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### SULIT

**4551/1**

**Biologi**

**Kertas 1**

**September**

**2014**

**1 1/4 jam**

**JABATAN PELAJARAN TERENGGANU**

**PEPERIKSAAN PERCUBAAN SPM 2014**

**TINGKATAN LIMA**

**SIJIL PELAJARAN MALAYSIA**

# BIOLOGI

Kertas 1

Satu jam lima belas minit

## 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 kalkulatur saintifik yang tidak boleh diprogram.*

#### Kertas soalan ini mengandungi 30 halaman bercetak

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| 1 | Diagram 1 shows an organelle of a cell.  *Rajah 1 menunjukkan organel yang terdapat di dalam suatu* sel.  Diagram 1  *Rajah 1*  D:\My Documents\RAJAH BIO\RTOPIK 2\KLOROPLAS.jpg    Which of the following processes occurs in this organelle ?  *Antara proses berikut, yang manakah berlaku dalam sel ini?*    A Photosynthesis C Synthesis of enzyme  *Fotosintesis Sintesis enzim*  B Synthesis of protein D Generation of energy  *Sintesis protein Penjanaan tenaga* |
| 2 | The following information refers to organelle P.  *Maklumat berikut merujuk kepada organel* P  ● Consists of two layer of membrane  *Terdiri daripada dua lapisan membran*  ● The inner membrane folded to form cristae  *Lapisan dalam berlipat-lipat membentuk kristae*  What is organelle P ?  *Apakah organel P ?*  A Chloroplast C Golgi apparatus  *Kloroplas Jasad Golgi*  B Mitochondrion D Endoplasmic reticulum  *Mitokondria Retikulum endoplasma* |
| 3 | Diagram 2 shows the model of plasma membrane  *Rajah 2 menunjukkan model membran plasma*      Q    Diagram 2  *Rajah 2*  What is the part labelled Q?  *Apakah bahagian yang berlabel Q?*  A Carrier protein C Phospholipid  *Protein pembawa Fosfolipid*  B Pore protein D Phospholipid bilayer  *Protein liang Dwilapisan fosfolipid* |
| 4 | Which of the following processes involves osmosis?  *Antara proses berikut, yang manakah melibatkan osmosis?*  A absorption of water by the root hair of plant  *penyerapan air oleh rerambut akar tumbuhan*  B absorption of glucose through the villi in the small intestine  *penyerapan glukosa melalui vilus di dalam usus kecil*  C movement of sodium ions into the cells lining of the kidney tubules  *pergerakan ion natrium ke dalam dinding sel tubul ginjal*  D gaseous exchange between the alveoli and blood capillaries during respiration  *pertukaran gas di antara alveolus dan kapilari darah semasa respirasi* |
| 5 | Diagram 3 shows the ‘lock and key’ hypothesis of enzyme reaction of lipase.  *Rajah 3 menunjukkan hipotesis ‘kunci dan mangga’ bagi tindakan enzim lipase.*  **Y**    Diagram 3  *Rajah 3*  **Z**  **X**    Which of the following is represented by X, Y and Z?  *Antara berikut yang manakah diwakili oleh X, Y dan Z ?*   |  |  |  |  | | --- | --- | --- | --- | |  | **X** | **Y** | **Z** | | A | enzyme  *enzim* | enzyme-substrate complex  *kompleks enzim-substrat* | product  *produk* | | B | Lipid  *Lipid* | Lipase  *Lipase* | enzyme-substrate  complex  *kompleks enzim-substrat* | | C | Lipase  *Lipase* | Lipid  *Lipid* | glycerol and fatty acid  *gliserol dan asid lemak* | | D | substrate  *substrat* | enzyme  *enzim* | product  *produk* | |
| 6 | Diagram 4 shows a type of molecular structure of protein.  *Rajah 4 menunjukkan satu jenis struktur molekul protein.*  Diagram 4 / *Rajah 4*  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* |
| 7 | Diagram 5 shows the cell cycle.  *Rajah 5 menunjukkan kitar sel.*      G2  Diagram 5  *Rajah 5*  At which stage accumulation of energy occurs ?  *Pada peringkat manakah berlaku pengumpulan tenaga ?*  **A** G1 **C** S  **B** G2 **D** M |
| 8 | Which of the following human cells is produced through meiosis?  *Antara berikut, sel-sel badan manusia yang manakah dihasilkan melalui meiosis?*  A muscle cell  *sel otot*  B nerves cell  *sel saraf*  C Epithelial cell  *sel epitelium*    D Secondary oocyte  *oosit sekunder* |
| 9 | Diagram 6 shows part of the human digestive system.    *Rajah 6 menunjukkan sebahagian dalam system pencernaan manusia.*    Diagram 6  *Rajah 6*  **X**  Which of the following is secreted by organ X when the blood sugar level is low?  *Antara berikut yang manakah dirembeskan oleh organ X apabila aras glukosa darah rendah?*  A Insulin C Glucagon  *Insulin* *Glukagon*  B Glycogen D Trypsin  *Glikogen Tripsin* |
| 10 | The following information is about amino acids .  *Maklumat berikut adalah tentang asid amino.*  Excess amino acids cannot be stored in the body and are broken down in the liver through  process K.  *Asid amino yang berlebihan tidak boleh disimpan di dalam badan dan dipecahkan di dalam hati melalui proses K*.  What is process K?  *Apakah proses K?*  A absorption / *penyerapan*  C deamination / *pendeaminaan*  B assimilation /*asimilasi*  D defeacation / *penyahtinjaan* |

