

SULIT  
4551/1  
Biologi  
KERTAS 1  
Ogos 2008  
1 ¼ jam



JABATAN PELAJARAN TERENGGANU

PEPERIKSAAN PERCUBAAN TAHUN 2008  
SIJIL PELAJARAN MALAYSIA

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**BIOLOGI**

Kertas 1

Satu jam lima belas minit

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**JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU**

1. *Kertas soalan ini mengandungi 50 soalan.*
  2. *Kertas soalan ini disediakan dalam dwibahasa.*
  3. *Jawab semua soalan.*
  4. *Jawab dengan menghitamkan ruangan yang betul pada kertas jawapan yang disediakan.*
  5. *Sekiranya anda hendak menukarkan jawapan, padamkan tanda yang telah dibuat. Kemudian hitamkan jawapan yang baru.*
  6. *Rajah yang mengiringi soalan dimaksudkan untuk memberi maklumat yang berguna bagi menjawab soalan. Rajah tidak dilukis mengikut skala kecuali dinyatakan.*
  7. *Anda dibenarkan menggunakan kalkulator saintifik yang tidak boleh diprogram.*
- 

**Kertas soalan ini mengandungi 26 halaman bercetak**

## INFORMATION FOR CANDIDATES

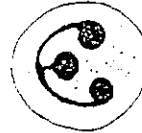
1. This question paper consists of **50** questions.  
*Kertas soalan ni mengandungi 50 soalan.*
2. Answer all questions.  
*Jawab semua soalan.*
3. Answer each question by blackening the correct space on the answer sheet.  
*Jawab dengan menghitamkan ruangan yang betul pada kertas jawapan.*
4. Blacken only **one** space for each question.  
*Hitamkan satu ruangan sahaja bagi setiap soalan.*
5. If you wish to change your answer, erase the blackened mark that you have made. Then blacken the space for the new answer.  
*Sekiranya anda hendak menukar jawapan, padam tanda yang telah dibuat. Kemudian hitamkan jawapan yang baru.*
6. The diagrams in the questions provided are not drawn to scale unless stated.  
*Rajah yang mengiringi soalan tidak dilukis mengikut skala kecuali dinyatakan.*
7. You may use a non-programmable scientific calculator.  
*Anda dibenarkan menggunakan kalkulator saintifik yang tidak boleh diprogram.*

1. Which of the following cells form the basic tissues in animal?  
*Antara sel berikut, yang manakah membentuk tisu asas dalam haiwan?*
- A Connective tissues / *tisu penghubung*  
 B Epidermal cell / *sel epidermis*  
 C Epithelial cell / *sel epitelium*  
 D Blood / *darah*
2. Which of the following cells involved in human immunity system?  
*Antara sel berikut yang manakah terlibat dalam sistem keimunan dalam manusia?*

A



B



C



D



3. Diagram 1 shows the cell organisation in multicellular organism.  
*Rajah 1 menunjukkan organisasi sel dalam organisma multisel.*

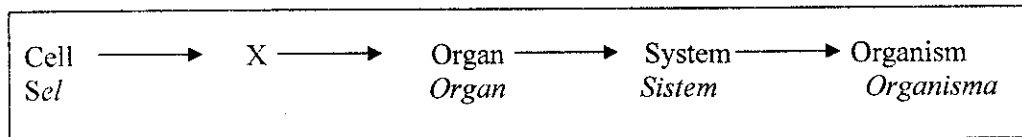


Diagram 1  
*Rajah 1*

Which part of the body can be represented by X?  
*Apakah bahagian badan yang boleh diwakili oleh R?*

- A Ligament / *ligament*  
 B Heart / *jantung*  
 C Epithelium / *Epitelium*  
 D Skin / *kulit*

4. Diagram 2 shows a cell which has been put into a particular solution.  
*Rajah 2 menunjukkan sel yang telah dimasukkan ke dalam larutan tertentu.*

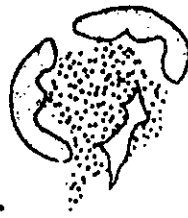


Diagram 2  
*Rajah 2*

Which is experienced by the cell?  
*Apakah yang dialami oleh sel itu?*

- A Crenation / *krenasi*  
 B Plasmolysis / *plasmolisis*  
 C Deplasmolysis / *deplasmolisis*  
 D Haemolysis / *hemolisis*
5. Diagram 3 shows the shape of a stalk of mustard green when put in certain type of solution  
*Rajah 3 menunjukkan bentuk batang sawi yang diletakkan dalam jenis larutan tertentu.*

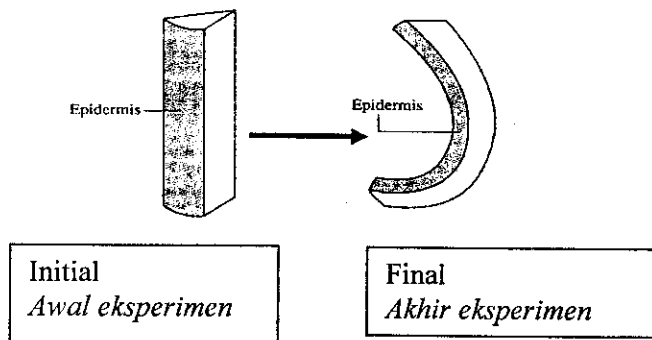


Diagram 3  
*Rajah 3*

Which of the following is the correct type of solution?  
*Antara berikut yang manakah merupakan jenis larutan yang betul?*

- A Hypertonic / *hipertonik*  
 B Isotonic / *isotonik*  
 C Hypotonic / *hipotonik*  
 D Supertonic / *Supertonik*

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

A Maltose / *Maltos*  
 B Fructose / *Fruktos*  
 C Glucose / *Glukos*  
 D Glycogen / *Glikogen*

