SMK SUNGAI PASIR
PENTAKSIRAN SETARA STANDARD (PSS) NOVEMBER 2021

NAMA:

SECTION A
BAHAGIAN A
Answer all the questions from this section
Jawab semua soalan dari bahagian ini

1 Diagram 1 shows an animal cell.
Rajah 1 menunjukkan satu sel haiwan.

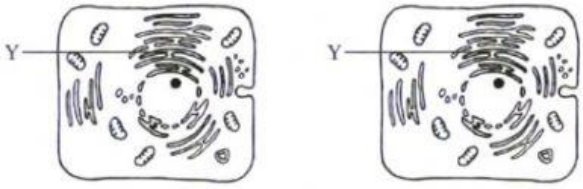


Diagram 1/ *Rajah 1*

Structure Y is a
Y ialah satu

A Nucleus
Nukleus

B Ribosome
Ribosom

C Mitochondrion
Mitokondrion

D Smooth endoplasmic Reticulum
Jalinan endoplasma licin

2 Diagram 2 shows an Amoeba sp.
Rajah 2 menunjukkan satu Amoeba sp.

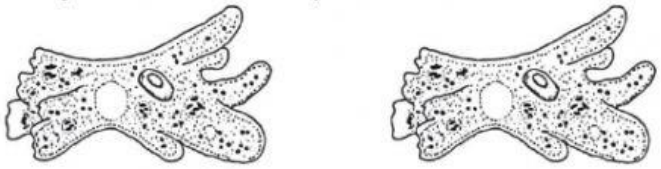


Diagram 2/ *Rajah 2*

The organism shown above reproduces by
Organisma yang ditunjukkan di atas membiak melalui

A regeneration
regenerasi

B binary fission
belahan dedua

C binary fission and spore formation
belahan dedua dan pembentukan spora

D budding and binary fission
pertunasan dan belahan dedua

3 What is the function of cholesterol molecules in the plasma membrane?
Apakah fungsi molekul kolesterol dalam membran plasma?

A To stabilise the fluidity of the plasma membrane.
Untuk menstabilkan kebendaliran membran plasma.

B To help the cells to recognise each other.
Untuk menolong sel mengecam satu sama lain.

C To assist and control the movements of water-soluble ions.
Untuk membantu dan mengawal pergerakan ion larut air.

D Acts as membrane carriers to move substances across the plasma membrane by active transport.
Bertindak sebagai membrane pembawa untuk menggerakkan bahan merentasi membran plasma dengan pengangkutan aktif.

4 What is the process in which molecules flow from an area of higher concentration to one of a lower concentration?
Apakah proses di mana molekul bergerak dari satu kawasan yang berkepekatan tinggi ke satu kawasan yang berkepekata rendah?

A	Osmosis *Osmosis*	C	Passive transport *Pengangkutan pasif*
B	Active transport *Pengangkutan aktif*	D	Simple diffusion *Resapan ringkas*

5 Which of the following is examples of protein?
Antara yang berikut, manakah adalah contoh protein?

A	Collagen *Kolagen*	C	Glycogen *Glikogen*
B	Phospholipid *Fosfolipid*	D	Steroids *Steroid*

6 Diagram 3 shows part of a DNA molecule.
Rajah 3 menunjukkan sebahagian daripada satu molekul DNA.

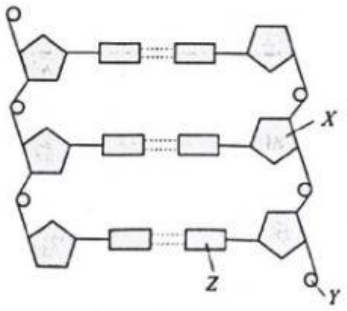


Diagram 3/ *Rajah 3*

Which of the following represent X, Y and Z?
Antara yang berikut, manakah yang mewakili X, Y dan Z?

	X	Y	Z
A	Base *Bes*	Sugar *Gula*	Phosphate *Fosfat*
B	Sugar *Gula*	Phosphate *Fosfat*	Base *Bes*
C	Base *Bes*	Phosphate *Fosfat*	Sugar *Gula*
D	Phosphate *Fosfal*	Sugar *Gula*	Base *Bes*

7 Diagram 4 shows the mode of enzyme action.
Rajah 4 menunjukkan cara tindak balas enzim.

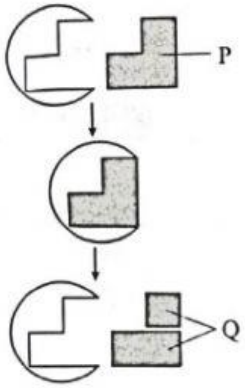


Diagram 4/ *Rajah 4*

Based on the diagram, which of the following is true about the characteristics of an enzymes?
Berdasarkan pada rajah, manakah benar tentang ciri-ciri satu enzim?