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| 11 | Diagram 7 shows the respiratory system of an insect.  Raj*ah 7 menunjukkan sistem resprasi bagi sejenis serangga*      **N**  Diagram 7  *Rajah 7*  What is the structure N and name the substance that prevent the structure from being deflated.  *Apakah struktur N dan namakan bahan yang menghalang struktur itu daripada menjadi kempis ?*   |  |  |  | | --- | --- | --- | |  | **N** | **Substance** | | A | Trachea//*Trakea* | Chitin//*Kitin* | | B | Tracheole//*Trakeol* | Chitin//*Kitin* | | C | Spiracle//*Spirakel* | Ring of cartilage//*gegelang rawan* | | D | Spiracle//*Spirakel* | Ring of cartilage//*gegelang rawan* | |
| 12 | Which of the following is the correct equation for the respiration in muscle cells during vigorous activities?  *Manakah yang berikut menunjukkan persamaan yang betul bagi respirasi di dalam sel otot yang sedang menjalankan aktiviti cergas?*  A Glucose 🡪 lactic acid + energy  *Glucosa 🡪 asid laktik + tenaga*  B Glucose 🡪 carbon dioxide + ethanol + energy  *Glucosa 🡪 carbon dioksida + etanol + tenaga*  C Glucose + oxygen 🡪 carbon dioxide + ethanol + energy  *Glucosa + oksigen 🡪 carbon dioksida + etanol + tenaga*  D Glucose + oxygen 🡪 carbon dioxide + water + ethanol + energy  *Glucosa + oksigen 🡪 carbon dioksida + air + etanol + tenaga* |
| 13 | Which of the following microorganisms contain cell wall?  *Mikroorganisma yang manakah mempunyai dinding sel?*    A C  BL-N07 BL-N09  B D  BL-N08 BL-N01 |
| 14 | Diagram 8 shows part of a nitrogen cycle. P and Q are microorganisms which can be found in fertile soil.  *Rajah 8 menunjukkan sebahagian daripada kitaran nitrogen. P dan Q adalah sejenis mikroorganisma yang boleh dijumpai di dalam tanah subur.*  Ammonium/*ammonium*  P  Nitrites/*Nitrit*  Nitrates/*Nitrat*  Q  Diagram 8  *Rajah 8*    Which of the following represent P and Q?  *Antara berikut yang manakah menunjukkan P dan Q ?*   |  |  |  | | --- | --- | --- | |  | P | Q | | A | *Nostoc sp* | *Nitrosomonas sp* | | B | *Nostoc sp* | *Nitrobacter sp* | | C | *Rhizobium sp* | *Nitrosomonas sp* | | D | *Nitrosomonas sp* | *Nitrobacter sp* | |
| 15 | Diagram 9 shows the root system of a mangrove plant.  *Rajah 9 menunjukkan sistem akar tumbuhan bakau.*    bakau  Y  Diagram 9  *Rajah 9*  What is the function of Y?  *Apakah fungsi Y?*  A To absorb sunlight  *Untuk menyerap cahaya*  B To support the plant  *Untuk sokongan tumbuhan*  C To reduce transpiration  *Untuk mengurangkan proses transpirasi*  D To allow gas exchange  *Untuk membolehkan pertukaran gas berlaku* |
| 16 | Which of the following gases can cause the depletion of ozone layer?  *Antara berikut, gas yang manakah boleh menyebabkan penipisan lapisan ozon?*  A Chlorofluorocarbon (CFC)  B Nitrogen dioxide  C Methane  D Ozone |