7. Diagram 4 shows the action of an enzyme maltase .  
*Rajah menunjukkan tindakan enzim maltase.*

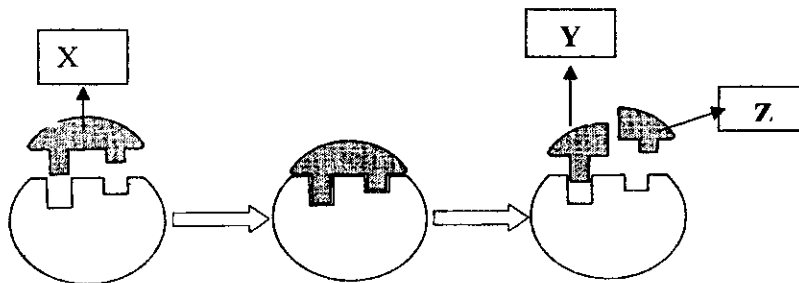


Diagram 4  
*Rajah 4*

X, Y and Z represent  
*X, Y dan Z mewakili*

	<b>X</b>	<b>Y</b>	<b>Z</b>
A	Maltose / <i>maltos</i>	Glucose / <i>glukos</i>	Fructose / <i>fruktos</i>
B	Maltose / <i>maltos</i>	Glucose / <i>glukos</i>	Glucose / <i>glukos</i>
C	Maltose / <i>maltos</i>	Glucose / <i>glukos</i>	Galaktose / <i>galaktos</i>
D	Maltose / <i>maltos</i>	Galaktose / <i>galaktos</i>	Fructose / <i>fruktos</i>

8. Which process is used in tissue culture technique?  
*Antara proses berikut yang manakah digunakan dalam teknik kultur tisu?*

A. Fertilisation / *Persenyawaan*  
 B. Synthesis / *Sintesis*  
 C. Meiosis / *Meiosis*  
 D. Mitosis / *Mitosis*

9. Diagram 5 shows a cell undergoing cell division.  
*Rajah 5 menunjukkan sel yang sedang membahagi.*

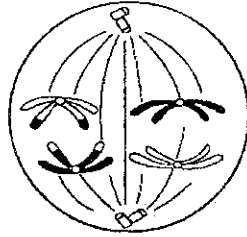


Diagram 5  
*Rajah 5*

Which of the following is the product of cell division shown in diagram 5.  
*Yang manakah antara berikut merupakan hasil pembahagian sel yang ditunjukkan dalam rajah 5.*

- A. Testis / *Testis*  
 B. Spermatogonium / *Spermatogonium*  
 C. Ovary / *Ovari*  
 D. Secondary oocyte / *Oosit sekunder*
10. Table 1 shows the result of food test on food sample X and Y.  
*Jadual 1 menunjukkan keputusan ujian makanan ke atas sampel makanan X dan Y*

Food sample	Observation
X	Brick red precipitate formed after being heated with Benedict solution. <i>Mendakan merah bata terbentuk selepas dipanaskan dengan larutan Benedict.</i>
	Brown solution occur when being mixed with iodine solution <i>Larutan berwarna perang wujud selepas ditambah larutan iodin.</i>
Y	Red precipitate formed after being heated with Millon reagent <i>Mendakan merah terbentuk selepas dipanaskan dengan bahanuji Millon.</i>
	Bleached the blue colour of DCPIP <i>Melunturkan warna biru DCPIP</i>

Table 1  
*Jadual 1*

Which of the following is the correct food contents in X and Y?

*Yang manakah antara berikut merupakan kandungan makanan yang betul dalam X and Y?*

- | <u>X</u>                                  | <u>Y</u>  |
|---|---|
| A Sugar and starch/ <i>gula dan kanji</i> | Protein and starch/ <i>protein dan kanji</i>        |
| B Sugar and starch/ <i>gula dan kanji</i> | Protein and lipid/ <i>protein dan lipid</i>         |
| C Sugar/ <i>gula</i>                      | Protein and vitamin C/ <i>protein dan vitamin C</i> |
| D Sugar/ <i>gula</i>                      | Protein and vitamin D/ <i>protein dan vitamin D</i> |

11. Diagram 6 shows the digestive system in human.

*Rajah 6 menunjukkan sistem pencernaan manusia.*

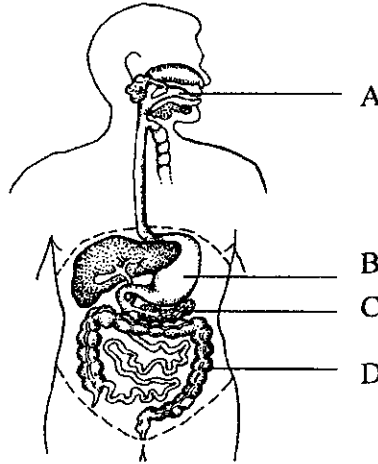


Diagram 6

*Rajah 6*

Which of the label parts A, B, C and D is the first part where protein is digested.

*Bahagian berlabel yang manakah merupakan tempat pertama berlakunya pencernaan ke atas protein.*

12. Which of the following is an effect of vitamin deficiency?

*Antara yang berikut, yang manakah kesan kekurangan vitamin?*

- A Anemmia / *anemia*
- B Muscular dystrophy / *distrofi otot*
- C Colour blindness / *buta warna*
- D Ricket / *riket*

13. Which of the following is the function of bile in digestive system?

*Antara yang berikut, yang manakah fungsi hempedu dalam sistem pencernaan?*

- A Breakdown protein into small droplet/*memecahkan protein kepada titisan kecil*
- B Breakdown lipid into small droplet/*memecahkan lipid kepada titisan kecil*
- C Breakdown starch into small droplet/*memecahkan kanji kepada titisan kecil*
- D Breakdown minerals into small droplet/*memecahkan mineral kepada titisan kecil*

