SOALAN PERCUBAAN NEGERI PAHANG 2014 / PAPER 1 Section A

**Bahagian A**

Answer all question

*Jawab semua soalan*

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| **1** | Diagram 1 shows an animal cell.  *Rajah 1 menunjukkan satu sel haiwan*  Diagram 1  C  A  B  D  *Rajah 1*  Which of the organelles A , B , C or D is the site of cellular respiration ?  *Antara organel A, B , C atau D yang manakah adalah tapak respirasi sel ?* | |
|  |  |  |
| 2 | Diagram 2 shows structure of a plasma membrane.  *Rajah 2 menunjukkan struktur plasma membran..*  **B**  **A**  **C**  **D**  Diagram 2  *Rajah 2*  Which parts A, B, C or D is lipid soluble which allows glycerol to pass across the plasma membran?  *Bahagian yang mana A, B, C atau D adalah larut lipid yang membenarkan gliserol merentasi membran plasma?* | |
|  | 3. | Diagram 3 shows one specialised cell.  *Rajah 3 menunjukkan satu sel yang khusus.*  Diagram 3  *Rajah 3*  What is the function of the cell in Diagram 3?  *Apakah fungsi sel dalam Rajah 3?*  A Produce energy during cellular respiration.  *Menghasilkan tenaga semasa respirasi sel*  B Brings impulse from spinal cord to the muscles  *Membawa impuls dari saraf tunjang ke otot*  C Produce electrical signal when stimuli detected  *Menghasilkan isyarat elektrik bila rangsangan dikesan*  D Change the electrical signal to the chemical signal  *Menukarkan isyarat elektrik kepada isyarat kimia* |
| 4 | Diagram 4 shows the process of synthesis and secretion of enzyme in a cell.  *Rajah 4 menunjukkan proses sintesis protein dan perembesan enzim dalam satu sel.*    Diagram 4  *Rajah 4*  What will happen if organelle T is not present?  *Apakah yang akan berlaku sekiranya organel T tidak hadir?*  A Energy cannot be generated  *Tenaga tidak dapat dijanakan*  B Protein cannot be synthesized  *Protein tidak boleh disintesis*  C Protein synthesized cannot be modified  *Sintesis protein tidak boleh diubahsuaikan*  D Enzyme cannot be transported  *Enzim tidak boleh diangkut*  5. Diagram 5 show a nucleotide molecule of DNA.  *Rajah 5 menunjukkan satu molekul nukleotida dalam DNA.*  **P**  **Q**  **R**  Diagram 5  *Rajah 5*  What are P,Q and R?  *Apakah P, Q dan R?*   |  |  |  |  | | --- | --- | --- | --- | |  | **P** | **Q** | **R** | | **A** | Pentose sugar  *Gula Pentosa* | Nitrogenous base  *Bes bernitrogen* | Phosphate group  *Kumpulan fosfat* | | **B** | Nitrogenous base  *Bes bernitrogen* | Phosphate group  *Kumpulan fosfat* | Pentose sugar  *Gula Pentosa* | | **C** | Phosphate group  *Kumpulan fosfat* | Pentose sugar  *Gula Pentosa* | Nitrogenous base  *Bes bernitrogen* | | **D** | Pentose sugar  *Gula Pentosa* | Phosphate group  *Kumpulan fosfat* | Nitrogenous base  *Bes bernitrogen* | | |
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| 6 | Diagram 6 shows the reaction of an enzyme sucrase on sucrose.  *Rajah 6 menunjukkan tindakan enzim sukrase ke atas sukrosa.*  **Y**  **X**  Diagram 6  *Rajah 6*  X and Y represent  *X dan Y diwakili oleh*  A Glucose and glucose C Glucose and fructose  *Glukosa dan glukosa Glukosa dan fruktosa*  B Glucose and maltose D Glucose and galactose  *Glukosa dan maltosa Glukosa dan galaktosa*  7.The equation shows a process in the formation of disaccharides  *Persamaan menunjukkan satu proses dalam pembentukkan disakarida*  **X**  Glucose + Glucose Maltose + Water  Glukosa + Glukosa Maltosa + air  What is process X?  *Apakah proses X ?*  A Hydrolysis C Evaporation  *Hidrolisis Sejatan*  B Condensation D Reduction  *Kondensasi Penurunan* |
| 8. | Diagram 8 shows a type of molecular structure of protein.  *Rajah 8 menunjukkan satu jenis struktur molekul protein.*  Diagram 8 / *Rajah 8*  Hydrogen  bonds    What is the type of the structure?  *Apakah jenis struktur tersebut?*  A primary structure / *struktur primer*  B secondary structure / *struktur sekunder*  C tertiary structure / s*truktur tertier*  D quarternary structure / *struktur kuartener* |
| 9 | Diagram 9 shows a phase of mitosis taking place in the nucleus of an animal cell.  *Picture biology 035Rajah 9menunjukkan satu fasa mitosis yang berlaku dalam nukleus pada sel haiwan*  Diagram 9  *Rajah 9*  What is the phase?  *Apakah fasa itu?*   1. Prophase C Anaphase   *Profasa Anafasa*   1. Metaphase D Telophase   *Metafasa Telofasa* |
|  | |  |  |  |  |  | | --- | --- | --- | --- | --- | | **10** | Diagram 10 shows the phases in a cell cycle.  *Rajah 10 menunjukkan fasa-fasa dalam satu kitar sel.*    Diagram 10  *Rajah 10*  Which phase do syntesis of DNA and replication occur?  *Antara fasa berikut yang manakah berlakunya sintesis dan replikasi DNA?* | | | | |  | **A**  **B** | G1  S | C  D | G2  M |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **11** | Diagram 11 shows a somatic cell of an animal which undergo the process of  Meiosis 1  *Rajah 11 menunjukkan sel soma suatu haiwan sedang mengalami meiosis 1.*    Diagram 11  *Rajah 11*  What is the number of chromosomes in the gamete cells of this animal?  *Apakah bilangan kromosom yang terdapat dalam sel gamet haiwan tersebut?* | | | | | |  | **A**  **B** | 2  8 | C  D | | 4  16 | | **12** | Diagram 12 shows the process of cloning a sheep.  *Rajah 12 menunjukkan proses pengklonan biri-biri.*    Diagram 12  *Rajah 12*  Which clone P is produced ?  *Yang mana klon P yang dihasilkan ?* | | | | | |  | **A**  **B** |  | C  D |  | | |
| 13 | Diagram 13 shows human digestive system.  *Rajah 13 menunjukkan sistem pencernaan manusia.*  bio9jpg  Diagram 13  *Rajah 13*  Which of the following **can** produce enzyme to digest lipid?  *Yang manakah berikut dapat menghasilkan enzim.yang mencerna lipid?*  A P C R  B Q D S |