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| 17 | Diagram 10 shows the impacts of phenomenon Y.  *Rajah 10 menunjukkan kesan daripada fenomena Y.*  Y  Extinction of flora and fauna  *Kepupusan flora dan fauna*  Increase of carbon dioxide content in atmosphere  *Peningkatan kandungan karbon dioksida dalam atmosfera*  Loss of biodiversity  *Kehilangan biokepelbagaian*  Land slide and flash flood  *Tanah runtuh dan banjir kilat*  Diagram 10  *Rajah 10*    What is phenomenon Y?  Apakah fenomena Y ?  A Greenhouse effect / *Kesan rumah hijau*  B Deforestration / *penyahhutanan*  C Thermal pollution / *Pencemaran terma*  D Global warming / *Pemanasan global* |
| 18 | Diagram 11 shows part of the pulmonary circulatory system.  *Rajah 11 menunjukan sebahagian daripada sistem peredaran pulmonari.*  Lung  *Peparu*  Organ X  Heart  *Jantung*  Diagram 11  *Rajah 11*  What is organ X?  *Apakah organ X ?*  A Liver / *Hati*  C Lymph node / Nodus Limfa  B Gills / *Insang* D Heart / *jantung* |
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| 19 | Diagram 12 shows the cross section of dicotyledonous root.  *Rajah 12 menunjukkan keratan rentas akar tumbuhan dikotiledon.*  A  B  C  D      Diagram 12  *Rajah 12*    Which of the labelled parts A,B, C or D transport mineral ?  *Bahagian berlabel yang manakah A, B, C atau D berfungsi mengangkut mineral ?* |
| 20 | Diagram 13 shows a typical cervical vertebra.  *Rajah 13 menunjukkan vertebra servik.*  **P**  Diagram 13  *Rajah 13*  What is P?  *Apakah P?*  A Centrum / *Sentrum*  B Neural spine / *Spina saraf*  C Neural canal / *Salur saraf*  D Vertebra arterial canal / *Salur vertebra arteri* |
| 21 | Diagram 14 shows the shape of an aerofoil.  *Rajah 14 menunjukkan bentuk aerofoil.*  **Lifting force**  aerofoil  Diagram 14  *Rajah 14*    Why bird has the wing as shown in diagram 14?  *Mengapakah burung mempunyai sayap seperti dalam rajah 14?*  A To reduce body mass // *Untuk mengurangkan jisim badan*  B To reduce air resistance // *Untuk mengurangkan daya rintangan*  C To reduce thrust force // *Untuk mengurangkan daya tujahan*  D To reduce lifting force // *Untuk mengurangkan daya angkatan* |
| 22 | Which of the following hormones regulates the production of thyroxine and the osmotic pressure in the body?  *Antara berikut, hormon manakah yang mengawal kandungan gula dan tekanan osmosis dalam badan ?*  I Luteinizing hormone/*hormon peluteinan*  II Follicle stimulating hormone/*hormon perangsang folikel*  III Thyroid stimulating hormone/*hormon perangsang folikel*  IV Antidiuretic hormone/*hormon antidiuresis*  A I, dan II  B II, dan III  C III, dan IV  D I, II, dan III |

