Name:…… Form:……

4551/1
Biology
Paper 1
OKT
2021
1¼ hour

SEKOLAH MENENGAH KEBANGSAAN SUNGAI PASIR
SUNGAI PETANI, KEDAH DARULAMAN

PEPERIKSAAN PERTENGAHAN TAHUN 2021

BIOLOGY
PAPER 1
One hour and fifteen minutes

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO

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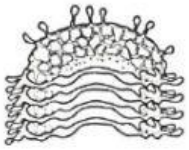
1. *This paper consists of 40 questions.*
2. *The diagrams in the questions provide you with useful information. The diagrams are not drawn to scale unless stated*
3. *You may use a non-programmable scientific calculator*

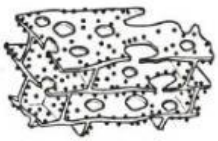
This question paper consist of 15 printed pages

Prepared by	Certified by	Approved by
……	……	……
SUHAIMI BIN BAKAR	NORAFIDAH BINTI GHAZALI	PN. RUSNI BINTI ABD RASHID
Subject Teacher	*Head of Panitia*	*Senior Subject Teacher*

1 Which of the following cell components is found in abundance in muscle tissues?
Antara komponen sel berikut, yang manakah terdapat dengan banyak dalam tisu otot?

A 

C 

B 

D 

2 The following is cell organisation in a multicellular organism.
Berikut adalah organisasi sel dalam organisma multisel.

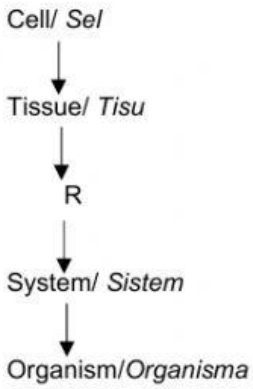


Diagram 1/*Rajah 1*

What is an example of R?
Apakah contoh R?

A	Sperma *Sperm*	C	Epithelial tissue *Tisu epitelium*
B	Blood *Darah*	D	Small intestine *Usus kecil*

3 The following information refers to cell component P.
Maklumat berikut merujuk kepada komponen sel P.

- Exists freely in the cytoplasm or on the surface of the rough endoplasmic reticulum
  Wujud secara bebas di dalam sitoplasmaatau melekat pada permukaan jalinan endoplasma kasar
- Site of protein synthesis
  Tapak sintesis protein

What is the cell component?

Apakah komponen sel itu?

A	Nucleus *Nukleus*	C	Ribosome *Ribosom*
B	Lysosome *Lisosom*	D	Golgi apparatus *Jasad Golgi*

4 *Diagram 2 shows the movement of glucose molecule across the plasma membrane through process Q.*
Rajah 2 menunjukkan pergerakan molekul glukosa merentasi membran plasma melalui proses Q.

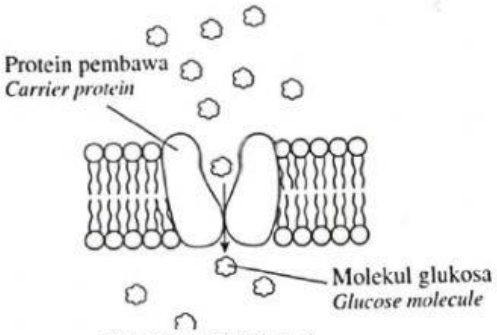
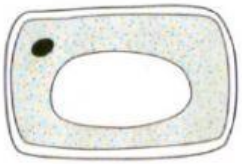


Diagram 2/*Rajah 2*

What is process Q?
Apakah proses Q?

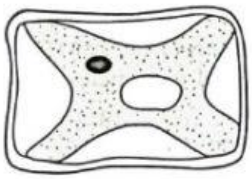
A	Osmosis *Osmosis*	C	Active transport *Pengangkutan aktif*
B	Simple diffusion *Resapan ringkas*	D	Facilitated diffusion *Resapan berbantu*

5 Diagram 3 shows a plant cell in an isotonic solution.
Rajah 3 menunjukkan sel tumbuhan di dalam larutan isotonik.



Rajah 3/Diagram 3

Which diagram shows the cell after it has been immersed in a hypertonic solution?
Rajah yang manakah menunjukkan keadaan sel setelah direndam di dalam larutan hipertonik?