14. The following information shows the results of an experiment to determine

The energy value of cashew nuts.

*Maklumat berikut menunjukkan keputusan eksperimen untuk menentukan*

*nilai tenaga bagi kacang gajus.*

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| --- | --- |
| Volume of water used  *(Isipadu air yang digunakan)* | 20.0 cm3 |
| Mass of cashew nuts  *(Jisim kacang gajus)* | 0.4 g |
| Initial temperature of water  *(Suhu awal air)* | 30°C |
| Final temperature of water  *(Suhu akhir air)* | 70°C |

[Specific heat of water = 4.2J/g/°C]

The energy value of the cashew nuts is

*Nilai tenaga kacang gajus ialah*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A | 0.1 kJ / g | | C | 2.0 kJ / g |
| B | 8.4 kJ / g | | D | 13.4 kJ / g |
| 15  16 | | Diagram 15 shows the structure of a chloroplast.  *Rajah 15 menunjukkan struktur kloroplas.*  Diagram 15  *Rajah 15*  Which part of the chloroplast labelled **A, B, C** and **D** does the reduction of carbon dioxide process occur?  *Antara bahagian kloroplas berlabel* ***A, B, C*** *dan* ***D****, di manakah proses penurunan karbon dioksida berlaku ?*  Diagram 16 shows a person with a swollen neck due to the enlargement of a gland. This is caused by deficiency of a certain mineral in the diet.  *Rajah 16 menunujukkan seorang yang bengkak di leher akibat dari pembesaran satu kelenjar. Ini adalah disebabkan oleh kekurangan satu mineral tertentu dalam diet.*  bio8jpg  Diagram 16  *Rajah 16*  Name the mineral.  *Namakan mineral itu.*   1. Ferum C Potassium   *Ferum Kalium*   1. Phosphorous D Iodine   *Fosforus Iodin* | | | |