I The action of enzymes is specific.
Tindak balas enzim adalah spesifik.

II The enzyme is unchanged at the end of the reaction and can be used again.
Enzim tidak berubah pada akhir tindak balas dan boleh digunakan semula.

III Enzymes speed up biological reactions.
Enzim mempercepatkan tindak balas biologi.

IV Chemical reactions catalysed by enzymes are irreversible.
Tindak balas kimia yang dimangkin oleh enzim adalah tidak boleh berbalik.

A I and III only
I dan III sahaja

B II and IV only
II dan IV sahaja

C I, II and III only
I, II dan III sahaja

D I, III and IV only
I, III dan IV sahaja

8 Diagram 5 shows a graph of the effect of temperature on the rate of enzymatic reaction.
Rajah 5 menunjukkan satu graf bagi kesan suhu terhadap kadar tindak balas enzim.

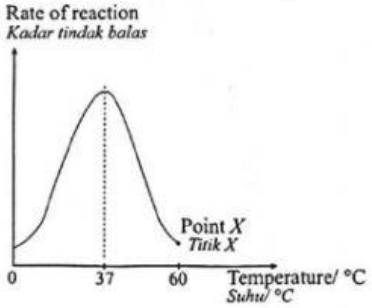


Diagram 5/ *Rajah 5*

What happens at point X?
Apakah yang berlaku pada titik X?

A The enzyme is used up.
Enzim telah habis digunakan.

B The enzyme is being denatured
Enzim telah dinyahaslikan.

C The substrate concentration becomes the limiting factor.
Kepekatan substrat menjadi factor pengehad.

D The enzyme concentration becomes the limiting factor.
Kepekatan enzim menjadi faktor pengehad.

9 Diagram 6 shows a structure of chromosome during cell division.
Rajah 6 menunjukkan satu struktur kromosom semasa pembahagian sel.

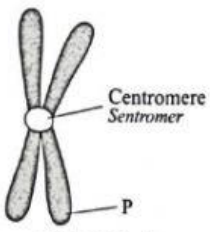


Diagram 6/ *Rajah 6*

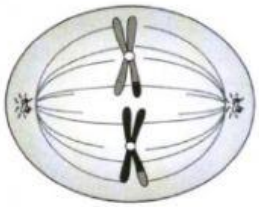
The part labelled P is
Bahagian yang berlabel P ialah

A	Centriole *Sentriol*	C	Centrosome *Sentrosom*
B	Chromatid *Kromatid*	D	Chiasmata *Kiasma*

10 Diagram 7 shows the various stage in a nuclear division.
Rajah 7 menunjukkan beberapa peringkat dalam satu pembahagian nukleus.

I

II



III

IV

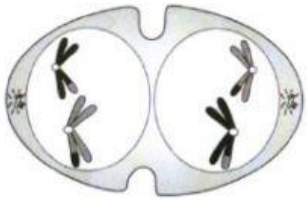


Diagram 7/ *Rajah 7*

Which of the following is the correct sequence of stages?
Antara urulan peringkat yang berikut, manakah adalah yang betul?

A	I → IV → II → III
B	II → III → IV → I
C	I → II → III → IV
D	III → I → II → IV

11 Diagram 8 shows a graph of the rate of muscle oxygen uptake and oxygen requirement of a person doing vigorous physical exercise.
Rajah 8 menunjukkan graf kadar pengambilan oksigen otot dan kadar keperluan oksigen seseorang yang membuat senaman fizikal yang cergas.

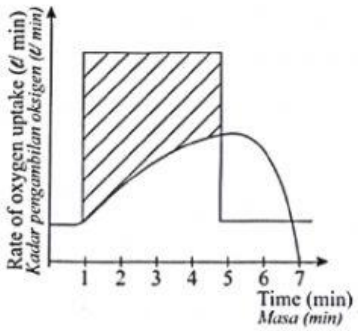


Diagram 8/ *Rajah 8*

How does one replace this shaded area?
Bagaimanakah seseorang itu menggantikan kawasan yang berlorek?

A Drink more water.
Minum lebih banyak air.

B Continuosly exercise again.
Meneruskan senaman lagi.

C Take a deep and rapid breath.
Menarik nafas yang dalam dan cepat.

D Taking a bath immediately.
Terus mandi.

12 The following show an equation of a certain condition.
Berikut, menunjukkan satu persamaan dalam satu keadaan tertentu.

$C_6H_{12}O_6 \longrightarrow 2C_3H_6O_3$ + energy tenaga

Which of the following is not related to the equation?
Antara yang berikut, manakah tidak berkaitan dengan persamaan itu?

A Only a small amount of energy is released.
Hanya sejumlah tenaga yang kecil dibebaskan.