A


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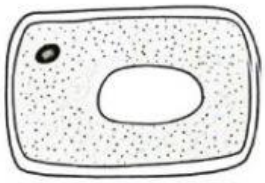

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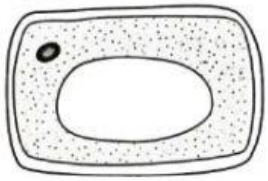

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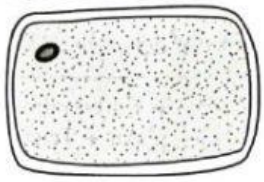


6 Which of the following is a polysaccharide?
Antara yang berikut, yang manakah merupakan polisakarida?

A	Starch *Kanji*	C	Fructose *Fruktosa*
B	Sucrose *Sukrosa*	D	Glucose *Glukosa*

7 The following information shows the formation of molecule Y through process X.
Maklumat berikut menunjukkan pembentukan molekul Y melalui proses X.

Glucose + Glucose $\xrightarrow{\text{process x}}$ Y + Water
Glukosa + Glukosa $\xrightarrow{\text{proses x}}$ *Y + Air*

Apakah yang diwakili oleh X dan Y?

	X	Y
A	Hydrolysis *Hidrolisis*	Maltose *Maltosa*
B	Condensation *Kondensasi*	Maltose *Maltosa*
C	Condensation *Kondensasi*	Lactose *Laktosa*
D	Hydrolysis *Hidrolisis*	Lactose *Laktosa*

8 Diagram 4 shows the lock and key hypothesis of enzyme action.
Rajah 4 menunjukkan hipotesis mangga dan kunci bagi tindakan enzim.

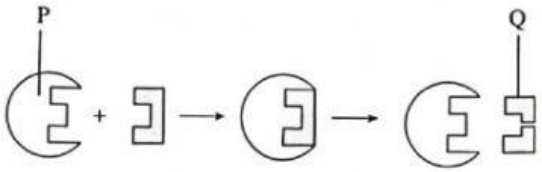


Diagram 4/*Rajah 4*

What are P and Q?
Apakah P dan Q?

	P	Q
A	Enzyme *Enzim*	Product *Produk*
B	Substrate *Substrat*	Product *Produk*
C	Substrate *Substrat*	Enzyme *Enzim*
D	Enzyme *Enzim*	Substrate *Substrat*

9 Which of the following about enzyme reaction at 50°C is true?
Antara yang berikut, yang manakah benar tentang tindak balas enzim pada suhu 50°C?

A The reaction decreases
Tindak balas menurun

B The reaction increases
Tindak balas meningkat

C The reaction is at maximum
Tindak balas adalah maksimum

D The reaction remains the same
Tindak balas kekal sama

10 Diagram 5 shows a few phases in mitosis.
Rajah 5 menunjukkan beberapa fasa dalam proses mitosis.

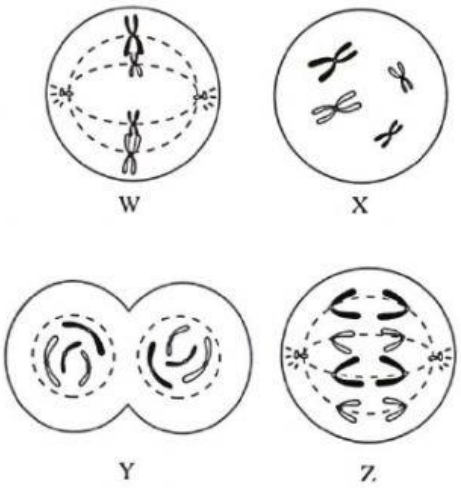


Diagram 5/*Rajah 5*

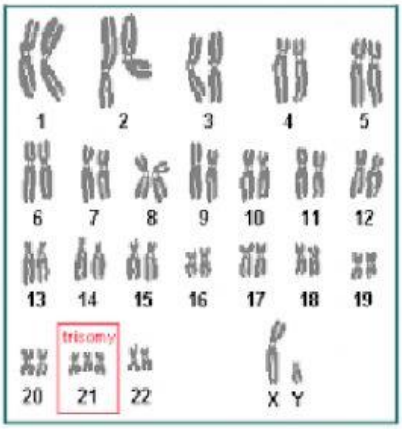
Which of the following is the correct order of the process?
Antara yang berikut, yang manakah merupakan urutan proses yang betul?