14. Diagram 7 shows longitudinal section of villus.  
Rajah 7 menunjukkan keratan memanjang vilus.

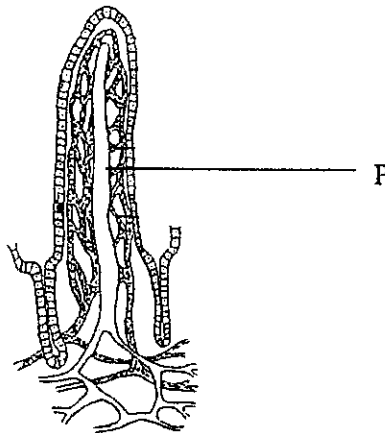


Diagram 7  
Rajah 7

- Which substances is absorbed into structure P.  
*Bahan manakah diserap ke dalam struktur P.*
- A Glucose and amino acid / *glukos dan asid amino*  
 B Amino acid and fatty acid / *asid amino dan asid lemak*  
 C Glycerol and vitamin D / *gliserol dan vitamin D*  
 D Fatty acid and vitamin C / *asid lemak dan vitamin C*
15. Which is the process involved in changing glucose into maltose?  
*Antara proses berikut yang manakah terlibat dalam penukaran glukos kepada maltos?*
- A Condensation / *kondensasi*  
 B Photolysis / *fotolisis*  
 C Hydrolysis / *hidrolisis*  
 D Assimilation / *asimilasi*
16. Which of the following is produced during the light reaction of photosynthesis?  
*Antara berikut yang manakah dihasilkan semasa tindakbalas cahaya dalam fotosintesis?.*
- A ATP  
 B Energy / *tenaga*  
 C Oxygen / *oksigen*  
 D Glucose / *glukos*



17. Diagram 8 shows the structure of respiration system of certain organism.  
 Diagram 8 menunjukkan struktur bagi sistem respirasi suatu organisma.

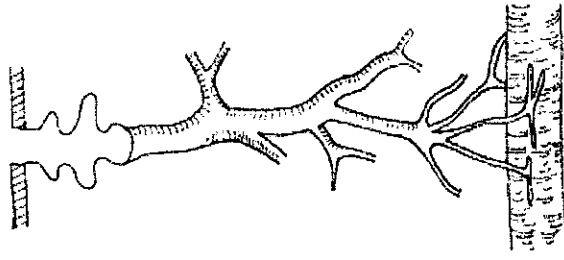


Diagram 8  
 Rajah 8

Which organism has this structure?.

Organisma yang manakah mempunyai struktur itu?

- A Frog / Katak
  - B Grasshopper / Belalang
  - C Fish / Ikan
  - D Crocodile / Buaya
18. Diagram 9 shows human respiratory system.  
 Gambarajah 9 menunjukkan system respirasi manusia.

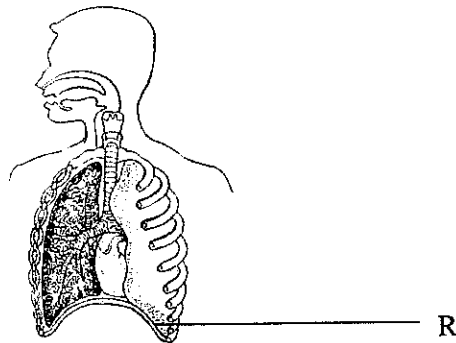


Diagram 9  
 Rajah 9

What happen to structure R during exhalation?.

Apakah yang berlaku ke atas struktur R semasa hembus nafas?.

- A Contract and become flatten / Mengecut dan mendatar
- B Contract and become doom shape / Mengecut dan melengkung
- C Relax and become flatten / Mengendur dan mendatar
- D Relax and become doom shape / Mengendur dan melengkung

19. Diagram 10 shows the structure of alveoli .  
Rajah 10 menunjukkan struktur alveolus.

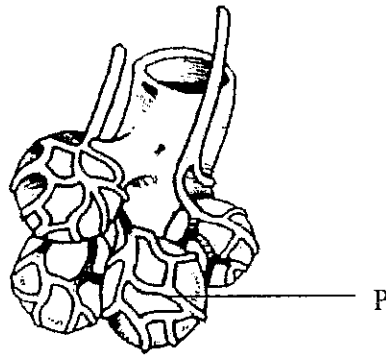
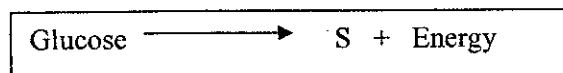


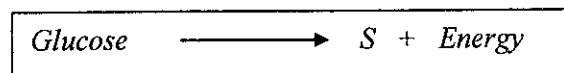
Diagram 10  
Rajah 10

What process occurs between alveolus and structure P during gaseous exchange?  
Apakah proses yang berlaku di antara alveolus dengan struktur P semasa pertukaran gas?

- A Osmosis / *Osmosis*  
 B Diffusion / *Resapan*  
 C Facilitated diffusion / *Resapan berbantu*  
 D Active transport / *Pengangkutan aktif*
20. Which structure is involved in the gaseous exchange in *Ameoba sp?*.  
*Struktur yang manakah yang terlibat dalam pertukaran gas dalam Ameoba?*
- A Cell wall / *Dinding sel*  
 B Nucleus / *Nukleus*  
 C Cell membrane / *Membran sel*  
 D Vacuole / *Vakuol*
21. The following equation shows the process that take place in yeast.



*Persamaan berikut menunjukkan proses yang berlaku dalam yis.*



What is S?.

Apakah S?.