17. Diagram 17 shows part of a cow’s digestion system

*Rajah 17 menunjukkan bahagian sistem pencernaan lembu*

rumen/*rumen*

reticulum/*retikulum*

omasum/*omasum*

abomasum/*abomasum*

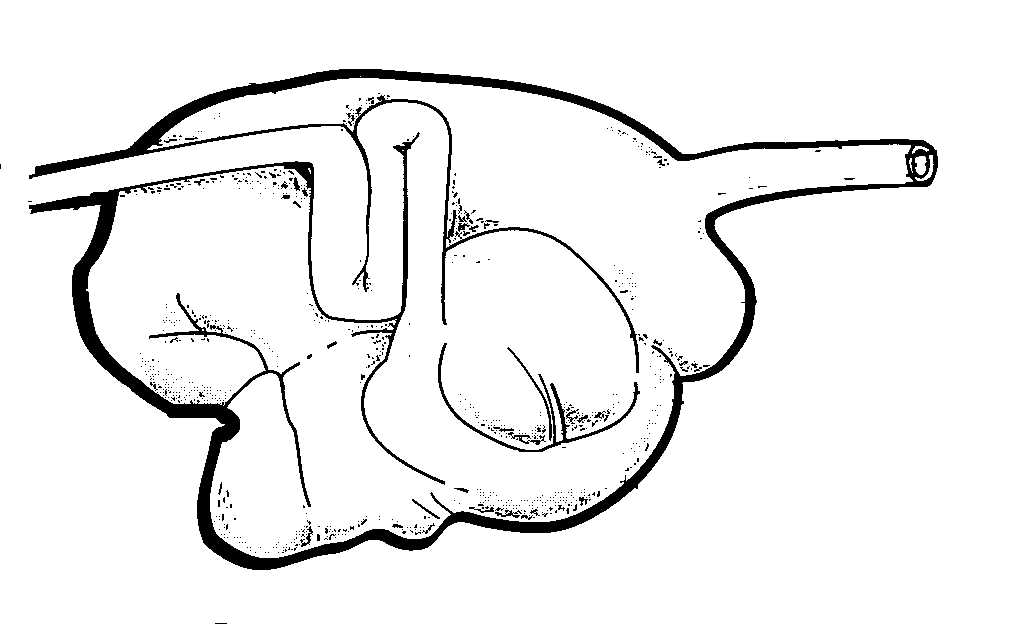


Diagram 17

*Rajah 17*

Which one shows the correct sequence of food digestion in the cow’s stomach?

*Antara berikut yang manakah menunjukkan urutan yang betul untuk laluan makanan dalam proses pencernaan di perut lembu?*