A	X →	Z →	W →	Y
B	X →	W →	Z →	Y
C	W →	Z →	Y →	X
D	W →	Y →	Z →	X

11 Where does meiosis takes place in humans?
Di manakah meiosis berlaku dalam manusia?

A	Skin *Kulit*	C	Heart *Jantung*
B	Ovaries *Ovari*	D	Testis *Testis*

12 Diagram 6 shows the karyotype of a man.
Rajah 6 menunjukkan kariotip seorang lelaki.



Rajah 6/Diagram 6

From the karyotype, we can see that the man has abnormal number of chromosomes caused by mutation. At which phase of the cell division does this mutation occur?
Berdasaikan kariotip tersebut, didapati lelaki tersebut mempunyai bilangan kromosom yang abnormal yang disebabkan oleh mutasi. Pada fasa pembahagian sel yang manakah mutasi ini berlaku?

A Profasa I / *Prophase I*
B Anafasa I / *Anaphase I*
C Metafasa I / *Metaphase I*
D Telofasa I / *Telophase I*

13 The following is a word equation of a process.
Berikut adalah persamaan perkataan bagi suatu proses.

Glucose + Oxygen → Carbon dioxide + Water + Energy
Glukosa + Oksigen → Karbon dioksida + Air + Tenaga

Apakah proses yang ditunjukkan di atas?
What is the process shown above?

A Aerobic respiration / *Respirasi aerob*
B Anaerobic respiration / *Respirasi anaerob*
C Hydrolysis of glucose / *Hidrolisis glukosa*
D Condensation of glucose / *Kondensasi glukosa*

14 A man takes part in a 100 m sprint event. The following equation shows lactic acid fermentation in the muscle cells.
Seorang lelaki mengambil bahagian dalam acara lari pecut 100 m. Persamaan berikut menunjukkan fermentasi asid laktik yang berlaku dalam sel otot.

Glukosa / *Glucose* → X + Tenaga / *Energy*

What is X?
Apakah X?

A Water / *Air*
B Etanol / *Ethanol*
C Lactic acid / *Asid laktik*
D Karbon dioksida / *Carbon dioxide*

15 Diagram 7 shows the structure of the respiratory system of an insect.
Rajah 7 menunjukkan struktur sistem respirasi serangga.

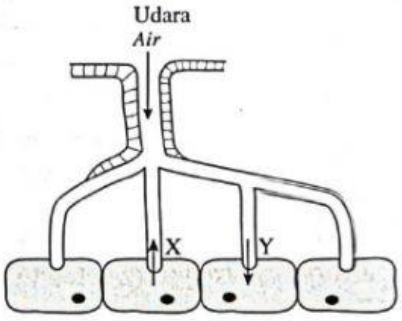


Diagram 7/*Rajah 7*

What are substances X and Y?
Apakah bahan X dan Y?

	X	Y
A	Oxygen Oksigen	Carbon dioxide Karbon dioksida
B	Carbon dioxide Karbon dioksida	Oxygen Oksigen
C	Oxygen Oksigen	Water Air
D	Water Air	Oxygen Oksigen

16 Which structure in the respiratory system of humans has large surface area for gaseous exchange?
Struktur yang manakah dalam sistem respirasi manusia yang mempunyai luas permukaan yang besar untuk pertukaran gas?

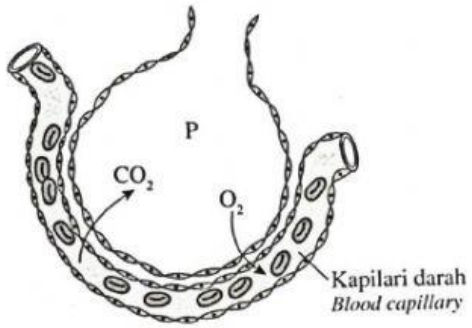
A Trakea
Trachea

B Alveolus
Alveolus

C Bronkus
Bronchus

D Bronkiol
Bronchiole

17 Diagram 8 shows a cross section of an alveolus and a blood capillary.
Rajah 8 menunjukkan keratan rentas alveolus dan kapilari darah.



Rajah 8/Diagram 8

What will happen at the alveolus and the blood capillary when a person inhales'?
Apakah yang akan berlaku di alveolus dan kapilari darah apabila seseorang menarik nafas?

I More oxyhaemoglobin will be formed.
Lebih banyak oksihemoglobin akan terbentuk.

II Oxygen diffuses from P into the blood capillary.
Oksigen meresap dari P ke dalam kapilari darah.

III The partial pressure of oxygen in P is lower than that in the blood capillary.
Tekanan separa oksigen di P lebih rendah daripada tekanan separa oksigen di dalam kapilari darah.

IV The partial pressure of carbon dioxide in P is higher than that in the blood capillary.
Tekanan separa karbon dioksida di P lebih rendah daripada tekanan separa karbon dioksida di dalam kapilari darah.