B It occurs in animal cells.
Ia berlaku dalam sel haiwan.

C Used in bread, beer and wine production.
Digunakan dalam pembuatan roti, bir dan arak.

D 2 molecules of ATP are produced.
2 molekul ATP telah dihasilkan.

13 Diagram 9 shows the gaseous exchange system of an insect.
Rajah 9 menunjukkan sistem pertukaran gas dalam satu serangga.

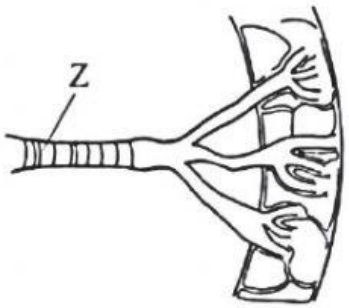


Diagram 9/ *Rajah 9*

What is not true about the structure Z?
Apakah yang tidak benar mengenai struktur Z?

A This respiratory structure is called a tracheal system.
Struktur respirasi ini dipanggil system trakea.

B Each trachea branches and rebranches throughout the whole body to form a network of trachea.
Setiap trakea bercabang dan mencabang ke seluruh badan untuk membentuk satu jaringan trakea.

C Each trachea is supported by rings of chitin.
Setiap trakea disokong oleh gelang kitin.

D Trachea have rings of chitin and end at body cells.
Trakea mempunyai gelang kitin dan berakhir pada sel badan.

14 Diagram 10 illustrates the function of an alveolus.
Rajah 10 menggambarkan fungsi satu alveolus.

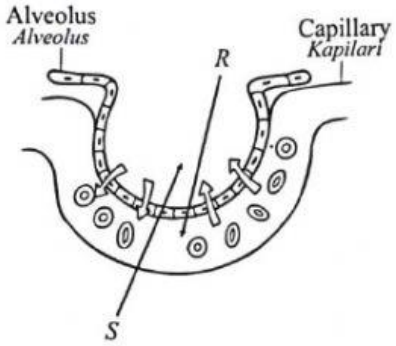


Diagram 10/ *Rajah 10*

What are most likely represented by R and S?
Apakah yang paling kemungkinan diwakili oleh R dan S?

	R	S
A	Water *Air*	Urea *Urea*
B	Oxygen *Oksigen*	Carbon dioxide *Karbon dioksida*
C	Glucose *Glukosa*	Glycogen *Glikogen*
D	Water *Air*	Sugar *Gula*

15 Diagram 11 shows parts of the human alimentary canal. In which of the organs does the digestion of proteins begin?
Rajah 11 menunjukkan sebahagian daripada salur alimentari manusia. Antara organ yang berikut, manakah bermulanya pencernaan protein?

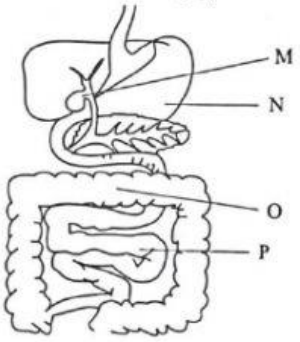


Diagram 11/ *Rajah 11*

A M C O
B N D P

16 Which of the following process do not take place in the colon of the human body?
Antara proses yang berikut, manakah tidak berlaku dalam kolon badan manusia?

A Absorbs much water.
Menyerap kebanyakan air.

B Absorption of vitamin D.
Penyerapan vitamin D.

C Absorbs minerals.
Menyerap garam mineral.

D Absorption of fatty acids.
Penyerapan asid lemak.

17 Diagram 12 shows the circulatory system of an organism.
Rajah 12 menunjukkan sistem peredaran bagi sejenis organisma.

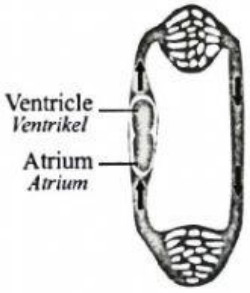


Diagram 12/ *Rajah 12*

Which of the following organisms has this type of blood circulation system?
Antara organisma yang berikut, manakah mempunyai jenis sistem peredaran darah tersebut?

A Frog *Katak*
B Fish *Ikan*
C Bird *Burung*
D Grasshopper *Belalang*

18 Diagram 13 shows the formation of interstitial fluid.
Rajah 13 menunjukkan pembentukan cecair interstis.

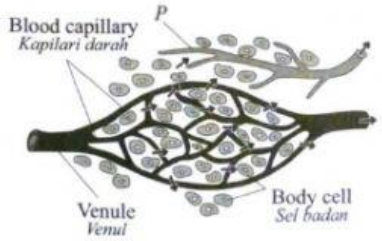


Diagram 13/ *Rajah 13*

What could possibly be P?
Apakah kemungkinan P?

