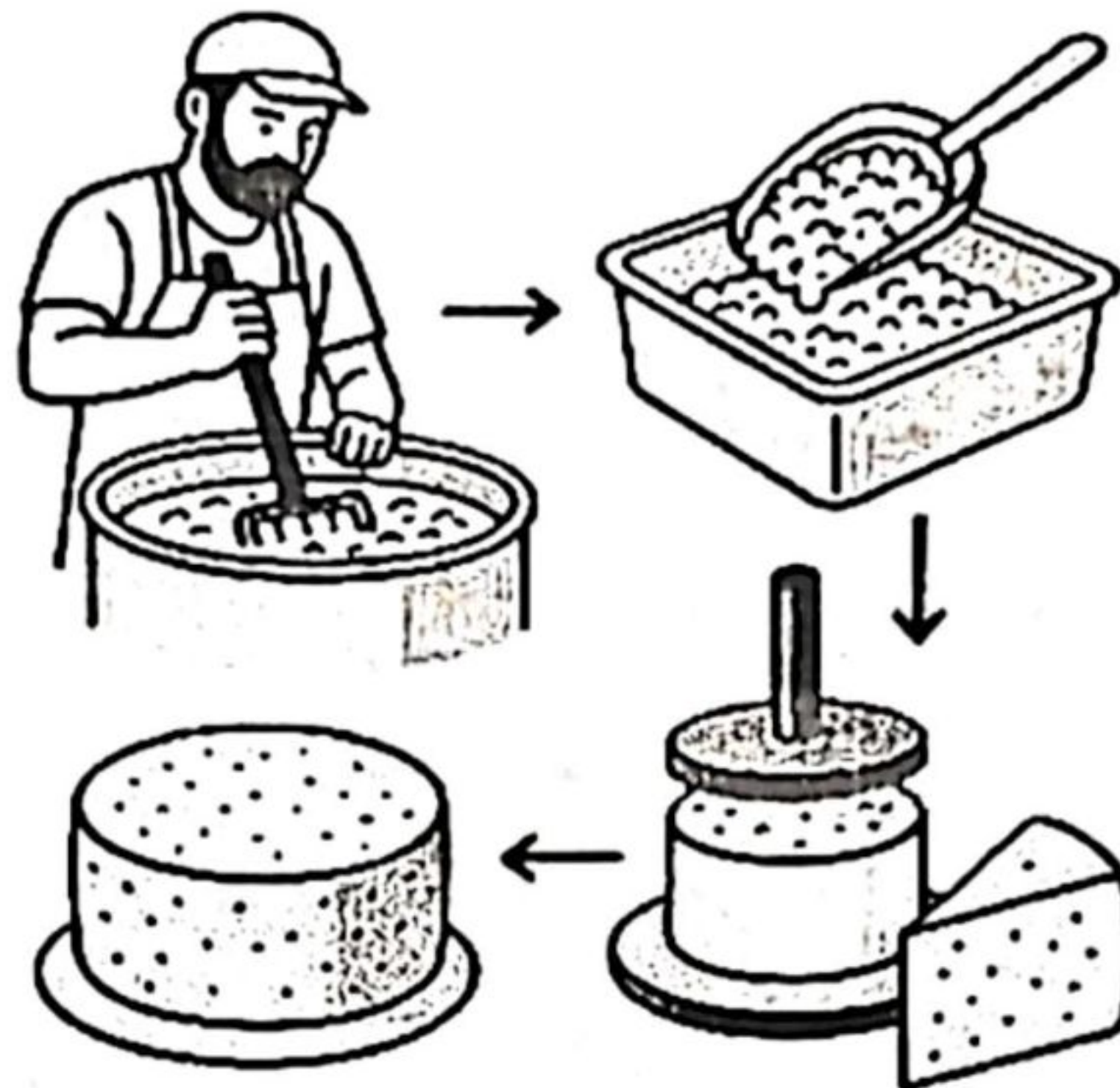
SULIT
4551/1

7. Rajah 3 menunjukkan langkah semasa penghasilan keju.

Dalam industri tenusu, enzim Y ditambah semasa penghasilan keju untuk meningkatkan kematangan keju.

Diagram 3 shows the steps during production of cheese.

In dairy industry, enzyme Y is added during production to enhance the ripening of the cheese.



Rajah 3
Diagram 3

Apakah enzim Y?

What is enzyme Y?

A Amilase

Amilase

B Lipase

Lipase

C Sukrase

Sucrase

D Peptidase

Peptidase

<https://t.me/cikgufazliebiosensei>

SULIT
4551/1

8. Antara berikut, sel yang manakah yang **tidak** menjalankan mitosis?

Which of the following cells does not carry out mitosis?

A Sel-sel hati

Liver cells

B Sel-sel kuku

Finger nails cells

C Sel-sel rambut

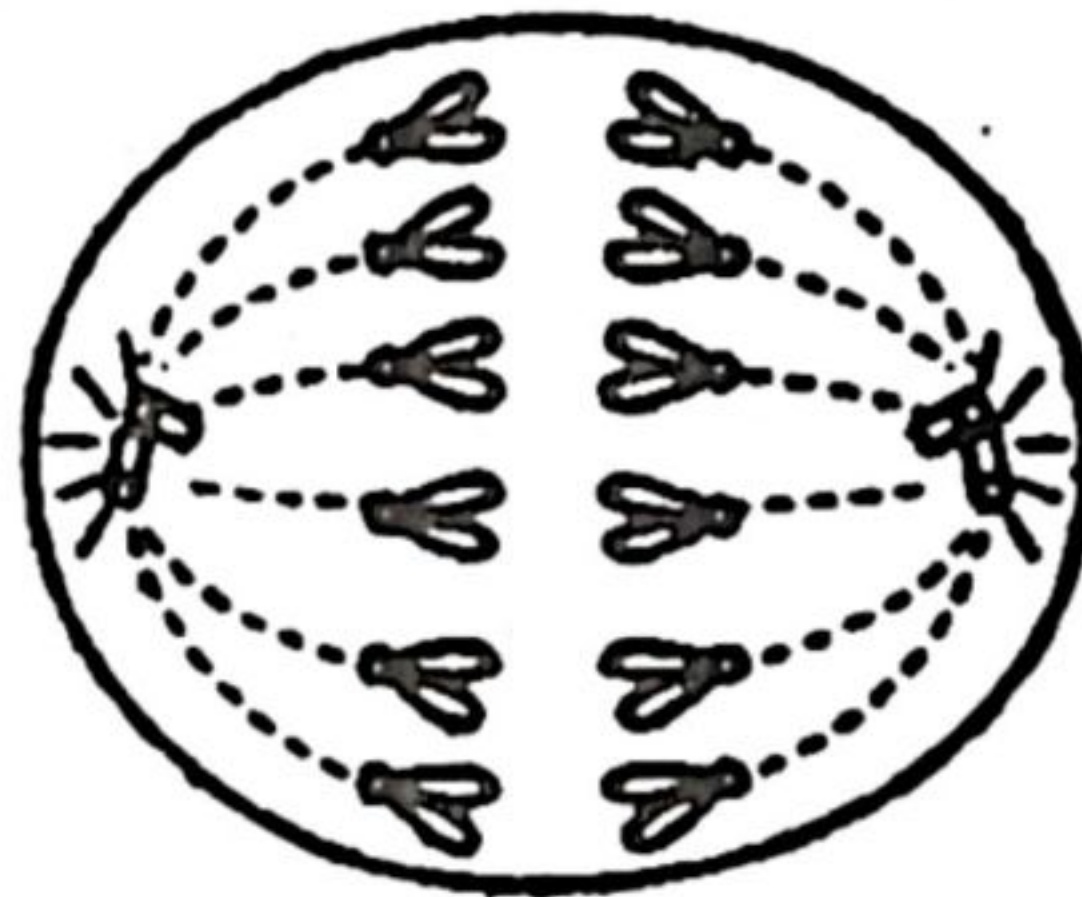
Hair cells

D Sel darah merah

Red blood cells

9. Rajah 4 menunjukkan peringkat anafasa II semasa meiosis dalam satu sel haiwan.

Diagram 4 shows anaphase II stage of meiosis in an animal cell.



Rajah 4

Diagram 4

Antara berikut, yang manakah adalah bilangan kromosom di dalam sel induknya?

Which of the following is the number of chromosomes in the parent cell?

A 6

B 12

C 18

D 24

10. Antara yang berikut, yang manakah perbezaan antara respirasi aerob dan fermentasi asid laktik dalam otot manusia?

Which of the following is the differences between aerobic respiration and lactic acid fermentation in human muscle?