A. Mouth Rumen Retikulum Omasum

Mouth Abomasum

B. Mouth Rumen Mouth retikulum

Omasum Abomasum

C. Mouth Retikulum Rumen Mouth

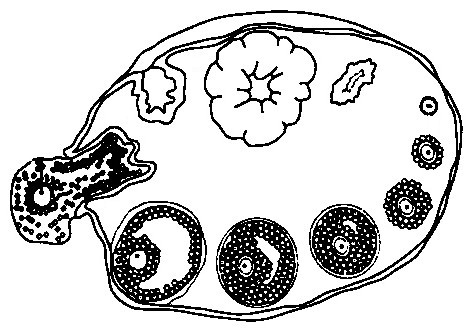
Abomasum Omasum Small intestine

D Mouth Rumen retikulummouth Omasum Abomasum

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18 | | | Diagram 18 shows the energy flow of a food chain which represented by four level of organisms.  *Rajah 18 menunjukkan aliran tenaga dalam satu rantaian makanan yang diwakili oleh empat peringkat organisma.*  Primary consumer  *Pengguna*  *primer*  Tertiery consumer  *Pengguna*  *tertier*  Secondary consumer  *Pengguna*  *sekunder*  Producer  *Pengeluar*  4 X 104kJ  90% of energy is lost 90% of energy is lost 90% of energy is lost  *90% tenaga hilang 90% tenaga hilang 90% tenaga hilang*  Diagram 18  *Rajah 18*  Based on the above diagram, calculate the amount of energy received by the tertiary consumer.  *Berdasarkan rajah di atas, kira jumlah tenaga yang diterima oleh pengguna tertier.*  A 4 kJ  B 40 kJ  C 400 kJ  D 4000 kJ | | | | | | | | | | |
| 19 | | | Diagram 19 shows the trachea system of an insect.  *Rajah 19 menunjukkan sistem trakea bagi seekor serangga.*  BL-C11  **K**  **L**  **M**  **J**  Diagram 19  *Rajah 19*  Which part does the gaseous exchange occur?  *Bahagian manakah tempat berlakunya pertukaran gas?*  A J C L  B K D M  20.Diagram 20 shows the root system of a mangrove plant.  *Rajah 20 menunjukkan sistem akar tumbuhan bakau.*  bakau  Diagram 20  *Rajah 20*  What is the function of Y?  *Apakah fungsi Y?*  A To absorb sunlight C To reduce transpiration process  *Untuk menyerap cahaya matahariUntuk mengurangkan proses transpirasi*  B To support the plantD To allow gas exchange  *Untuk sokongan tumbuhanUntuk membolehkan pertukaran gas*   |  |  |  | | --- | --- | --- | | 21 | Diagram 21 shows three different types of interactions between organisms.  *Rajah 21 menunjukkan tiga jenis interaksi yang berbeza antara organisma.*  Dead tree trunk  *Batang pokok mati*  Organism P  *Organisma P*  Organism Q  *Organisma Q*  Tree  *Pokok*  Organism in root nodule  *Organisma dalam nodul akar*  Leguminous plant  *Tumbuhan legum*    Diagram 21  *Rajah 21*  Which interactions are correct of **K, L** and **M** ?  *Antara interaksi berikut, yang manakah benar tentang* ***K, L*** *dan* ***M****?* | | |  | **A**  **B**  **C**  **D** | |  |  |  | | --- | --- | --- | | **K** | **L** | **M** | | Mutualisme | Commensalisme | Parasitisme | | Mutualisme | Parasitisme | Saprophytism | | Saprophytisme | Commensalisme | Mutualisme | | Parasitisme | Commensalisme | Mutualisme | |   22 Table 22 shows the result of an experiment to study the size population of garden snails.  *Jadual 22 menunjukkan keputusan kajian ke atas saiz populasi siput babi.*   |  |  |  | | --- | --- | --- | | Capture  *Tangkapan* | Number of garden snails  *Bilangan siput* | | | First  *Kali pertama* | 120 were marked  *120 bertanda* | | | Second  *Kali kedua* | 50 marked  *50 bertanda* | 80 unmarked  *80 tidak bertanda* |   Table 22 / *Jadual 22*  *Jadual 1*  What is the approximate population of the garden snails?  *Apakah anggaran saiz populasi siput babi?*  A 195 C 250  B 200 D 312  23. Diagram 23 shows an experiment to determine the level of pollution in rivers P and Q.  *Rajah 23 menunjukkan eksperimen untuk menentukan tahap pencemaran sungai P dan Q.*    Water sample from river P  *Sampel air sungai P*  The time for methylene blue solution to decolourise = 30 seconds  *Masa yang diambil untuk larutan metilena biru luntur = 30 saat*  Water sample from river Q  *Sampel air sungai Q*  The time for methylene blue solution to decolourise = 1 minute  *Masa yang diambil untuk larutan metilena biru luntur = 1 minit*  Diagram 23  *Rajah 23*  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*  24. Which of the following are the effects of destruction of ozone layer?.  *Antara yang berikut, yang manakah merupakan kesan penipisan lapisan ozon?*   1. Melted of ice at polar area   P*encarian ais di kawasan kutub*   1. Increase of sea level   *Peningkatan aras laut*   1. Increase the rate of photosynthesis of aquatic plant   *Peningkatan kadar fotosintesis tumbuhan akuatik*   1. Extremely changes of climate   *Perubahan cuaca yang melampau*   1. I,II and III*/ I dan III* 2. I,II and IV / *I, II dan IV* 3. I,III and IV / *I, III dan IV* 4. II,III and IV / *II, III dan IV*   25. Diagram 25 shows a sequence in a process carried out by a leucocyte.  *Rajah 25 menunjukkan urutan dalam satu proses yang dilakukan oleh leukosit.*  Bacteria  *bakteria*  Diagram 25  *Rajah 25*  What is the process?  *Apakah proses tersebut?*  A. Phagocytosis C Lysis  *Fagositosis Lisis*  B Agglutination D Neutralisation  *Aglutinasi Peneutralan*  26.Diagram 26 shows the concentration of antibody in the blood after two antiserum injection  *Rajah 26 menunjukkan kepekatan antibodi dalam darah selepas dua suntikan antiserum*  Concentration of antibodies in blood/  *Kepekatan antibodi dalam darah*  The level of immunity  *Aras keimunan*  First injection  *Suntikan pertama*  Second injection /  *Suntikan kedua*  Time/Weeks *Masa/Minggu*  **Diagram 9**  Diagram 26  *Rajah 26*  What type of immunity shown in the diagram above?  *Apakah jenis keimunan yang ditunjukkan dalam rajah di atas?*  A. Artificial acquired active immunity  *Keimunan aktif buatan*  B. Artificial acquired passive immunity  *Keimunan pasif buatan*  C. Natural acquired active immunity  *Keimunan aktif semulajadi*  D. Natural acquired passive immunity  *Keimunan pasif semulajadi*  27. Diagram 27 shows a schematic diagram to illustrate the mechanism of blood clotting  *Rajah 27 menunjukkan mekanisma pembekuan darah.*  Injured Platlet  Y  X  fibrinogen  fibrin  trombokinase  ion Ca2+    Vitamin K    Diagram 27  *Rajah 27*  What is representated by X and Y?  *Apakah yang diwakili oleh X dan Y?*   |  |  |  | | --- | --- | --- | |  | X | Y | | A | Globulin | Trombin | | B | Trombin | Globulin | | C | Trombin | Protrombin | | D | Protrombin | Trombin |  * + 1. Diagram 28 shows the structure involved in body’s defence mechanism in human.   *Rajah 28 menunjukkan struktur yang terlibat dalam mekanisma pertahanan badandalam*  *manusia.*  NODUS LIMFA  Diagram 28  *Rajah 28*  Which is the function of the structure shown?  *Yang manakah fungsi struktur yang ditunjukkan?*   1. Produces sebum that contain chemical to attack pathogen   *Menghasilkan sebum yang mengandungi bahan kimia untuk menyerang*  *patogen*   1. Produces antibody to kill pathogen   *Menghasilkan antibodi untuk membunuh patogen*   1. Produces phagocyte cells to engulf pathogen   *Menghasilkan sel-sel fagosit untuk menelan patogen*   1. Secretes acid that can destroy pathogen   *Merembeskan asid yang boleh memusnahkan patogen*   * + 1. Diagram 29 show human vertebrae and a typical bone.   *Gambarajah 29 menunjukkan turus vetebra manusia dan tulang tipikal.*    P  Q  R  Diagram 29  *Rajah 29*  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 | SERVIKS | VET | scan0010 | | B | VET | SERVIKS | scan0010 | | C | SERVIKS | scan0010 | VET | | D | scan0010 | VET | SERVIKS |   30. Diagram 30 shows human forearm limb.  *Rajah 30 menunjukkan anggota hadapan manusia*  otot%20bisepsdan%20triseps  P  R  S  Q  Diagram 30  *Rajah 30*  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  *Ligamen* | Biceps muscle  *Otot biseps* | Scapula  *Skapula* | Triceps muscle  *Otot triseps* | | B | Ligament  *Ligamen* | Triceps muscle  *Otot triseps* | Scapula  *Skapula* | Biceps muscle  *Otot biseps* | | C | Tendon  *Tendon* | Triceps muscle  *Otot triseps* | Scapula  *Skapula* | Biceps muscle  *Otot biseps* | | D | Tendon  *Tendon* | Biceps muscle  *Otot biseps* | Scapula  *Skapula* | Triceps muscle  *Otot triseps* | | | | | | | | | |