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| 23 | Diagram 15 shows the changes in the thickness of the uterus wall during the menstrual cycle.  *Rajah 15 menunjukkan perubahan pada ketebalan dinding uterus semasa kitar haid.*  Thickness of endometrium / *Penebalan endometrium*  endometrium  Diagram 15  *Rajah 15*  What process occur at day 14?  *Proses apakah yang berlaku pada hari ke 14?*  A Ovulation */ pengovulan*  B Pregnancy */ kehamilan*  C Menstruation / *menstruasi*  D Abortion / *keguguran* |
| 24 | Diagram 16 shows the growth curve of an insect.  *Rajah 16 menunjukkan graf pertumbuhan serangga.*  Dry mass (g)  garaf beklang  H  Time (week)  Diagram 16  Rajah 16  What happens at H?  *Apa yang berlaku pada H*?  A Pertumbuhan /*Growth*  B Ecdysis / *Eksdisis*  C Regeneration / *Pertumbuhan semula*  D Pemanjangan badan / *length of body* |
| 25 | Diagram 17 shows a type of chromosomal mutation.  *Rajah 17 menunjukkan sejenis mutasi kromosom.*  translocation  Diagram 17  *Rajah 17*  What is the type of this chromosomal mutation?  *Apakah jenis mutasi kromosom ini ?*  A deletion/*pelenyapan*  C duplication/*penggandaan*  B inversion/*penyonsangan* D translocation/*translokasi* |
| 26 | Diagram18 shows the changes of an erythrocyte when placed in distilled water  for 10 minutes.  *Rajah 18 menunjukkan perubahan pada satu eritrosit apabila diletakkan di dalam air suling selama 10 minit*  D:\My Documents\RAJAH BIO\RTOPIK 3\SDM HEMO.JPG  Beginning of experiment End of experiment  *Awal eksperimen* *Akhir eksperimen*  Diagram 18  *Rajah 18*  Which of the following processes explains the above changes?  *Antara proses berikut, yang manakah mennerangkan perubahan di atas?*  **A** crenated **C** deplasmolysed  *Krenasi deplasmolisis*  **B** plasmolysis **D** haemolysed  *plasmolisis haemolisis* |
| 27 | Diagram 19 shows the process of synthesis and secretion of enzyme in a cell.  *Rajah 19 menunjukkan proses sintesis protein dan perembesan enzim dalam satu sel.*    T  Diagram 19  *Rajah 19*  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 Enzyme cannot be synthesized  *Enzim tidak boleh disintesis*  C Protein synthesized cannot be modified  *Sintesis protein tidak boleh diubahsuaikan*  D Protein synthesized cannot be transported  *Protein yang disintesis tidak boleh diangkut* |