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

22. Diagram 11 shows an interaction between two organisms.  
*Rajah 11 menunjukkan satu interaksi antara dua organisma.*

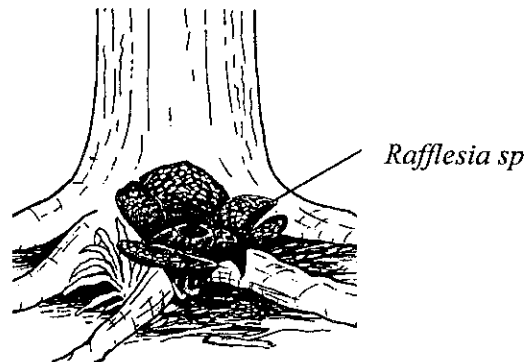


Diagram 11  
*Rajah 11*

What type of interaction is this?.

Apakah jenis interaksi ini

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

23. Which of the following is the correct sequence in the process of plant succession in a mangrove swamp?

*Antara berikut yang manakah betul bagi proses sesaran tumbuhan di kawasan paya bakau?*

- A *Avicennia sp.* → *Sonneratia sp.* → *Rhizophora sp.*
- B *Avicennia sp.* → *Rhizophora sp.* → *Bruguiera sp.*
- C *Sonneratia sp.* → *Bruguiera sp.* → *Rhizophora sp.*
- D *Bruguiera sp.* → *Rhizophora sp.* → *Avicennia sp.*

24. Which of the following describes a niche?  
*Antara berikut, yang manakah menerangkan tentang nich?*

- A The function of an organism in an ecosystem.  
*Peranan suatu organisma dalam suatu ekosistem.*
- B The natural surroundings where organisms live.  
*Persekitaran semulajadi di mana organisma hidup.*
- C Different species which live together in an ecosystem.  
*Spesies berlainan yang tinggal bersama dalam ekosistem*
- D Several species of organism which live together in the same place.  
*Beberapa spesies organisma yang tinggal bersama di tempat yang sama*

25. Diagram 12 shows structure N on legume plant.  
*Rajah 12 menunjukkan struktur N pada pokok kekacang.*

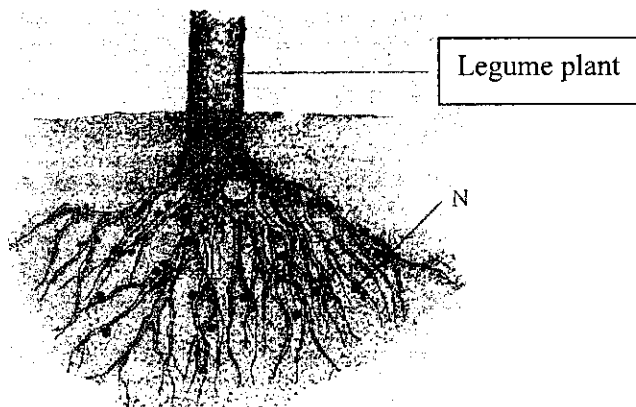


Diagram 12  
*Rajah 12*

Which of the following is the function of bacteria which live in N in Nitrogen cycle?  
*Antara yang berikut, yang manakah peranan bakteria yang hidup dalam N dalam kitar nitrogen?*

- A Fix nitrite to ammonium compound  
*Mengikat nitrit kepada sebatian ammonia*
- B Fix atmospheric nitrogen to nitrate  
*Mengikat nitrogen di udara kepada nitrat*
- C Fix ammonium compound to nitrite  
*Mengikat sebatian ammonia kepada nitrit*
- D Fix nitrite to nitrate  
*Mengikat nitrit kepada nitrat*

26. Which of the following are the effects of destruction of ozone layer?  
*Antara yang berikut, yang manakah merupakan kesan penipisan lapisan ozon?*

- I. Melted of ice at polar area  
*Pencarian ais di kawasan kutub*
- II. Increase of sea level  
*Peningkatan aras laut*
- III. Increase the rate of photosynthesis of aquatic plant  
*Peningkatan kadar fotosintesis tumbuhan akuatik*
- IV. Extremely changes of climate  
*Perubahan cuaca yang melampau*

- A. I,II and III
- B. I,II and IV
- C. I,III and IV
- D. II,III and IV

27. Diagram 13 shows an experiment to determine the level of pollution in rivers P and Q.  
*Rajah 13 menunjukkan eksperimen untuk menentukan tahap pencemaran sungai P dan Q.*

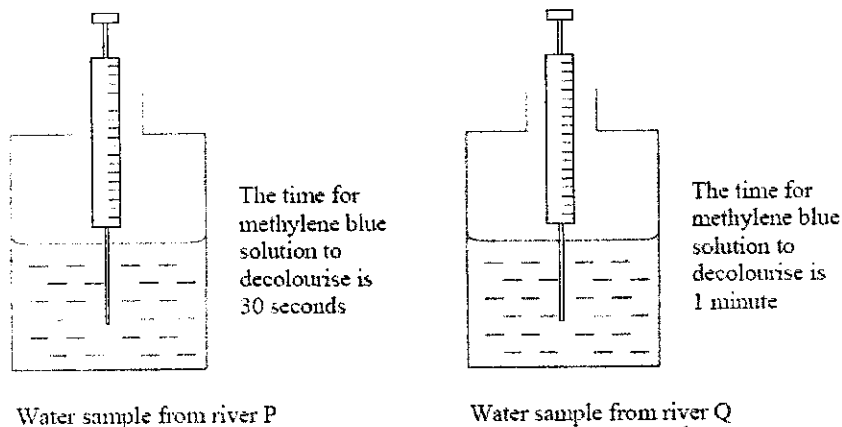


Diagram 13  
*Rajah 13*

- Which is a correct conclusion from this experiment?  
*Yang manakah kesimpulan yang betul dari eksperimen ini?*

- A. River Q contain more dissolved oxygen compare to river P  
*Sungai Q mengandungi kandungan oksigen terlarut lebih banyak dari sungai P*
- B. River P is less polluted than river Q  
*Sungai P kurang tercemar berbanding Q*
- C. BOD value of river Q is higher than river P  
*Nilai BOD sungai Q lebih tinggi berbanding P*
- D. River Q contain more microorganism than river P  
*Sungai Q mengandungi lebih banyak mikroorganisma berbanding sungai P*