A Amino acids *Asid amino*
B Platelets *Platelet*
C Erythrocytes *Eritrosit*
D Globulins *Globulin*

19 Diagram 14 shows the changes in the level of antibody in the blood of a person.
Rajah 14 menunjukkan perubahan paras antibodi dalam darah seseorang.

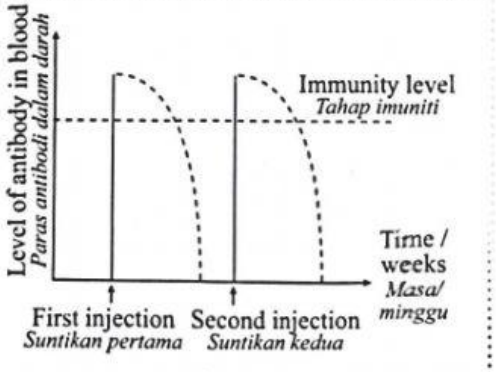


Diagram 14/ *Rajah 14*

Which of the following statement is not true about Diagram 14?
Antara pernyataan yang berikut, manakah tidak benar tentang Rajah 14?

A Injection is given more than once to provide effective immunity.
Suntikan diberi lebih daripada satu kali untuk memberi keimunan yang berkesan.

B Immunity is acquired through the injection of serum.
Keimunan diperoleh melalui suntikan serum.

C This type of immunity gives immediate protection against disease.
Jenis keimunan ini memberi pertahanan terhadap penyakit dengan serta-merta.

D The injection can only induce a short-lived immunity.
Suntikan hanva boleh memberi keimunan yang sementara.

20 Diagram 15 shows parts of the human brain.
Rajah 15 menunjukkan bahagian-bahagian otak manusia.

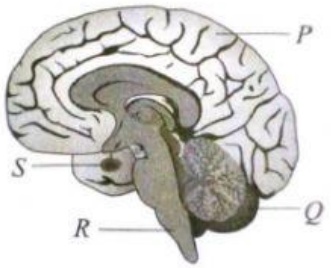


Diagram 15/ *Rajah 15*

Which of the following is the correct pairing between the parts of the brain and its function?
Antara yang berikut, manakah pasangan betul dengan bahagian otak dan fungsinya?

	Part of the brain/ *Bahagian otak*	Function/ *Fungsi*
A	P	Controls thinking/ *Mengawal pemikiran*
B	Q	Controls peristalsis/ *Mengawal peristalsis*
C	R	Controls the balancing of the body/ *Mengawal keseimbangan badan*
D	S	Controls rate of heartbeat/ *Mengawal kadar denyutan jantung*

21 Diagram 16 shows a cross-section of the spinal cord.
Rajah 16 menunjukkan keratan rentas saraf tunjang.

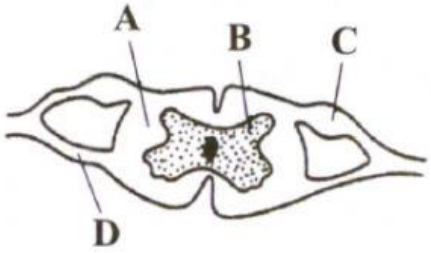


Diagram 16/ *Rajah 16*

Which of the structures **A**, **B**. **C** or **D** is made up of grey matter?
*Antara struklur **A**, **B**, **C** atau **D**, manakah dibentuk daripada jirim kelabu?*

22 Diagram 17 shows the structure of a nephron.
Rajah 17 menunjukkan struktur satu nefron.

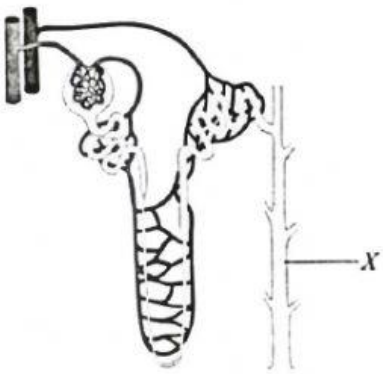


Diagram 17/ *Rajah 17*

Which of the following conditions causes X to be more permeable to water?
Antara keadaan yang berikut, manakah mengakibatkan X lebih telap kepada air?

I Excessive intake of salty food
Pengambilan makanan masin secara berlebihan
II Carrying out vigorous sporting activities
Menjalani akliviti sukan yang cergas
III Sweating under the hot sun
Berpeluh di bawah matahari
IV Drinking plenty of water
Minum banyak air
A I, II and III only
I, II dan III sahaja
B II, III and IV only
II, III dan IV sahaja
C I and IV only
I dan IV sahaja
D II and III only
II dan III sahaja

23 Diagram 18 shows a human cervical vertebrae.
Rajah 18 menunjukkan vertebra serviks manusia.