	Respirasi aerob <i>Aerobic respiration</i>	Acid lactic fermentation <i>Acid lactic fermentation</i>
A	Tidak memerlukan oksigen <i>Does not need oxygen</i>	Memerlukan oksigen <i>Need oxygen</i>
B	Glukosa tidak diuraikan dengan lengkap <i>Glucose is not completely breakdown</i>	Glukosa diuraikan dengan lengkap <i>Glucose is completely breakdown</i>
C	Menyebabkan berlakunya hutang oksigen <i>Causes an oxygen debt</i>	Tidak menyebabkan berlakunya hutang oksigen <i>Does not cause any oxygen debt</i>
D	Menghasilkan 2898 kJ tenaga per mol glukosa <i>Produce 2898 kJ energy per mol glucose</i>	Menghasilkan 150 kJ tenaga per mol glukosa <i>Produce 150 kJ energy per mol glucose</i>

11. Apakah nilai tekanan separa oksigen dalam tekanan atmosfera?

What is the value of the partial pressure of oxygen in the atmospheric pressure?

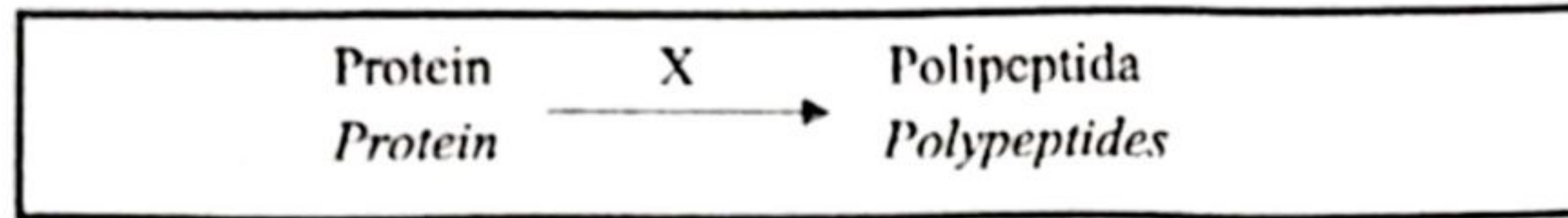
- A** 100 mm Hg
- B** 120 mm Hg
- C** 140 mm Hg
- D** 160 mm Hg

<https://t.me/cikgufazliebiosensei>

SULIT
4551/1

12. Rajah 5 menunjukkan tindak balas biokimia yang berlaku di dalam perut yang melibatkan enzim X.

Diagram 5 shows the biochemical reaction that occurs in the stomach which involved enzyme X.



Rajah 5
Diagram 5

Apakah X ?

What is X?

- A Renin
Rennin
- B Pepsin
Pepsin
- C Tripsin
Trypsin
- D Erepsin
Erepsin

13. Apakah menu yang paling sesuai bagi individu yang mengalami obesiti?

What is suitable menu for an individual with obesity?

- A Nasi goreng, sup ayam, salad buah dan air kopi
Fried rice, chicken soup, fruit salad and coffee
- B Ayam kukus, salad buah, sayur bayam rebus dan air suam
Steam chicken, fruit salad, boiled spinach and warm water
- C Nasi lemak, salad buah, ayam goreng ranggup dan air kopi
Nasi lemak, fruit salad, crunchy fried chicken and coffee
- D Nasi putih, ikan kukus limau, daging panggang dan air suam
White rice, lime steamed fish, roasted meat and warm water

14. Rajah 6 menunjukkan seorang lelaki menggunakan perentak jantung buatan.

Diagram 6 shows a man using an artificial pacemaker.



Rajah 6
Diagram 6

Apakah tujuan penggunaan perentak jantung buatan tersebut?

What is the purpose of using artificial pacemaker?

- A Untuk mengawal atur denyutan jantung normal
To regulate normal heartbeat
 - B Mendorong pengecutan ventrikel kanan dan kiri
Induces the contraction of right and left ventricles
 - C Menyeragamkan pengecutan atrium dan ventrikel
Synchronize atrial and ventricular contractions
 - D Menghantar impuls ke berkas His dan gentian Purkinje
Transmit impulse to His bundle and Purkinje fiber
15. Antara berikut, kumpulan darah manakah yang boleh menerima kumpulan darah A, B, AB dan O?
- Among the following, which blood group can receive blood from A, B, AB and O?*
- A Kumpulan darah A
Blood group A
 - B Kumpulan darah B
Blood group B
 - C Kumpulan darah AB
Blood group AB
 - D Kumpulan darah O
Blood group O

SULIT
4551/1

16. Rajah 7 menunjukkan seorang kanak-kanak telah dipatuk ular. Kanak-kanak itu kemudian telah dibawa ke hospital untuk mendapatkan rawatan. Doktor memberikannya suatu suntikan. *Diagram 7 shows a child who was bitten by a snake. The child was taken to the hospital for treatment. The doctor gave him an injection.*



Rajah 7
Diagram 7

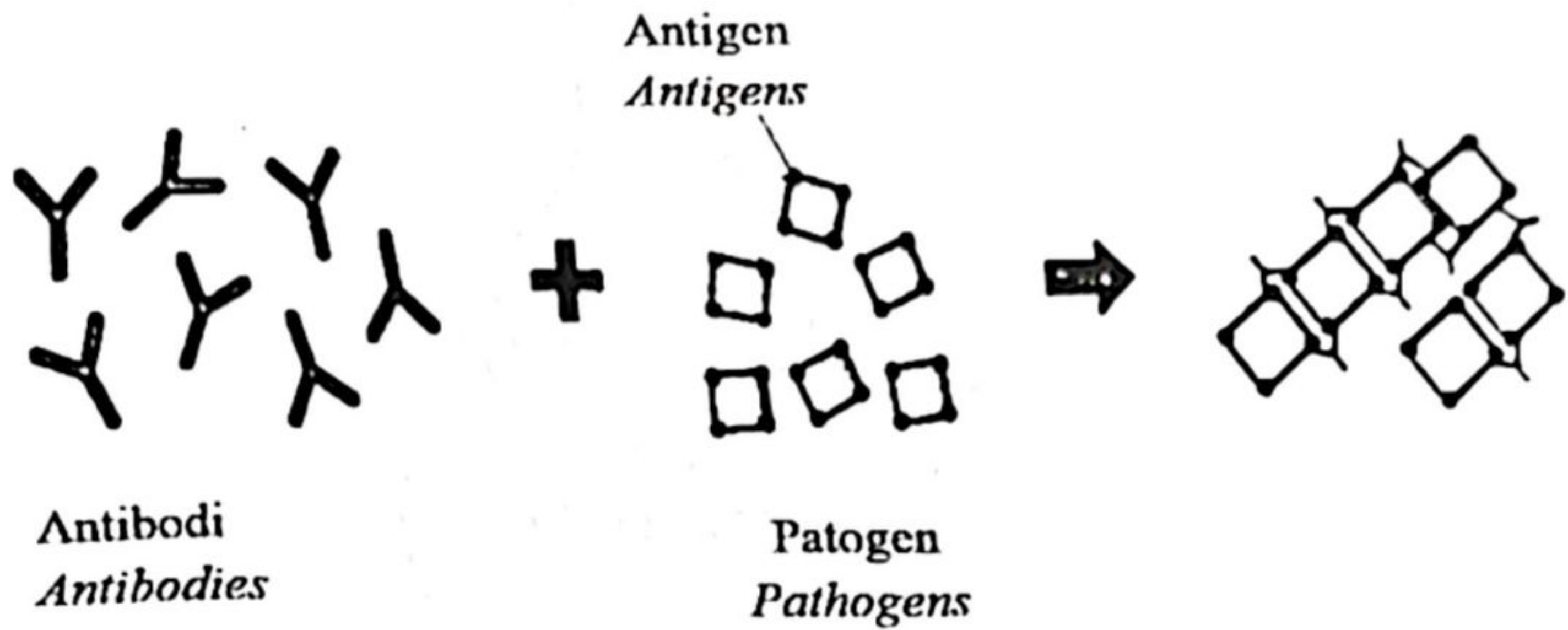
Apakah tujuan suntikan tersebut diberikan kepada kanak-kanak itu?

What is the purpose of the injection given to the child?