28. Which of these blood vessels carry oxygenated blood to the heart?  
*Salur darah yang manakah membawa darah beroksigen ke jantung?*

A Aorta / *Aorta*  
 B Vena cava / *Vena kava*  
 C Pulmonary artery / *Arteri pulmonari*  
 D Pulmonary Vein / *Vena pulmonary*

29. Diagram 14 shows a longitudinal section of the human heart.  
*Rajah 14 menunjukkan suatu keratan membujur jantung manusia.*

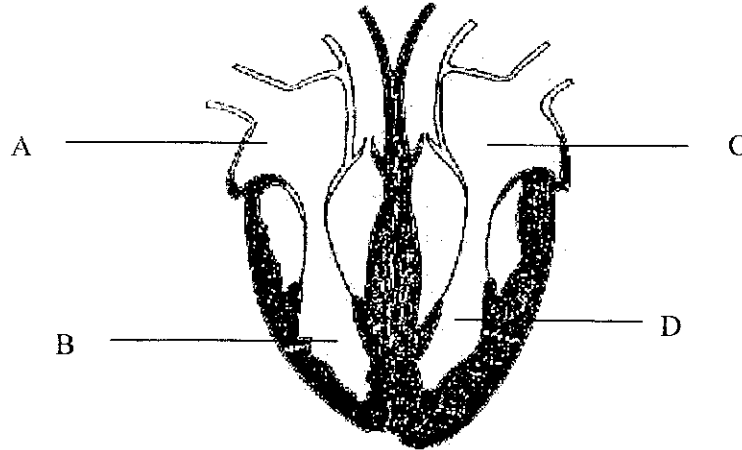


Diagram 14  
*Rajah 14*

Which of the labeled parts, A, B, C or D, pumps blood to all part of the body.  
*Antara bahagian berlabel A, B, C atau D yang manakah mengepam darah ke seluruh badan.*

30. Diagram 15 shows the structure involved in body's defence mechanism in human.  
*Rajah 15 menunjukkan struktur yang terlibat dalam mekanisma pertahanan badan dalam manusia.*

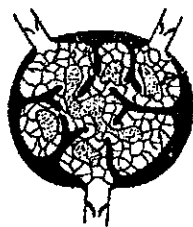


Diagram 15  
*Rajah 15*

Which is the function of the structure shown.  
 Yang manakah fungsi struktur yang ditunjukkan.

- A. Produces sebum that contain chemical to attack pathogen  
 Menghasilkan sebum yang mengandungi bahan kimia untuk menyerang patogen
- B. Produces antibody to kill pathogen  
 Menghasilkan antibodi untuk membunuh pathogen
- C. Produces phagocyte cells to engulf pathogen  
 Menghasilkan sel-sel fagosit untuk menelan pathogen
- D. Secretes acid that can destroy pathogen  
 Merembeskan asid yang boleh memusnahkan patogen

31. Diagram 16 shows a cross section through the stem of a plant.  
 Rajah 16 menunjukkan keratan rentas melalui batang satu tumbuhan

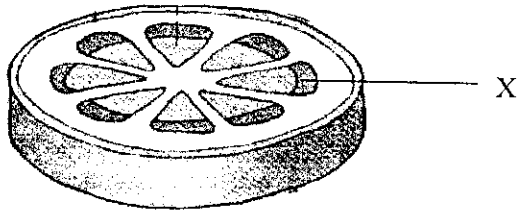


Diagram 16  
 Rajah 16

Which of the following tissues A,B,C or D are commonly found in X?  
 Antara tisu-tisu A, B, C dan D, yang mana biasa terdapat di X?

A	B	C	D

- 32 Table 1 shows the result of an experiment to study the size population of garden snails.

*Jadual 1 menunjukkan keputusan kajian ke atas populasi siput babi.*

Capture <i>Tangkapan</i>	Number of garden snails <i>Bilangan siput</i>	
First <i>Kali pertama</i>	120 were marked <i>120 bertanda</i>	
Second <i>Kali kedua</i>	50 marked <i>50 bertanda</i>	80 unmarked <i>80 tidak bertanda</i>

TABLE 1

*Jadual 1*

What is the approximate population of the garden snails?

*Apakah anggaran saiz populasi siput babi ?*

- A 195  
B 200  
C 250  
D 312
33. Less production of antidiuretic hormone from pituitary gland will effect the production of urine in human.  
*Pengeluaran hormon anti diuresis yang sedikit dari kelenjar pituitari akan memberi kesan ke atas penghasilan air kencing dalam manusia.*
- What is the effect of the production of urine?  
*Apakah kesannya ke atas penghasilan air kencing?*
- A Little and concentrated / *Sedikit dan pekat*  
B Little and diluted / *Sedikit dan cair*  
C Much and concentrated / *Banyak dan pekat*  
D Much and diluted / *Banyak dan cair*
34. The following statements are about eutrophication.  
*Pernyataan berikut adalah tentang eutrofikasi.*

- P – The pond is covered with algae  
*Kolam ditutupi oleh alga*  
Q – The rate of bacterial reproduction increase  
*Kadar pembiakan bacteria bertambah*  
R – The flow of excess organic fertiliser into the pond  
*Aliran lebihan baja organic ke dalam kolam*  
S – The number of organism in the pond decrease  
*Bilangan organisma dalam kolam berkurang*  
T – The BOD value increase  
*Nilai BOD meningkat*



Which of the following sequences is correct about the eutrophication?  
*Antara berikut, yng manakah merupakan turutan yang betul tentang eutrofikasi?*

- A R, P, S, Q, and T
- B R, P, Q, T and S
- C Q, S, R, T and P
- D S, R, T, Q and P

35. Which of the following plant hormones stimulates parthenocarp?  
*Antara yang berikut, hormon tumbuhan yang manakah merangsang partenokarpi?*