| 31 | | | Diagram 31 shows a structure of human nephron.  *Rajah 31 menunjukkan struktur nefron manusia.*  Diagram 31  *Rajah 31*  What happens to the blood at P and to the amino acids at Q?  *Apakah yang terjadi kepada darah di P dan asid amino di Q?* | | | | | | | | | |
|  | | |  | | | | |  |  |  | | --- | --- | --- | |  | P | Q | | A | Reabsorption  *Penyerapan semula* | Secretion  *Rembesan* | | B | Secretion  *Rembesan* | Ultrafiltration  *Ultraturasan* | | C | Ultrafiltration  *Ultraturasan* | Reabsorption  *Penyerapan semula* | | D | Ultrafiltration  *Ultraturasan* | Secretion  *Rembesan* | | | | | | |
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| 32.Diagram 32 shows the cross section of human skin.  *Rajah 32 menunjukkan keratan rentas kulit manusia.*    Diagram 32  *Rajah 32*  Rajah 33  *Rajah 33*  ra  Which of the following will occur when the surrounding temperature drops below *10 °C ?*  *Antara berikut, yang manakah akan berlaku apabila suhu persekitaran menurun lebih rendah daripada 10 °C?*  I R constrict III P erect  *R mengecut P menjadi tegak*  II Q relax IV S become active  Q *mengendur S menjadi aktif*  A I and II C I , II and III  B I and IIID I, II , III and IV  33. Which of the following plant hormones stimulates parthenocarpy process?  *Antara yang berikut, hormon tumbuhan yang manakah merangsang proses partenokarpi?*  A Ethylene / *Etilena*  B Cytokinine / *Sitokinin*  C Auxin / *Auksin*  D Gibberellin / *Giberelin* | | | | | | | | | | |
| 34 | | Diagram 34 shows the structure of a synapse.  *Rajah 34 menunjukkan struktur sinaps.*    Diagram 34  *Rajah 34*  What are the roles played by the parts labelled **R** and **Z**?  *Apakah peranan bahagian yang berlabel* ***R*** *dan* ***Z****?* | | | | |
|  | | **A**  **B**  **C**  **D** | | |  |  | | --- | --- | | **R** | **Z** | | Release neurotransmitter  *Membebaskan neurotransmitter* | Transmit impulse across the synapse  *Memindahkan impuls merentas sinaps* | | Release neurotransmitter  *Membebaskan neurotransmitter* | Release energy to transmit impulse  *Membebaskan tenaga untuk memindahkan impuls* | | Release energy to transmit impulse  *Membebaskan tenaga untuk memindahkan impuls* | Release neurotransmitter  *Membebaskan neurotransmitter* | | Transmit impulse across the synapse  *Memindahkan impuls merentas sinaps* | Release neurotransmitter  *Membebaskan neurotransmitter* | | | |
| 35 | | | | Diagram 35 shows the structures involved in reflex action.  *Rajah 35 menunjukkan struktur yang terlibat dalam tindakan refleks.*  Hot pan  *Periuk panas*  Diagram 35  *Rajah 35*  Which of the following shows the correct sequence for the above action?  *Antara berikut, manakah menunjukkan urutan yang betul bagi tindakan di atas*?  A P → Q → R → S  B P → S → R → Q  C Q → R → S → P  D Q → S → P → R | | | | |
| 36. Diagram 36 shows the process of oogenesis that oocured at ovary  *Rajah 36 menunjukkan proses oogenesis yang berlaku pada ovari*  Diagram 36  *Rajah 36*  What are represented by J, K, L and M?  *Apakah yang diwakili oleh J, K, L and M?*   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | J | K | L | M | | A | Oogonium  *Oogonium* | Polar body  *Jasad kutub* | Secondary oocyte  *Oosit sekunder* | Ovum  *Ovum* | | B | Oogonium  *Oogonium* | Polar body  *Jasad kutub* | Ovum  *Ovum* | Secondary oocyte  *Oosit sekunder* | | C | Primary oocyte  Oosit primer | Oogonium  Oogonium | Secondary oocyte  Oosit sekunder | Ovum  Ovum | | D | Primary oocyte  *Oosit primer* | Secondary oocyte  *Oosit sekunder* | Ovum  *Ovum* | Polar body  *Jasad kutub* | | | | | | | | |