- A Vaksin disuntik ke dalam tubuh badannya untuk memusnahkan bisa ular.
Vaccine is injected inserted into his body to destroy the snake venom.
- B Antitoksin dimasukkan ke dalam tubuh badannya untuk meneutralkan bisa ular.
Antitoxin is inserted into his body to neutralise the snake venom.
- C Antiserum dimasukkan ke dalam tubuh badannya untuk meneutralkan bisa ular.
Antiserum is inserted into his body to neutralise the snake venom.
- D Patogen yang dilemahkan dimasukkan ke dalam tubuh badannya untuk merangsang penghasilan antibodi bagi memusnahkan bisa ular.
Weakened pathogen is inserted into his body to stimulate antibodies production to destroy the snake venom.

17. Rajah 8 menunjukkan suatu tindakan antibodi terhadap antigen.

Diagram 8 shows an antibody's action against an antigen.



Rajah 8
Diagram 8

Apakah jenis tindakan antibodi yang ditunjukkan?

What type of antibody action is shown?

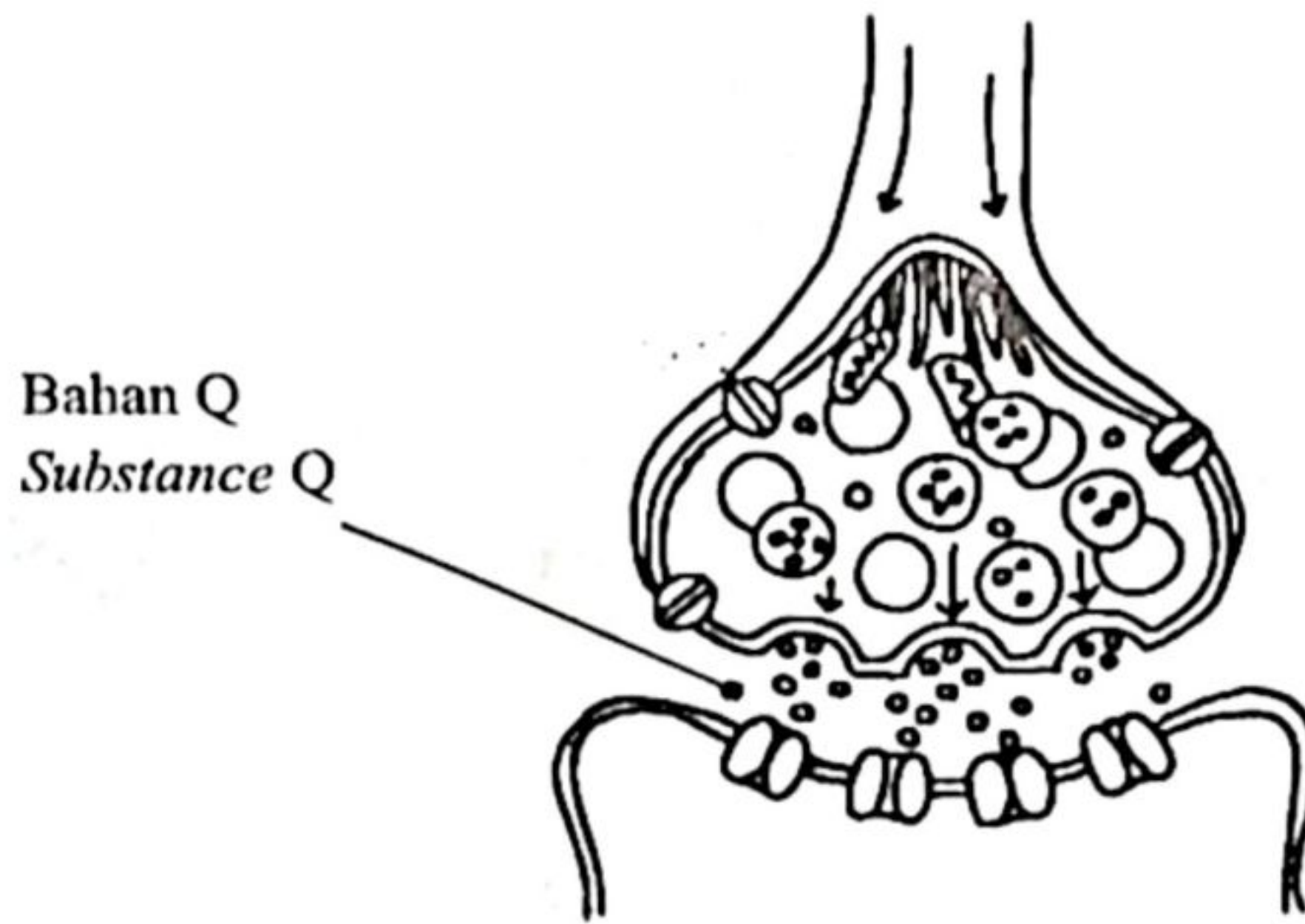
- A Pengaglutinan
Agglutinations
- B Penceutralan
Neutralisation
- C Pemendakan
Precipitation
- D Penguraian
Lysis

<https://t.me/cikgufazliebiosensei>

SULIT
4551/1

18. Rajah 9 menunjukkan penghantaran impuls merentasi sinaps.

Diagram 9 shows the transmission of the nerve impulse across a synapse.



Rajah 9
Diagram 9

Antara berikut yang manakah merupakan contoh bahan Q?

Which of the following are examples of substance Q?

- I Tiroksina
Thyroxine
- II Adrenalin
Adrenaline
- III Dopamin
Dopamine
- IV Noradrenalin
Noradrenaline
- A I dan II
I and II
- B II dan III
II and III
- C I dan IV
I and IV
- D III dan IV
III and IV

SULIT
4551/1

19. Seorang lelaki mengalami rembesan hormon X yang berlebihan menyebabkan aras gula darahnya terlalu rendah.

Apakah hormon X ?

A man experience an excessive secretion of X hormones causes his blood sugar level is too low.

What is X hormones?

A Insulin

Insulin

B Glukagon

Glucagon

C Tiroksina

Thyroxine

D Antidiuretik

Antidiuretic

SULIT
4551/1

20. Rajah 10 menunjukkan struktur lengan manusia.

Diagram 10 shows the structure of human forearm.



Rajah 10
Diagram 10

Apakah yang akan berlaku apabila lengan dibengkokkan?

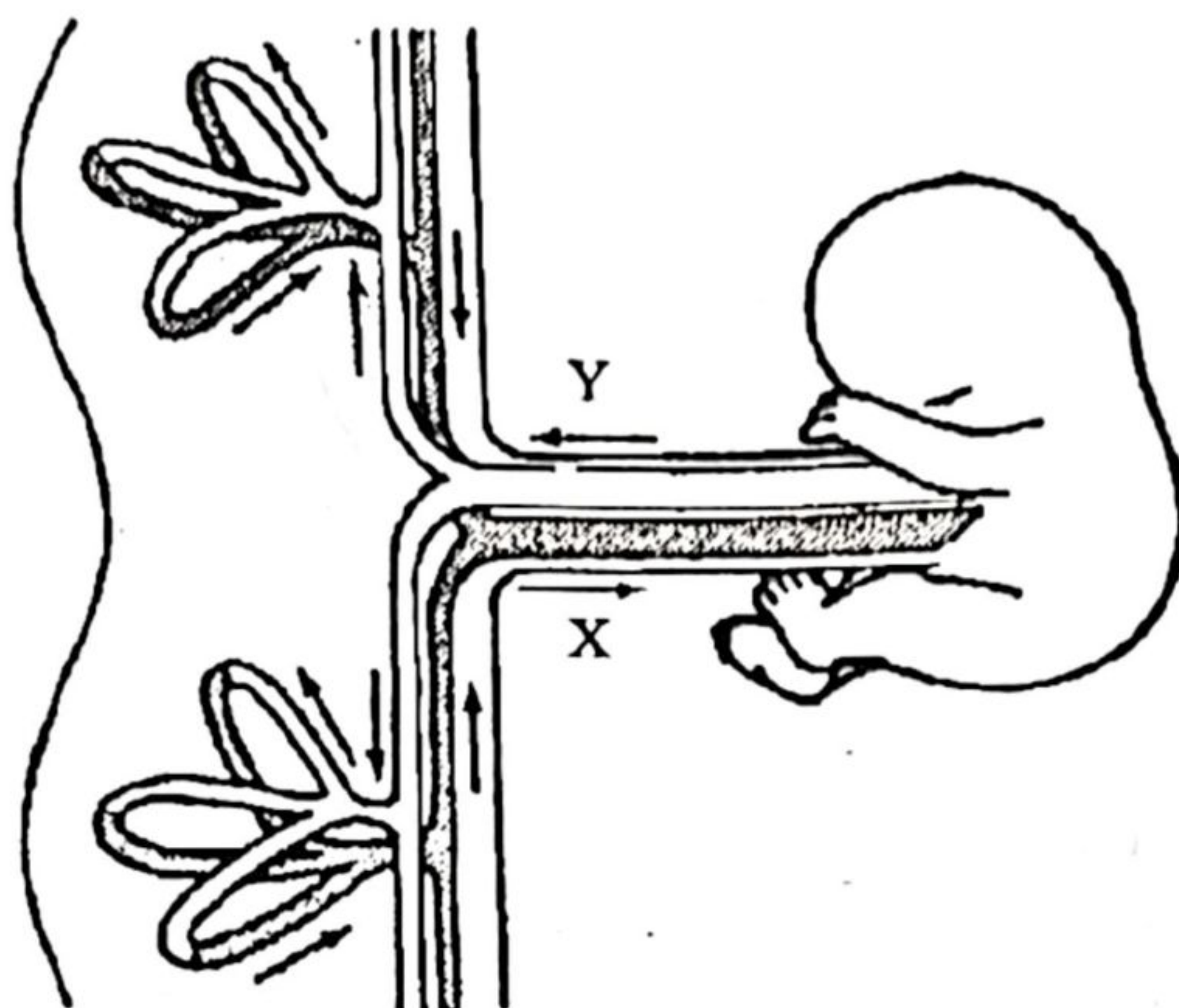
What will happen when the arm is bent?