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| 28 | Diagram 20 shows the movement of substances J, K, and L across a plasma membrane .  *Rajah 20 menunjukkan pergerakan bahan J, K, dan L merentasi membran plasma.*  **J**  **K**  **L**        Diagram 20  *Rajah 20*  Which of the following is the characteristic of substance J , K and L ?  *Manakah yang berikut merupakan ciri bahan J, K dan L?*   |  |  |  |  | | --- | --- | --- | --- | |  | J | K | L | | A | Charged molecule  *Molekul bercas* | Small and charged molecul / *Molekul kecil dan bercas* | Small and lipid soluble molecule / *Molekul kecil dan larut dalam lemak* | | B | Charged molecule  *Molekul bercas* | small and lipid soluble molecule / *molekul kecil dan larut dalam lemak* | Small and charged molecul / *Molekul kecil dan bercas* | | C | Small and lipid soluble molecule / *Molekul kecil dan larut dalam lemak* | Charged molecule  *Molekul bercas* | small and charged molecul / *Molekul kecil dan bercas* | | D | Small and lipid soluble molecule / *Molekul kecil dan larut dalam lemak* | Small and charged molecul / *Molekul kecil dan bercas* | Charged molecule  *Molekul bercas* | |
| 29 | Diagram 21 is a graph showing the result of changes in mass of three pieces of onion which was left for 30 minutes in three sucrose solutions with different concentrations.  *Graf dalam rajah 21 menunjukkan perubahan jisim tiga kepingan bawang yang direndam dalam tiga larutan sukrosa yang berbeza kepekatan selama 30 minit.*  Change in the mass of onion piece (%)  Stage P  Stage Q  Concentration of glucose solution  0  Stage R  Diagram 21  *Rajah 21*  Which of the following diagrams reflects the condition of the cell at the stage R?  *Antara rajah berikut, yang manakah menunjukkan keadaan bawang pada kedudukan R?*  **A C**    B D  234 |
| 30 | Diagram 22 shows metaphase I in an animal cell.  *Rajah 22 menunjukkan peringkat metafasa I dalam sel haiwan.*  scan0021  Diagram 22  *Rajah 22*  How many chromosomes are there in the daughter cell of this division?  *Berapakah bilangan kromosom dalam sel anak bagi pembahagian sel ini?*  A 2 B 4 C 8 D 16 |
| 31 | Diagram 23 shows a food web.  *Rajah 23 menunjukkan satu jaringan makanan.*  Frog/  *katak*  Grasshopper/ Belalang   Snake/ Ular Chameleon/ Sesumpah Plant/  *Tumbuhan*m  Caterpillar/ Beluncas Bird/ Burung Snail/ Siput Diagram 23  Rajah 23  Which organisms will increase in number, if the number of snake decrease?  *Haiwan manakah yang akan meningkat bilangannya sekiranya bilangan ular berkurang?*  A birds / *burung*  B caterpillar / *beluncas*  C snails / *siput*  D frogs / *katak* |
| 32 | The following statement shows the eutrophication events .  *Maklumat berikut menunjukkan kejadian eutrofikasi.*  P -alga and aquatic plants in the bottom of the water cannot  photosynthesis and die  *-alga dan tumbuhan akuatik di dasar air tidak dapat*  *melakukan fotosintesis dan mati*  Q -results in population explosion called algal bloom  *-menyebabkan ledakan populasi yang dipanggil alga bloom*  R -the decomposition of aerobic bacteria on dead organic  matter will raise the BOD and reduce the oxygen content  *-penguraian bakteria aerobik ke atas bahan organik mati*  *meningkatkan BOD dan mengurangkan kandungan oksigen*  S -increased in mineral salt concentration in the water due to  excessive fertilisers  *-peningkatan kepekatan garam mineral di dalam air disebabkan*  *oleh penggunaan baja berlebihan*    Which of the following is the correct sequence of the above events?  *Antara urutan berikut yang manakah betul mengenai kejadian di atas ?*  A S 🡪 P 🡪 Q 🡪 R  B S 🡪 Q 🡪P 🡪 R  C R 🡪 S 🡪 P 🡪 Q  D R 🡪 P 🡪 S 🡪 Q |
| 33 | Diagram 24 shows a type of human muscle tissue.  *Rajah 24 menunjukkan satu jenis tisu otot dalam manusia*    Diagram 24  *Rajah 24*  Which of the following organs consists of this type of muscle?  *Antara organ berikut, yang manakah mempunyai otot jenis ini?*  A Liver / *hati*  C Kidney / *ginjal*  B Heart / *jantung*  D Stomach / *perut* |
| 34 | Diagram 25 shows the blood circulatory system of an organism.  *Rajah 25 menunjukkan sistem peredaran sejenis organisma.*  D:\My Documents\RAJAH BIO\RTOPIK 11\edaran ikan.jpg  Diagram 25  *Rajah 25*  Which of the following organism has the similar circulatory system as shown in the diagram ?  *Antara organisma berikut, yang manakah mempunyai sistem peredaran yang sama seperti yang ditunjukkan dalam rajah?*  A A fish C A frog  *Ikan Katak*    B A bird D A snake  *Burung Ular* |