- A Ethylene / Etilena
- B Cytokinine / Sitokinin
- C Auxins/ Auksin
- D Gibberellin / Giberelin

36. Diagram 17 shows a schematic diagram of human blood clotting mechanism.  
*Rajah 17 menunjukkan rajah skema untuk mekanisma pembekuan darah manusia*

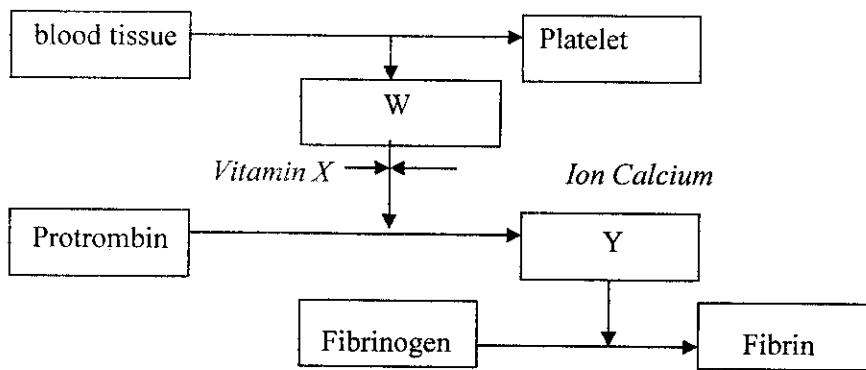


Diagram 17  
*Rajah 17*

What is W, vitamin X, and Y?  
*Apakah W, vitamin X and Y?*

	W	Vitamin X	Y
A	Trombokinase	K	Trombin
B	Trombokinase	D	Trombin
C	Erythrocyte	K	Trombin
D	Haemoglobin	D	Trombin

37. Diagram 18 shows one type of twin.  
*Rajah 18 menunjukkan sejenis kembar.*



Diagram 18  
*Rajah 18*

Which of the following statement is **correct** about the twin?  
*Yang manakah antara berikut **benar** tentang kejadian kembar itu?*

- A Fertilization between one sperm and one ovum developed a zygote and the zygote will divide into two  
*Persenyawaan satu sperma dengan satu ovum hingga membentuk satu zigot dan zigot membahagi kepada dua*
- B Fertilization between two sperms and one ovum developed a zygote and the zygote is divided into two  
*Persenyawaan dua sperma dengan satu ovum hingga membentuk zigot dan zigot membahagi dua*
- C Fertilization between two sperms and one ovum developed into two zygotes  
*Persenyawaan dua sperma dengan satu ovum hingga membentuk dua zigot*
- D Fertilization between two sperms and two ovum developed into two zygotes  
*Persenyawaan dua sperma dengan dua ovum hingga membentuk dua zigot*

38. Diagram 19 shows longitudinal section of root tip.  
Rajah 19 menunjukkan keratan hujung akar.

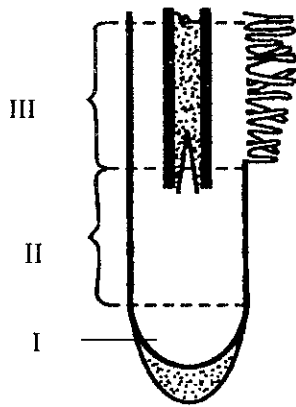


Diagram 19  
Rajah 19

Which of the following cells corresponds to the zones as shown above?  
Manakah antara sel berikut bersesuaian dengan zon- zon yang ditunjukkan di atas?

	Zone I	Zone II	Zone III
A			
B			
C			
D			

39. Diagram 20 shows human forearm limb.  
*Rajah 20 menunjukkan anggota hadapan manusia*

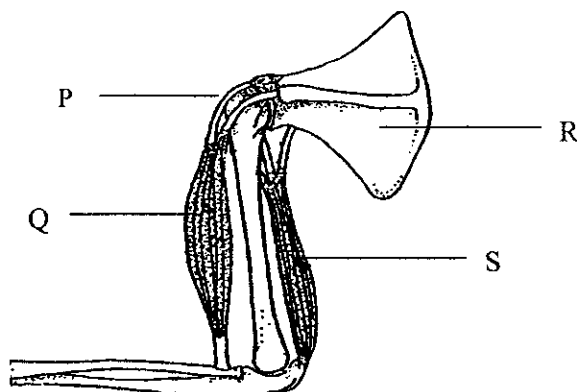


Diagram 18  
*Rajah 18*

Which of the following represent P, Q, R and S?  
*Antara berikut yang manakah mewakili P, Q, R dan S?*

	P	Q	R	S
A	Ligament	Biceps muscle	Scapula	Triceps muscle
B	Ligament	Triceps muscle	Scapula	Biceps muscle
C	Tendon	Triceps muscle	Scapula	Biceps muscle
D	Tendon	Biceps muscle	Scapula	Triceps muscle

40. The following measurements were made during an experiment to determine the calorific value of rice.

Mass of rice	= 2g
Mass of water	= 10 g
Initial water temperature	= 28 °C
Final water temperature	= 56 °C

*Bacaan berikut diperolehi semasa menjalankan satu eksperimen untuk menentukan nilai kalori nasi.*

<i>Jisim nasi</i>	= 2 g
<i>Jisim air</i>	= 10 g
<i>Suhu awal air</i>	= 28 °C
<i>Suhu akhir air</i>	= 56 °C