- A Otot triceps mengecut, otot biceps mengendur dan tulang ulna ditarik ke atas
Triceps muscle contracts, the biceps muscle relaxes and the ulna bone is pulled upwards
- B Otot triceps mengecut, otot biceps mengendur dan tulang radius ditarik ke atas
Triceps muscle contracts, the biceps muscle relaxes and the radius bone is pulled upwards
- C Otot triceps mengendur, otot biceps mengecut dan tulang radius ditarik ke atas
The triceps muscle relaxes, the biceps muscle contracts and the radius bone is pulled upwards
- D Otot triceps mengendur, otot biceps mengecut dan tulang ulna ditarik ke atas
The triceps muscle relaxes, the biceps muscle contracts and the ulna bone is pulled upwards



21. Rajah 11 menunjukkan hubungan antara aliran darah fetus dan darah ibu.

Diagram 11 shows the relationship between the foetal blood and mother's bloodstream.



Rajah 11
Diagram 11

Bahan yang manakah meningkat dari segi kepekatan apabila darah mengalir dari X ke Y?

Which substance increase in concentration as the blood flow from X to Y?

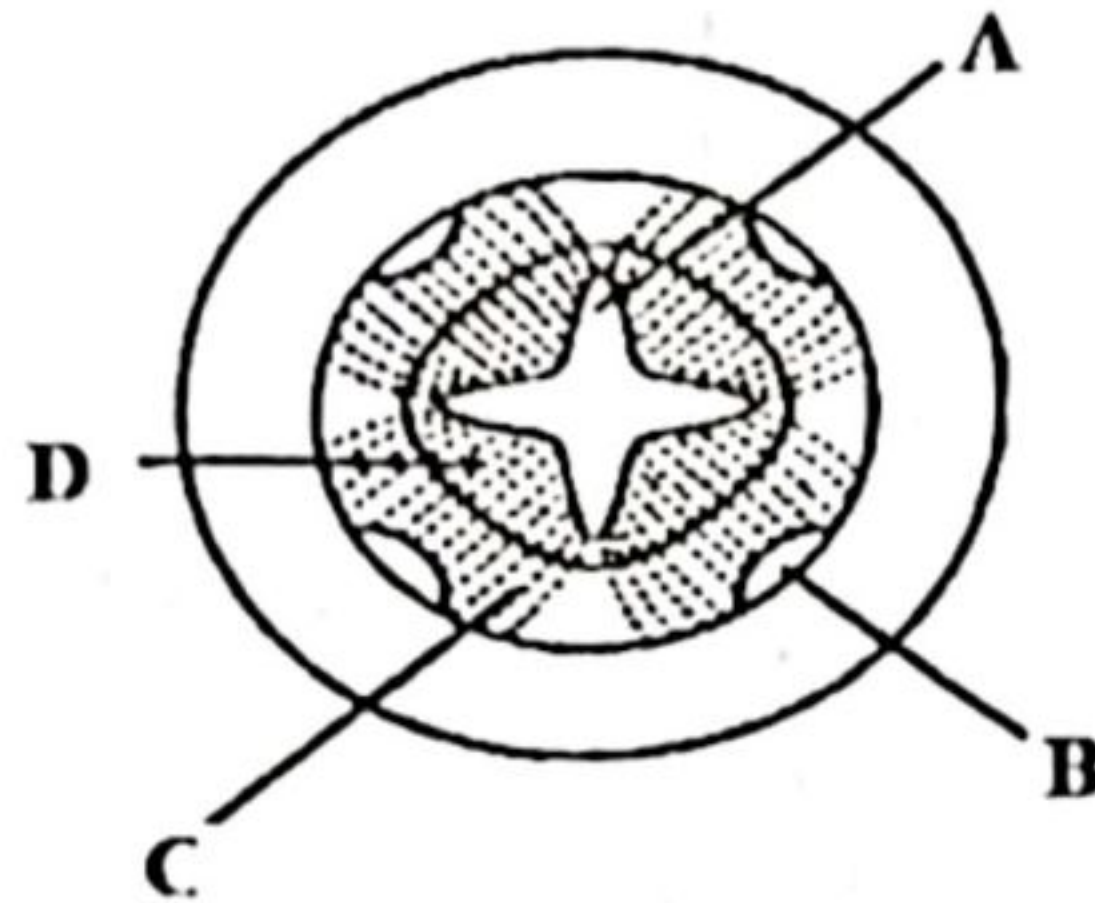
- A Glukosa
Glucose
- B Oksigen
Oxygen
- C Asid amino
Amino acid
- D Karbon dioksida
Carbon dioxide

<https://t.me/cikgufazliebiosensei>

SULIT
4551/1

22. Rajah 12 menunjukkan keratan rentas akar tumbuhan eudikot yang mengalami pertumbuhan sekunder.

Diagram 12 shows a cross section of a eudicot root which experiences secondary growth.



Rajah 12
Diagram 12

Antara A, B, C dan D, yang manakah berfungsi sebagai sokongan dan pengangkutan pada pokok yang matang?

Which of the following A, B, C and D, function as a support and transport in matured trees?

23. Maklumat berikut menerangkan tentang ciri struktur luaran daun hijau.

The following information describes the features of the external structure of green leaves.

- Berbentuk nipis dan leper
Thin and flat shaped
- Bahagian daun berwarna hijau
Green part of the leaf