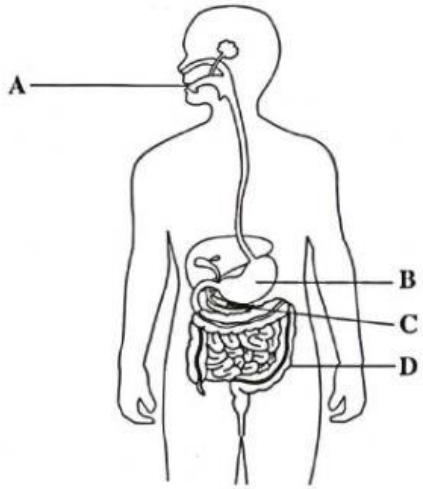
A I dan II
I and II

B II and III
II dan III

C III and IV
III dan IV

D I and IV
I dan IV

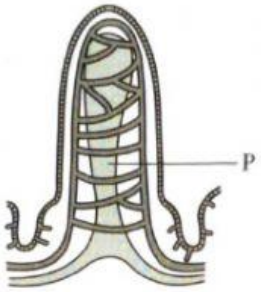
18 Diagram 9 shows the human digestive system.
Rajah 9 menunjukkan sistem pencernaan manusia.



Rajah 9/Diagram 9

Which part of the digestive system is involved in the digestion of proteins with the presence of hydrochloric acid?
Bahagian yang manakah dalam sistem pencernaan yang terlibat dalam pencernaan protein dengan kehadiran asid hidroklorik?

19 Diagram 10 shows the structure of the villus.
Rajah 10 menunjukkan struktur vilus.



Rajah 10/Diagram 10

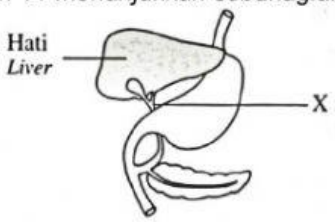
What digested substance can be transported by structure P?
Apakah bahan tercerna yang dapat diangkut oleh struktur P?

A Glucose / *Glukosa*
B Glycerol / *Gliserol*
C Amino acid / *Asid amino*
D Vitamin C / *Vitamin C*

20 Which group of foods prevents constipation?
Kumpulan makanan yang manakah mencegah sembelit?

A Fried chicken, apple, egg sandwich
Ayam goreng, epal, sandwic telur
B Wholemeal bread, spinach, papaya
Roti mil penuh, bayam, betik
C Chicken soup, low fat milk, beef burger
Sup ayam, susu rendah lemak, burger daging
D Orange juice, mushroom soup, chocolate cake
Jus oren, sup cendawan, kek coklat

21 Diagram 11 shows a part of human digestive system.
Rajah 11 menunjukkan sebahagian daripada sistem pencernaan manusia.



Rajah 11/Diagram 11

What is the effect on a person if a part of X is removed because of a disease?
Apakah kesan terhadap seseorang jika sebahagian X dibuang disebabkan oleh penyakit?

A More bile is secreted by the liver
Lebih banyak hempedu dihasilkan oleh hati

B Digested food cannot be transported to the liver
Makanan tercerna tidak dapat diangkut ke hati

C The rate of digestion of lipids will decrease
Kadar pencernaan lipid akan berkurang

D The rate of digestion of protein will decrease
Kadar pencernaan protein akan berkurang

22 Which of the following blood cells produces heparin?
Antara sel darah berikut, yang manakah menghasilkan heparin?

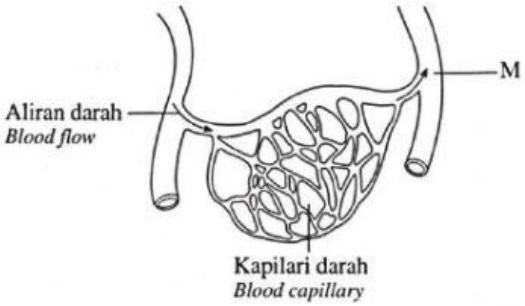
A 

C 

B 

D 

23 Diagram 12 shows a part of human blood vessels.
Rajah 12 menunjukkan sebahagian daripada salur



Rajah 12 /*Diagram 12*

Which of the following is correct about M?
Antara yang berikut, yang manakah benar tentang M?

A Has a small lumen
Mempunyai lumen yang kecil

B Transports deoxygenated blood
Mengangkut darah terdeoksigen

C Has a thick muscular wall
Mempunyai dinding otot yang tebal

D Blood flows under higher pressure
Darah mengalir di bawah tekanan tinggi