What is the calorific value of rice?  
*Berapakah nilai kalori nasi itu?*

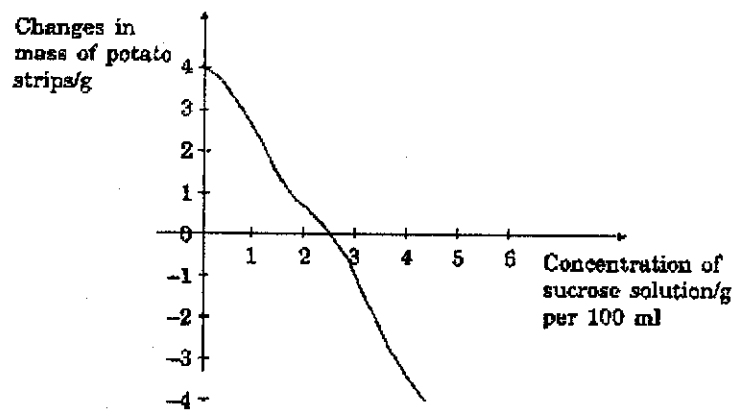
- A 140 J g<sup>-1</sup>
- B 280 J g<sup>-1</sup>
- C 588 J g<sup>-1</sup>
- D 1176 J g<sup>-1</sup>

41. The most suitable immunity to be given to children to avoid tuberculosis is  
*Jenis keimunan yang paling sesuai diberikan kepada kanak-kanak untuk mengelakkan penyakit batuk kering ialah*

- A artificial passive immunity / *keimunan pasif buatan*
- B artificial active immunity / *keimunan aktif buatan*
- C natural passive immunity / *keimunan pasif semulajadi*
- D natural active immunity / *keimunan aktif semulajadi*

42. The graph shows the changes of potato strips immersed in different concentration of sucrose solution.

*Graf menunjukkan perubahan jisim jalur ubi kentang yang direndam dalam larutan sukrosa yang berbeza kepekatan.*



Based on the graph, which of the following concentrations of sucrose solution should be used so that a flaccid potato strip regains its turgidity?

*Berdasarkan graf di atas, kepekatan larutan yang manakah patut digunakan supaya jalur ubi kentang yang telah mengecut menjadi segar semula?*

- A 1.5 g per 100 ml
- B 2.5 g per 100 ml
- C 3.5 g per 100 ml
- D 4.5 g per 100 ml

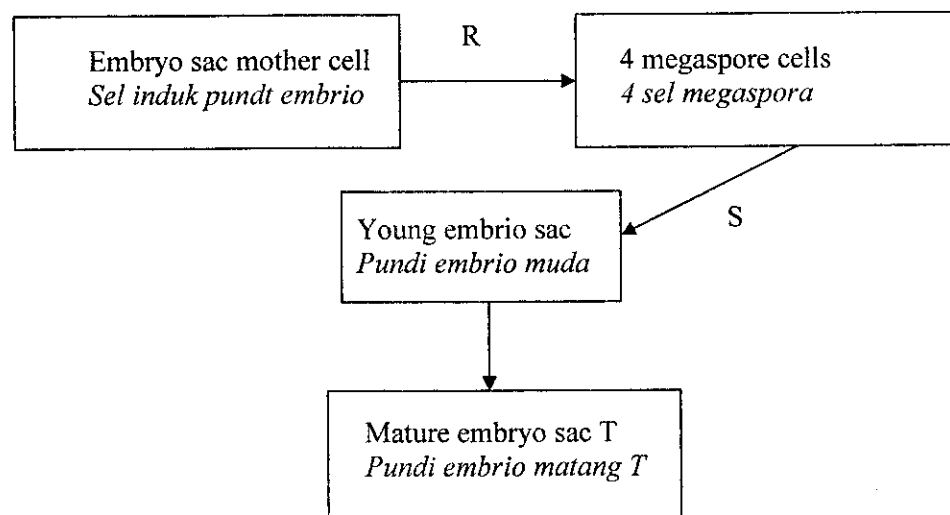
43. In the 16<sup>th</sup> week, a pregnant woman is physically injured. The injury causes the placenta to stop functioning.  
*Dalam minggu ke-16 seorang wanita hamil mengalami kecederaan fizikal. Kecederaan itu menyebabkan plasentanya berhenti berfungsi.*

Which of the following is the effect of the injury?  
*Antara berikut yang manakah kesan kecederaan itu?.*

- A The foetus is aborted / *Fetus keguguran*  
 B The foetus continues to develop / *Fetus terus berkembang*  
 C A Down's syndrome child is born / *Anak sindrom Down dilahirkan*  
 D The uterine wall continues to thicken / *Dinding uterus semakin tebal*
44. The allele for presence of dimple in human is dominant. A man with dimples is heterozygous while his wife does not have dimple. The probability of getting a child with dimples is  
*Alel untuk kehadiran lesung pipit bagi manusia adalah dominan. Seorang lelaki berlesung pipit adalah heterozigot manakala isterinya tidak berlesung pipit. Kebarangkalian mendapatkan anak berlesung pipit ialah*

- A 1  
 B  $\frac{3}{4}$   
 C  $\frac{1}{2}$   
 D  $\frac{1}{4}$

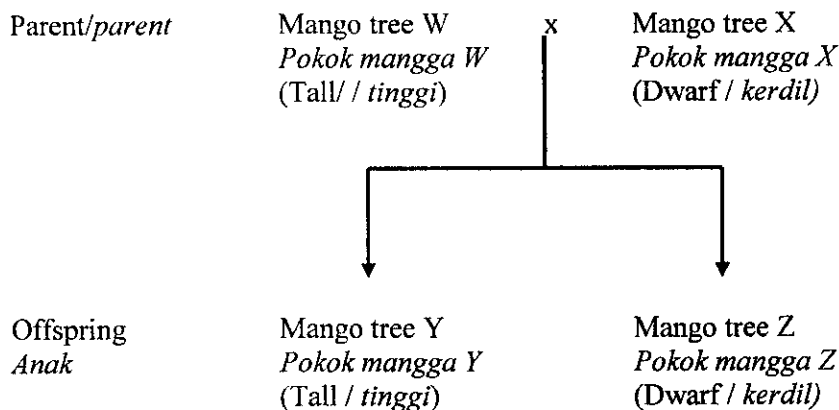
45. The figure shows stages in the development of an embryo sac in the ovule of a flowering plant.  
*Rajah menunjukkan peringkat perkembangan pundi embrio dalam ovul tumbuhan berbunga.*



What are R, S and T?  
 Apakah R, S dan T?