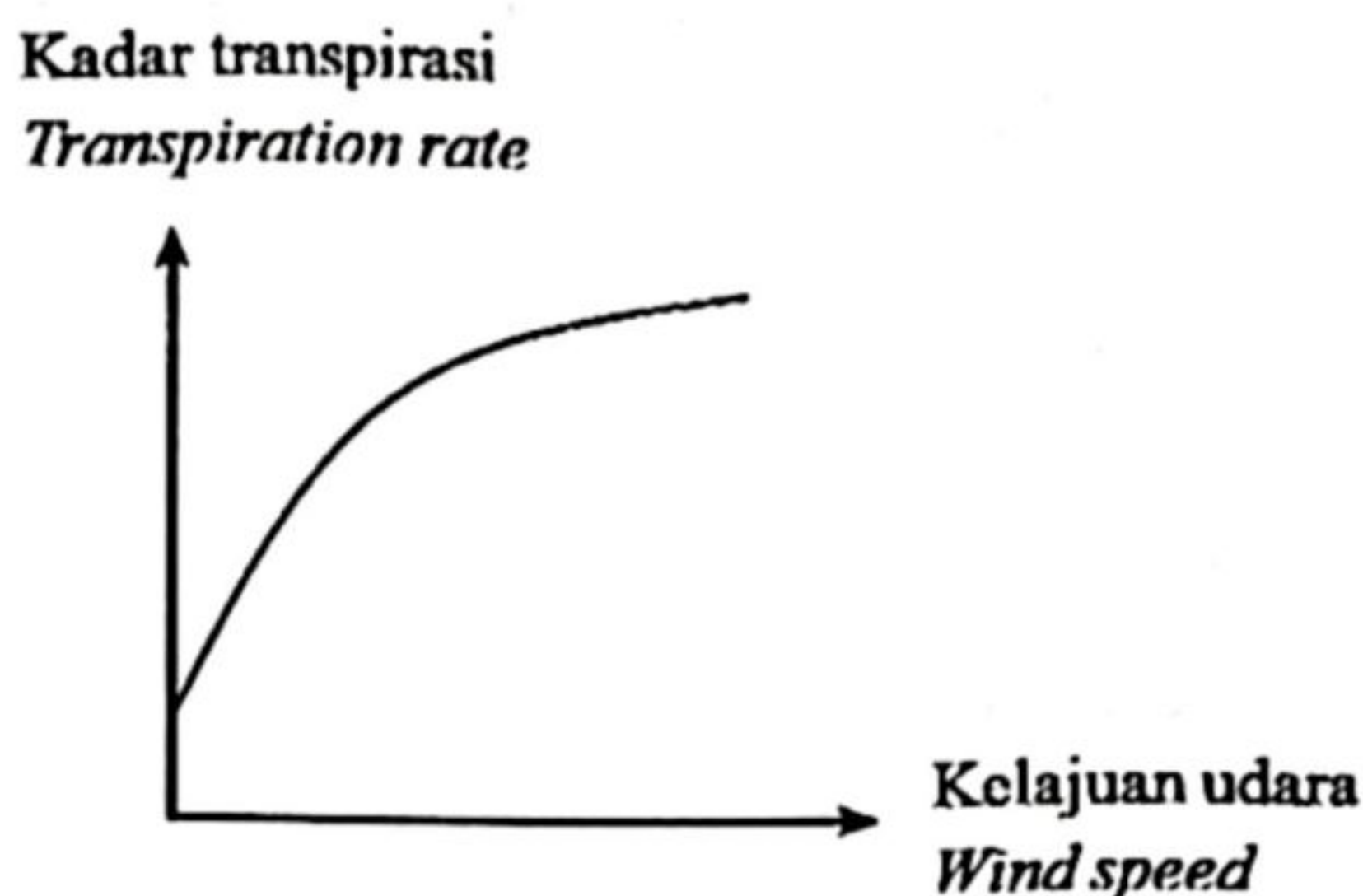
Apakah nama struktur tersebut?

What is the name of the structure?

- A Petiol
Petiole
- B Kutikel
Cuticle
- C Lamina
Lamina
- D Urat daun
Leaf veins

24. Rajah 13 menunjukkan graf kadar transpirasi dalam pergerakan udara sekeliling yang berbeza.

Diagram 13 shows a graph of transpiration rates in different air movement of the surrounding.



Rajah 13
Diagram 13

Antara pernyataan berikut, yang manakah menerangkan graf dengan betul?

Which of the following statements correctly describes the graph?

- A** Semakin laju pergerakan udara di sekeliling, semakin cepat wap air tersejat daripada stoma
The faster the air movement of the surrounding, the faster water vapours evaporates from the stoma
- B** Semakin perlahan pergerakan udara di sekeliling, semakin cepat wap air tersejat daripada stoma
The slower the air movement of the surrounding, the faster water vapours evaporates from the stoma
- C** Semakin laju pergerakan udara di sekeliling, kadar transpirasi menjadi malar kerana suhu menjadi faktor pengehad
The faster the air movement of the surrounding, the rate of transpiration becomes constant as temperature becomes a limiting factor
- D** Semakin perlahan pergerakan udara di sekeliling, kadar transpirasi menjadi malar kerana suhu menjadi faktor pengehad
The slower the air movement of the surrounding, the rate of transpiration becomes constant as temperature becomes a limiting factor

25. Setiap makronutrien mempunyai fungsi tersendiri bagi memastikan tumbuhan melengkapkan kitar hidupnya dan mencapai pertumbuhan serta perkembangan yang optimum. Kalium adalah antara contoh makronutrien yang penting dalam kesihatan dan pertumbuhan pokok.

Apakah fungsi kalium (K) dalam tumbuhan?

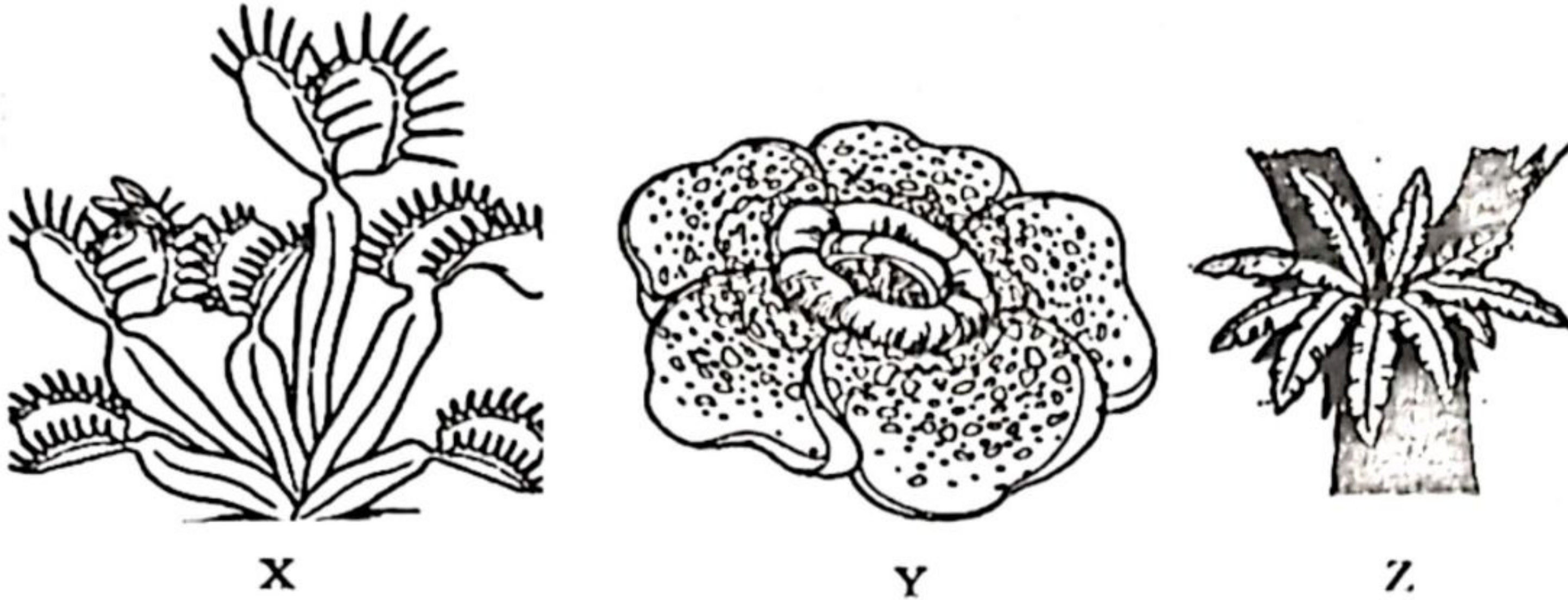
Each macronutrient has its own function to ensure that plants complete their life cycle and achieve optimal growth and development. Potassium is an example of a macronutrient that is important for the health and growth of trees.

What is the function of potassium (K) in plants?

- A Mensintesis klorofil
Synthesise chlorophyll
- B Mensintesis protein untuk pertumbuhan
Synthesise protein for growth
- C Menghasilkan selulosa untuk pembentukan dinding sel
Produces cellulose for formation of cell wall
- D Merangsang sel-sel pada tunas pucuk untuk membahagi
Stimulates cells in shoot buds to divide

26. Rajah 14 menunjukkan tiga jenis tumbuhan iaitu X, Y dan Z.

Diagram 14 shows three types of plants which is X, Y and Z.



Rajah 14
Diagram 14

Manakah antara berikut padanan yang betul untuk penyesuaian nutrisi tumbuhan X, Y dan Z?

Which of the following correctly matches the nutritional adaptation of plants X, Y, and Z?

	X	Y	Z
A	Karnivor <i>Carnivorous</i>	Epifit <i>Epiphytic</i>	Parasit <i>Parasitic</i>
B	Karnivor <i>Carnivorous</i>	Parasit <i>Parasitic</i>	Epifit <i>Epiphytic</i>
C	Epifit <i>Epiphytic</i>	Parasit <i>Parasitic</i>	Karnivor <i>Carnivorous</i>
D	Parasit <i>Parasitic</i>	Epifit <i>Epiphytic</i>	Karnivor <i>Carnivorous</i>

SULIT
4551/1

27. Maklumat berikut menerangkan tekanan akar yang terlibat dalam laluan air dan garam mineral dari tanah ke daun.

The following information describes root pressure which involved in the passage of water and mineral salts from soil to leaves.