37. Diagram 37 shows stages of follicle development in ovary.

*Rajah 37 menunjukkan peringkat perkembangan folikel di dalam ovari.*



Structure W

*Struktur W*

Diagram 37

*Rajah 37*

What hormone is secreted at stage W?

*Apakah hormon yang dirembeskan pada peringkat W?*

A Oestrogen C Lutenising hormone

*Estrogen*  *Hormon peluteinan*

B Progesterone D Follicle stimulating hormone

*Progesteron Hormon perangsang folikel*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *38* The following are the statements about the formation of twins.  *Berikut adalah pernyataan mengenai pembentukan anak kembar.*  P - Two ovums are fertilized by two different sperms  *Dua ovum disenyawakan oleh dua sperma*  Q - Two zygotes with different characteristic will be formed  *Dua zigot yang berlainan sifat akan terbentuk*  R - Two foetuses share the same placenta  *Kedua-dua fetus berkongsi plasenta yang sama*  S - Gender of the foetuses will be the same or different  *Jantina fetus mungkin sama atau berbeza.*  *Which of the following statements explain about the formation of fraternal twins*  *Antara pernyataan berikut, yang manakah menerangkan pembentukan kembar tak seiras?*  A. P and Q B. Q and S C. P and R D. P, Q and S  *P dan Q Q dan S P dan R P, Q dan S*  *39.* Which of the following sequence is the development of the human zygote?  *Antara turutan berikut , yang manakah peringkat perkembangan zigot?*  A Zygote morula blastocyst embryo  *( Zigot) (morula) (blastosista) ( embrio)*  B Zygote blastocyst morula embryo  *( Zigot) ( blastosista) (morula) (embrio)*  C Zygote morula foetus embryo  *(Zigot) (morula) (fetus) (embrio)*  D Zygote embryo foetus blastocyst  *(Zigot) (embrio) (fetus) (blastosista)*  40. Table 40 shows the different methods of contraception and their functions.  *Jadual 40 menunjukkan kaedah mencegah penghamilan yang berbeza dan fungsinya*   |  |  | | --- | --- | | Method  *Kaedah* | Biological principle  *Prinsip Biologi* | | *W* | To prevent sperms from entering the reproductive system of a woman through the vagina  *Untuk mencegah sperma daripada memasuki sistem pembiakan seorang wanita melalui faraj* | | *X* | To prevent the release of an ovum from the ovary  *Untuk mencegah pembebasan ovum dari ovari* | | *Y* | To prevent the implantation of a zygote in the endometrium wall  *Untuk mencegah penempelan zigot pada dinding endometrium* | | *Z* | To prevent sperms from entering the uterus  *Untuk mencegah sperma daripada memasuki uterus.* |   Table 40 */ Jadual 40*  What are methods W, X,Y dan Z?  *Apakah kaedah W, X, Y dan Z?*   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | W | X | Y | Z | | A | IUD device  *Alat IUD* | Contraceptive pills  *Pil perancang* | Diaphragm  *Diafragma* | Condom  *kondom* | | B | Condom  *Kondom* | Contraceptive pills  *Pil perancang* | IUDdevice  *Alat IUD* | Diaphragm  *Diafragma* | | C | Diaphragm  *Diafragma* | Contraceptive pills  *Pil perancang* | IUD device  *Alat IUD* | Condom  *Kondom* | | D | Contraceptive pills  *Pil perancang* | Condom  *kondom* | Diaphragm  *Diafragma* | IUD device  *Alat IUD* | |
| 41 Diagram 41 shows the structure of an ovule.  *Rajah 41 menunjukkan struktur satu ovul*  **C**  **D**  **B**  **A**  Diagram 41  *Rajah 41*  Which part of the labeled as A, B, C and D develops into the testa after fertilization?  *Bahagian mana yang berlabel A, B, C and D berkembang menjadi testa selepas persenyawaan?*  42. Diagram 41 shows stages in the development of an embryo sac in the ovule of a flowering plant.  *Rajah 41 menunjukkan peringkat perkembangan pundi embrio dalam ovul tumbuhan berbunga.*  **R**  rRR  **S**  Embryo sac mother cell 4 megaspore cells  *Sel induk pundi embrio 4 sel megaspora*    Young embrio sac  *Pundi embrio muda*  Mature embryo sac T  *Pundi embrio matang T*  What are R, S and T?  *Apakah R, S dan T?*   |  |  |  |  | | --- | --- | --- | --- | |  | R | S | T | | A | Mitosis | Meiosis | 4 haploid nuclei /*4 nukleus haploid* | | B | Mitosis | Meiosis | 8 haploid nuclei / *8 nukleus haploid* | | C | Meiosis | Mitosis | 4haploid nuclei / 4*nukleus haploid* | | D | Meiosis | Mitosis | 8haploid nuclei /8*nukleus haploid* | |

43.Diagram 43 shows longitudinal section of root tip.

*Rajah 43 menunjukkan keratan hujung akar.*



III

II

I

Diagram 43

*Rajah 43*

Which of the following cells corresponds to the zones as shown above?