	<u>R</u>	<u>S</u>	<u>T</u>
A	Mitosis	Meiosis	4 haploid nuclei / 4 nukleus haploid
B	Mitosis	Meiosis	8 haploid nuclei / 8 nukleus haploid
C	Meiosis	Mitosis	4 haploid nuclei / nukleus haploid
D	Meiosis	Mitosis	8 haploid nuclei / nukleus haploid

46. The figure shows a monohybrid cross between mango tree W and mango tree X. 50% of the offspring are tall and 50% are dwarf.  
 Rajah menunjukkan kacukan antara pokok mangga W dan pokok mangga X. 50% daripada anaknya adalah tinggi dan 50% lagi adalah kerdil.



If mango tree Y is crossed with mango tree Z, what percentage of the trees produced will be tall?

Jika pokok mangga Y dikacukkan dengan pokok mangga Z, berapakah peratus pokok mangga yang dihasilkan adalah tinggi?.

- A 0 %  
 B 25 %  
 C 50 %  
 D 75 %

47. Diagram 21 show human vertebrae and a typical bone.  
 Gambarajah 21 menunjukkan turus vetebra manusia dan tulang tipikal.

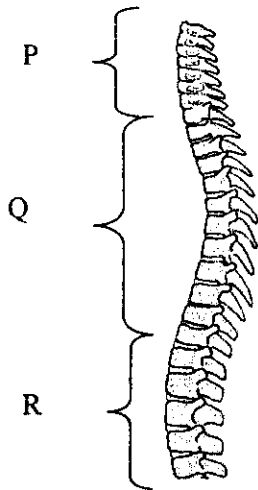


Diagram 19  
 Rajah 19

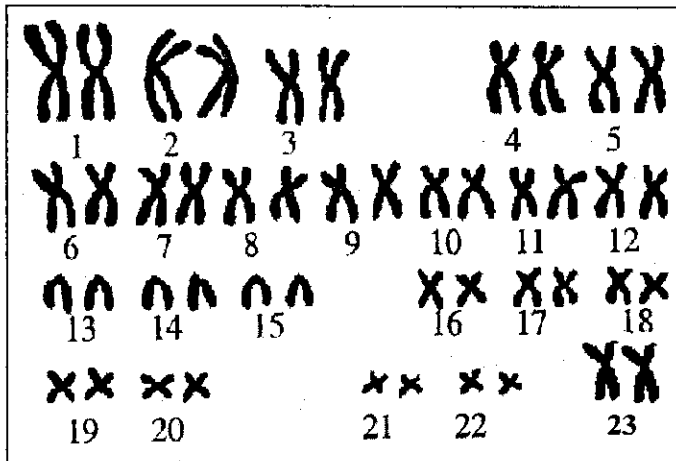
Which of the following are correct bones at P, Q and R?  
 Yang manakah antara berikut merupakan tulang yang betul pada P, Q dan R

	P	Q	R
A			
B			
C			
D			



48. The diagram shows the karyotype of an individual.

*Rajah menunjukkan kariotip bagi seorang individu*



Which of the following shows the number of chromosomes in gamete produced by the individual?

*Manakah antara berikut menunjukkan bilangan kromosom pada gamet yang dihasilkan oleh individu itu?*

- A 22 + Y
- B 22 + X
- C 22 + XX
- D 44 + X

49. Diagram 22 shows a cross between a normal grey-coloured mouse and an albino mouse.

*Rajah 22 menunjukkan kacukan antara seekor mencit kelabu yang normal dan seekor mencit albino*

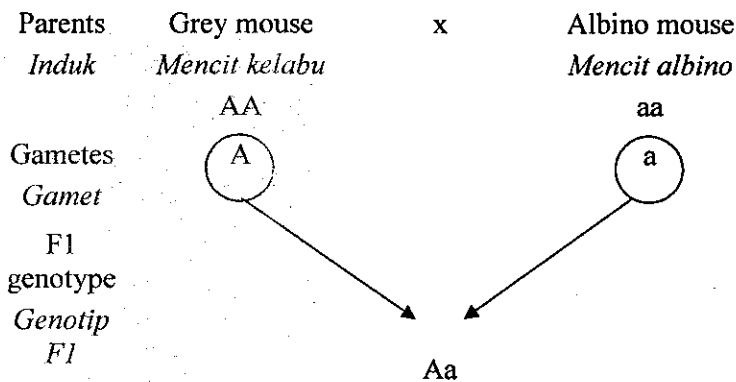


Diagram 22  
*Rajah 22*

Which genotypes would result from a cross between the F1 mouse and an albino mouse?

*Manakah genotip hasil daripada kacukan antara mencit F1 dan mencit albino?*

- A Aa only / *Aa sahaja*
- B AA only / *AA sahaja*
- C Aa and aa / *Aa dan aa*
- D AA and Aa / *AA dan Aa*

50. Diagram 23 shows a human activity on the environment.  
*Rajah 23 menunjukkan aktiviti manusia terhadap alam persekitaran.*



Diagram 23  
*Rajah 23*

Which of the following is the result of this activity?  
*Antara berikut yang manakah akibat daripada aktiviti tersebut?*

- I Soil erosion and landslide/*hakisan tanah dan tanah runtuh*
  - II Flooding/*banjir*
  - III Climatic changes/*perubahan cuaca*
  - IV Extinction of flora and fauna/*kepunasan haiwan dan tumbuhan*
- A I and II only
  - B III and IV only
  - C I, III and IV only
  - D I, II, III and IV only

**END OF QUESTION PAPER**