Tekanan akar menggerakkan air dari tanah ke dalam salur xilem akar secara osmosis.

Root pressure moves water from the soil into the xylem vessels of the root via osmosis.

Apakah faktor yang mempengaruhi tekanan akar?

What factors affect root pressure?

- A Keupayaan air di dalam tanah sama dengan di dalam sel akar rambut
The water potential in the soil is the same as the root hair cells
- B Keupayaan air di dalam tanah lebih tinggi berbanding di dalam sel rambut akar
The water potential in the soil is higher compared to the root hair cells
- C Keupayaan air di dalam tanah lebih rendah berbanding di dalam sel akar rambut
The water potential in the soil is lower compared to the root hair cells

<https://t.me/cikgufazliebiosensei>

28. Rajah 15 menunjukkan seorang petani menggunakan hormon P untuk merangsang pertumbuhan akar adventatif pada keratan batang.

Diagram 15 shows a farmer using hormone P to stimulate adventitious root growth on stem cuttings.



Rajah 15
Diagram 15

Apakah hormon P?

What is hormone P?

A Auksin

Auxin

B Etilena

Ethylene

C Sitokinin

Cytokinin

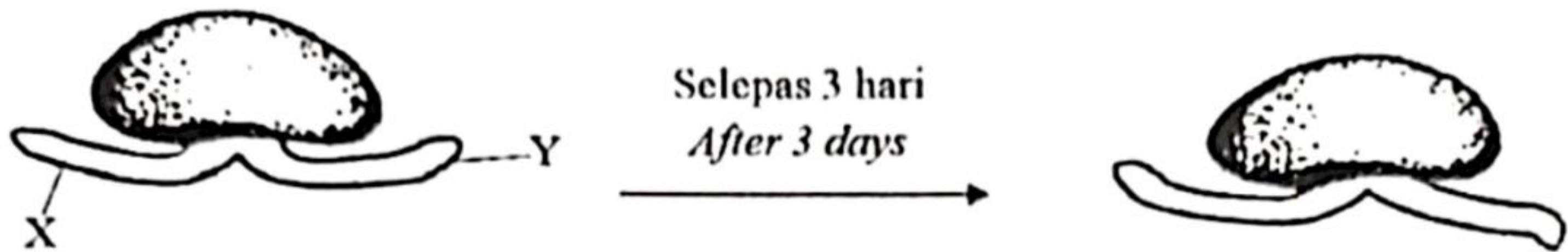
D Gibberelin

Gibberellin

SULIT
4551/1

29. Rajah 16 menunjukkan biji benih yang bercambah selepas 3 hari disimpan di dalam almari gelap.

Diagram 16 shows the germinated seed kept in the dark cupboard after 3 days.



Rajah 16
Diagram 16

Apakah yang menyebabkan gerak balas pada bahagian yang ditunjukkan oleh X dan Y?

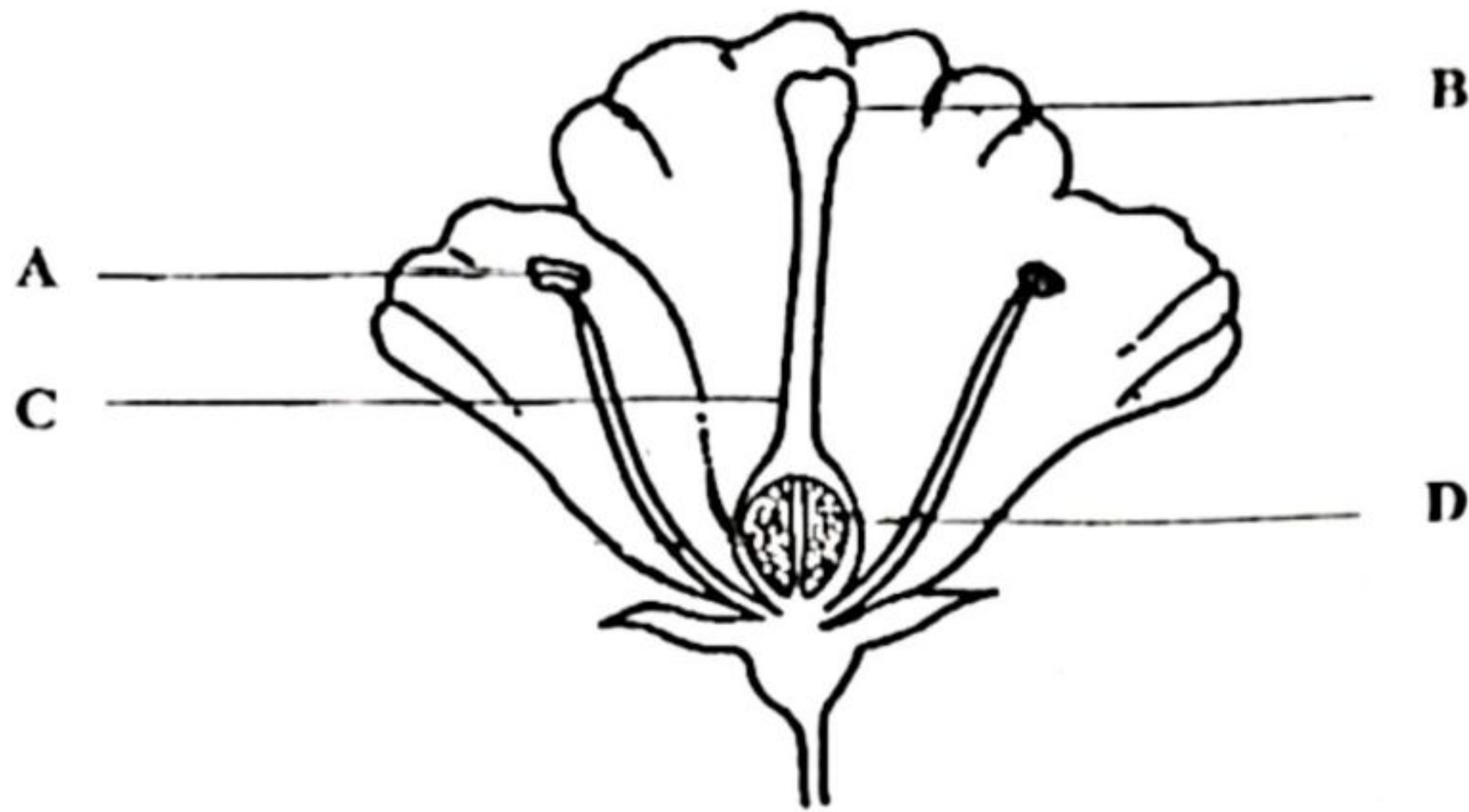
What causes the response shown by the part labelled X and Y?

- A Auksin hanya berkumpul di meristem apeks akar
Auxins only accumulated at the apex meristem of the root
- B Auksin meresap ke zon pemanjangan dengan sekata
Auxins diffuse evenly to the zone of elongation
- C Lebih banyak auksin berkumpul di bahagian bawah X dan Y
More auxins accumulated at the bottom X and Y
- D Lebih banyak auksin berkumpul di bahagian Y berbanding X
More auxin accumulated at Y compared X

SULIT
4551/1

30. Rajah 17 menunjukkan keratan membujur bagi sekuntum bunga.

Diagram 17 shows a longitudinal section of a flower.



Rajah 17
Diagram 17

Antara bahagian A, B, C atau D, di manakah persenyawaan ganda dua berlaku?

At which part A, B, C or D, the double fertilisation take place?

31. Antara berikut, manakah yang mewakili struktur betina pada bunga?

Which of the following represents female structure of the flower?

- A Butir debunga, anter dan stil
Pollen grains, anther and style
- B Stigma, ovari dan filamen
Stigma, ovary and filament
- C Ovari, stil dan stigma
Ovary, style and stigma
- D Anter, filamen dan sepal
Anther, filament and sepal

32. Antara berikut, yang manakah merupakan ciri penyesuaian bagi xerofit?

Which of the following is an adaptive feature of xerophytes?

- A Kutikel tebal
Thick cuticle
- B Mempunyai tisu aerenkima
Has aerenchyma tissue
- C Mempunyai akar pernafasan
Has breathing roots

33. Rajah 18 menunjukkan tiga organisma. Setiap organisma dikelaskan ke dalam suatu sistem pengelasan universal.

Diagram 18 shows three organisms. Each organism is classified into the universal system of classification.