*Manakah antara sel berikut bersesuaian dengan zon- zon yang ditunjukkan di atas?*

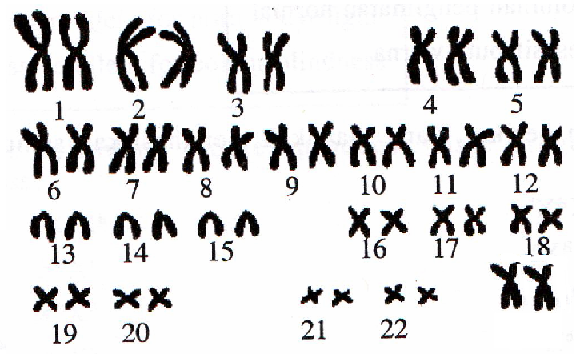
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Zone I** | | **Zone II** | **Zone III** |
| A |  | |  |  |
| B |  | |  |  |
| C |  | |  |  |
| D |  | |  |  |
| 44 | | Diagram 16 shows the growth curve of organism H.  *Rajah 16 menunjukkan graf pertumbuhan organisma H*  Dry mass/*Jisim kering* (g)  Time (week)  *Masa (minggu)*  Diagram 16  *Rajah 16*  garaf beklang  What is organism H?  *Apakah organisma H?*  A. Lizard / *Cicak*B. Cockcroach / *Lipas*C. Earthworm / *Cacing*D. Amoeba / *Amoeba*  45. Diagram 45 shows a pair of chromosomes in a cell of an organism.  *Rajah 45 menunjukkan sepasang kromosom dalam sel suatu organisma.*  **X**  Diagram 45  *Rajah 45*  What is X ?  *Apakah X ?* | | | |

A Alelle// *alel* C phenotype// *fenotip*

B Homologous chromosome/*Kromosom homolog*Dheterozygote// *heterozigot*

46. Diagram 46shows the karyotype of an individual.

*Rajah 46 menunjukkan kariotip bagi seorang individu.*



**23**

Diagram 46

*Rajah 46*

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 |

|  |  |  |
| --- | --- | --- |
| 47 | Faridah who is a carrier for colour blindness married to Ramli, a normal colour vision. What is the probability that their son is a colour blind?  *Faridah merupakan pembawa bagi buta warna berkahwin dengan Ramli yangmempunyai penglihatan warna normal. Apakah kemungkinan anak lelaki mereka adalah buta warna ?* | |
|  |  | |
|  | **A** | 0% C 50 % |
|  | **B** | 25% D 100 % |

48.Diagram 48 shows a cross between a normal grey-coloured mouse and an albino mouse.

*Rajah 48 menunjukkan kacukan antara seekor tikus kelabu yang normal dan seekor tikus albino.*

|  |  |  |  |
| --- | --- | --- | --- |
| Parents  *Induk* | Grey mouse  *tikus kelabu*  AA | X | Albino mouse  *tikus albino*  aa |
| Gametes  *Gamet* | A |  | a |
| F1 genotype  *Genotip F1* |  | Aa |  |

Diagram 48

*Rajah 48*

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

*Manakah genotip hasil daripada kacukan antara tikus F1 dan tikus 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*

|  |  |
| --- | --- |
| 49 | Diagram 49 shows a type of chromosomal mutation.  *Rajah 49 menunjukkan sejenis mutasi kromosom.*  translocation  Diagram 49  *Rajah 49*  RA  *Rajah 17*  What is the type of this chromosomal mutation?  *Apakah jenis mutasi kromosom ini ?*  A Deletion/P*elenyapan* C Duplication/P*enggandaan*  B Inversion/P*enyongsangan*D Translocation/*Translokasi* |
| 50  Diagram 50  *Rajah 50*  Number of individual  *Bilangan individu*  Number of individual  *Bilangan individu*  Trait  *Trait*  Trait  *Trait* | Diagram 50 shows two types of variation among human.  *Rajah 50 menunjukkan dua jenis variasi antara manusia.*  variation 1a  variation  Type X Type Y  Which of the following are the examples of variation for type X and type Y?  *Antara berikut manakh menunjukkan contoh variasi bagi jenis X dan Y?*   |  |  |  | | --- | --- | --- | |  | Type X/Jenis X | Type Y/Jenis Y | | A | Tongue rolling  *Kebolehan menggulung lidah* | Eye colour  *Warna mata* | | B | Type of ear lobe  *Lekapan cuping telinga* | Type of finger prints  *Jenis cap jari* | | C | Type of blood group  *Jenis kumpulan darah* | Body weight  *Berat badan* | | D | Skin colour  *Warna kulit* | Type of hair  *Jenis rambut* |   **END OF QUESTION PAPER** |

***KERTAS SOALAN TAMAT***