Paramesium
Paramecium



Bakteria
Bacteria



Yis
Yeast

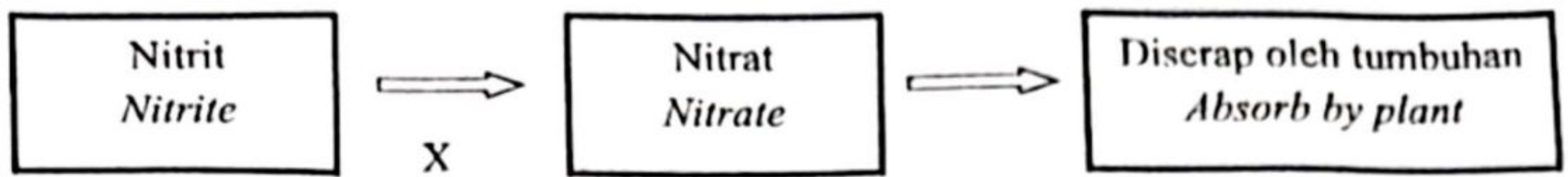
Rajah 18
Diagram 18

Antara pengelasan berikut, yang manakah adalah betul?
Which of the following classification is correct?

	Paramesium <i>Paramecium</i>	Bakteria <i>Bacteria</i>	Yis <i>Yeast</i>
A	Protista <i>Protista</i>	Eubacteria <i>Eubacteria</i>	Fungi <i>Fungi</i>
B	Protista <i>Protista</i>	Fungi <i>Fungi</i>	Eubacteria <i>Eubacteria</i>
C	Fungi <i>Fungi</i>	Protista <i>Protista</i>	Eubacteria <i>Eubacteria</i>
D	Eubacteria <i>Eubacteria</i>	Protista <i>Protista</i>	Fungi <i>Fungi</i>

34. Rajah 19 menunjukkan sebahagian daripada kitar nitrogen.

Diagram 19 shows a part of the nitrogen cycle.



Rajah 19
Diagram 19

Apakah nama bakteria X?

What is the name of bacteria X?

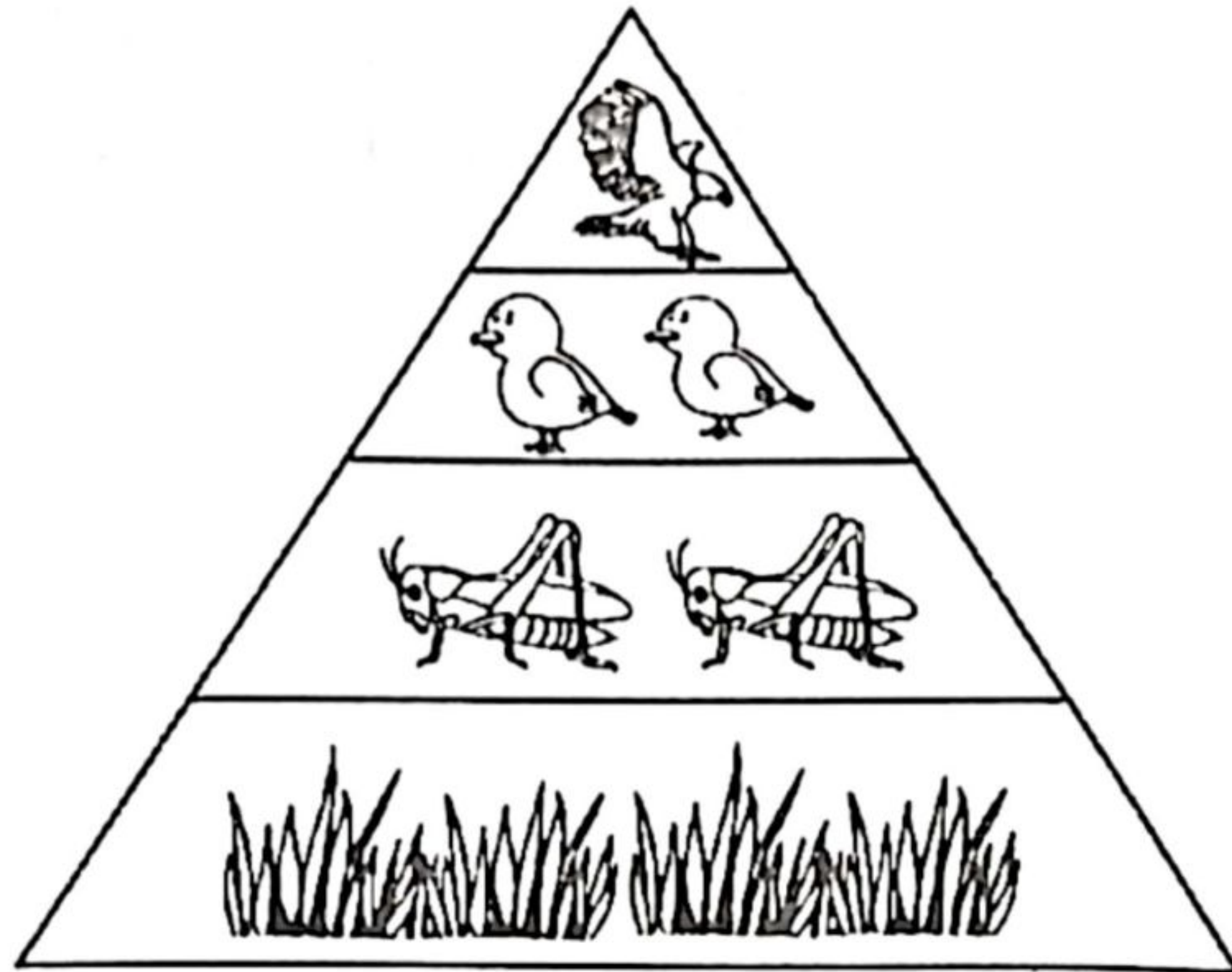
- A *Rhizobium* sp.
- B *Nitrobacter* sp.
- C *Lactobacillus* sp.
- D *Nitrosomonas* sp.

<https://t.me/cikgufazliebiosensei>

SULIT
4551/1

35. Rajah 20 menunjukkan aliran tenaga dalam satu ekosistem

Diagram 20 shows flow of energy in an ecosystem.



Rajah 20
Diagram 20

Antara yang berikut, pernyataan manakah yang betul mengenai piramid tenaga tersebut?

Which of the following statements is correct about the energy pyramid?

- A Bilangan organisma berkurang menuruni piramid
The number of organisms decreases descending the pyramid
- B Jumlah tenaga bertambah apabila pengguna primer makan pengeluar
Total energy increases when primary consumers eat producers
- C 10% tenaga dipindahkan apabila pengguna tertier makan pengguna skunder
10% of energy is transferred when tertiary consumers eat secondary consumers
- D 90% tenaga dipindahkan apabila pengguna primer makan pengeluar
90% of energy is transferred when primary consumers producers

36. Antara yang berikut, yang manakah boleh menyebabkan eutrofikasi?

Which of the following can cause eutrophication?

A Penyahhutan

Deforestation

B Aktiviti pertanian

Agricultural activities

C Penggunaan bahan penyejuk

Usage of cooling substances

D Pembakaran bahan api fosil

Burning of fossil fuels

37. Antara yang berikut, yang manakah tonggak Dasar Teknologi Hijau Negara?

Which of the following is the pillars of National Green Technology Policy?

A Sains

Science

B Teknologi

Technology

C Tenaga

Energy

D Pengangkutan

Transport

38. Kacukan dihibrid antara arnab berbulu hitam dan bertelinga panjang yang heterozigot dengan arnab berbulu putih dan bertelinga pendek baka tulen akan menghasilkan generasi F_1 yang mempunyai trait resesif berbulu putih dan bertelinga pendek.

A dihybrid cross between a heterozygous black-fur and long-eared rabbit with a purebred white-fur and short-eared rabbit will produces an F_1 generation that has recessive traits of white-fur and short-ears.

Apakah nisbah fenotip bagi generasi F_1 tersebut?

What is the phenotype ratio obtained by F_1 generation?

A 1:1:1:1

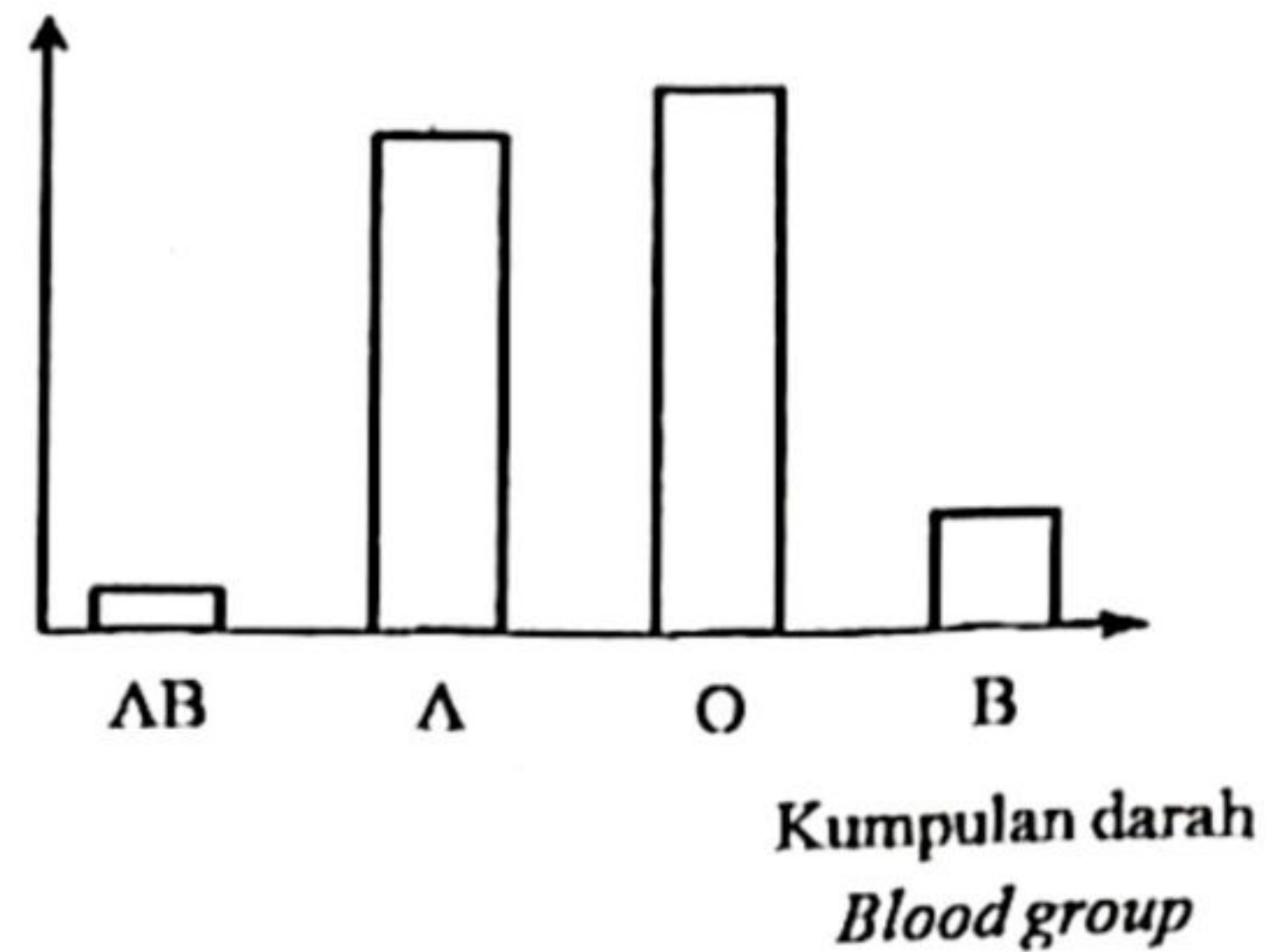
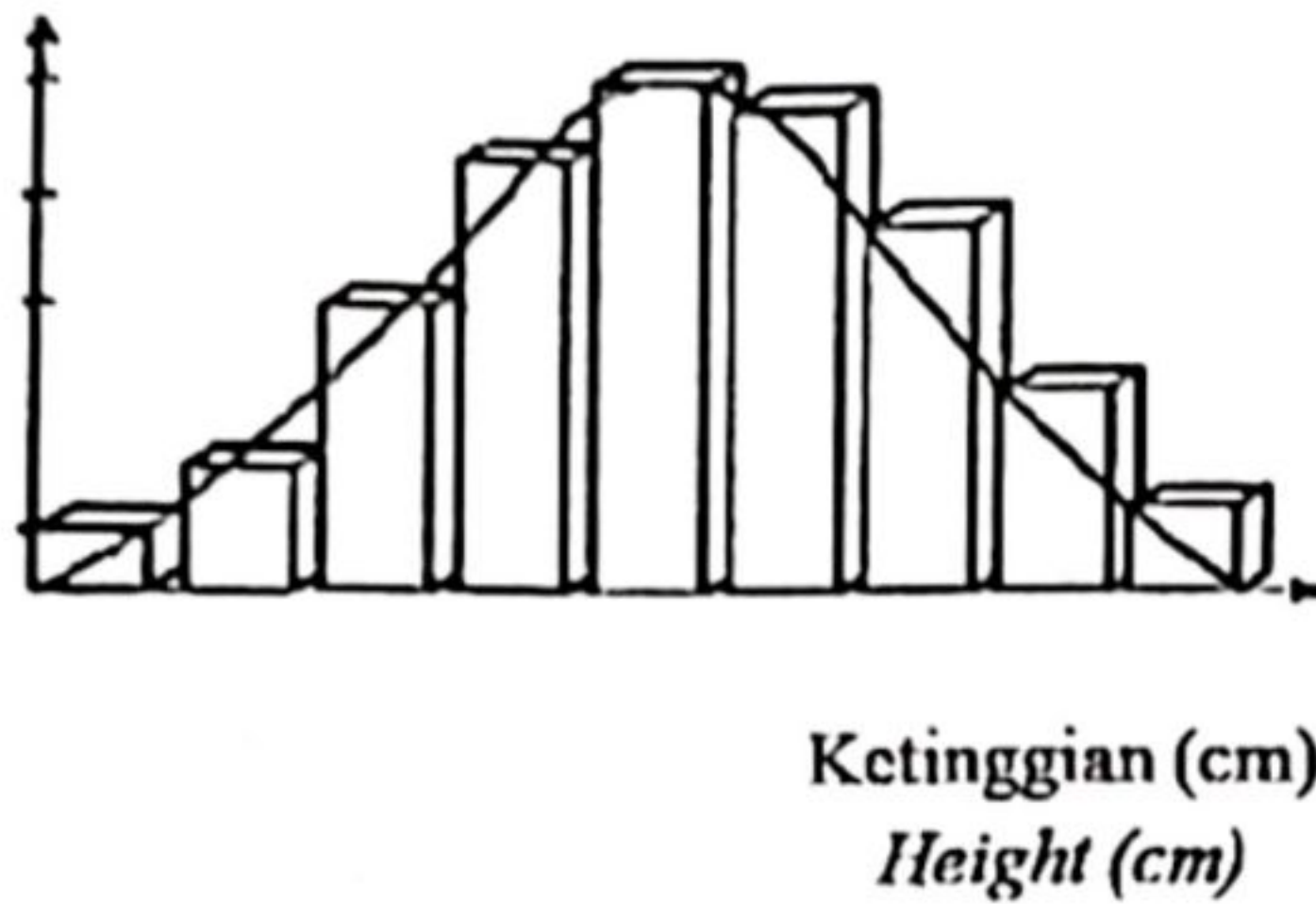
B 9:3:1:1

C 9:3:3:1

39. Rajah 21 menunjukkan carta bagi variasi ketinggian dan kumpulan darah.
Diagram 21 shows the charts of height and blood group variation.

Bilangan individu
Number of individuals

Peratus populasi (%)
Percentage of population (%)



Carta X
Chart X

Carta Y
Chart Y

Rajah 21
Diagram 21

Apakah jenis variasi yang ditunjukkan oleh graf X dan graf Y?
What type of variation shown by graph X and graph Y?

	Graf X <i>Graph X</i>	Graf Y <i>Graph Y</i>
A	Variasi selanjar <i>Continuous variation</i>	Variasi selanjar <i>Continuous variation</i>
B	Variasi selanjar <i>Continuous variation</i>	Variasi tak selanjar <i>Discontinuous variation</i>
C	Variasi tak selanjar <i>Discontinuous variation</i>	Variasi selanjar <i>Continuous variation</i>
D	Variasi tak selanjar <i>Discontinuous variation</i>	Variasi tak selanjar <i>Discontinuous variation</i>

40. Apakah mikroorganisma yang biasa digunakan untuk memasukkan gen normal ke dalam sel pesakit dalam terapi gen?

What is the common microorganisma used to insert a normal gene into a patient's cell in gene therapy?

A Virus

Virus

B Fungi

Fungi

C Bakteria

Bacteria

D Protozoa

Protozoa

<https://t.me/cikgufazliebiosensei>

KERTAS SOALAN TAMAT
END OF QUESTIONS PAPER