| 35 | Diagram 26 shows the structure of human forearm.  *Rajah 26 menunjukkan struktur lengan manusia.*  hand bend  P  Q  Diagram 26  *Rajah 26*  Which of the following action of P and Q will cause the arm straighten?  *Antara tindakan P dan Q yang berikut, yang manakah akan menyebabkan lengan diluruskan?*   |  |  |  | | --- | --- | --- | |  | P | Q | | A | Contracts / *Mengecut* | Relaxes / *mengendur* | | B | Contracts / *Mengecut* | Contract / *Mengecut* | | C | Relaxes / *Mengendur* | Contract / *Mengecut* | | D | Relaxes / *Mengendur* | Relaxes / *mengendur* | |
| 36 | The following is the information of the urine composition of four individuals.  *Berikut ialah maklumat mengenai kandungan air kencing bagi empat individu.*   |  |  |  | | --- | --- | --- | | Individual | Concentration of urea in the urine  *Kandungan urea dalam air kencing* | Water content in the urine  Kandungan air dalam air kencing | | P | Low / *Rendah* | High / *Tinggi* | | Q | Low / *Rendah* | Low / *Rendah* | | R | High / *Tinggi* | High / *Tinggi* | | S | High / *Tinggi* | Low / *Rendah* |   Which individual is most likely to have been eating less protein on a cold day ?  *Individu manakah yang telah mengambil paling kurang protein pada hari yang sejuk?*  A P B Q C R D S |
| 37 | Diagram 27 shows the structures involved in reflex action.  *Rajah 27 menunjukkan struktur yang terlibat dalam tindakan refleks.*  Hot pan  *Periuk panas*  S  R  P  Q  Diagram 27  *Rajah 27*  Which of the following shows the correct sequence for the above action?  *Antara berikut, yang 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 |
| 38 | Which hormone is produce during the ripening of fruits,  *Hormon yang manakah dihasilkan semasa pemasakan buah?*  **A** Auxin / *Auksin*  **B** Ethylene / *Etilena*  **C** Cytokinin / *Sitokinin*  **D** Gibberelin /*Giberelin* |
| 39 | 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  *Jantina fetus mungkin sama*  Which of the following statements explain about the formation of identical twins ?  *Antara pernyataan berikut, yang manakah menerangkan pembentukan kembar*  *seiras ?*  A P and Q  B Q and S  C Q and R  D R and S |
| 40 | Diagram 28 shows two types of variation among human.  *Rajah 28 menunjukkan dua jenis variasi antara manusia.*  variation 1a  variation  Type T Type U  Diagram 28  *Rajah 28*  Which of the following are the examples of variation for type X and type Y?  *Antara berikut manakah menunjukkan contoh variasi bagi jenis X dan Y?*   |  |  |  | | --- | --- | --- | |  | Type T/*Jenis T* | Type U/ *Jenis U* | | A | Tongue rolling  *Kebolehan menggulung lidah* | Eye colour  *Warna mata* | | B | Type of ear lobe  *Jenis lekapan cuping telinga* | Type of finger prints  *Jenis cap jari* | | C | Type of blood group  *Jenis kumpulan darah* | Body mass  *Jisim badan* | | D | Skin colour  *Warna kulit* | Type of hair  *Jenis rambut* | |
| 41 | Which of the following enzymes is used in dairy product.  *Antara enzim berikut, yang manakah digunakan dalam produk tenusu?*  A Amylase  B Protease  C Zymase  D Lipase |
| 42 | Table 1 shows the different methods of contraception and their functions.  *Jadual 1 menunjukkan kaedah mencegah penghamilan yang berbeza dan fungsi bagi setiap kaedah*   |  |  | | --- | --- | | Method  *Kaedah* | Biological principle  *Prinsip Biologi* | | A | 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* | | B | To prevent ovary from releasing the ovum  *Untuk mencegah pembebasan ovum dari ovari* | | C | To prevent the implantation of a zygote in the endometrium  *Untuk mencegah penempelan zigot pada endometrium* | | D | To prevent sperms from entering the uterus  *Untuk mencegah sperma daripada memasuki uterus.* |     Which of the following A, B, C and D is the correct explanation for IUD?  *Antara A, B, C dan D yang manakah penerangan yang betul tentang IUD?* |
| 43 | Diagram 29 shows the experiment to investigate the content of carbon dioxide and oxygen in an air sample .  *Rajah 29 menunjukkan eksperimen untuk menyiasat kadungan karbon dioksida dan oksigen dalam suatu sample udara.*    /**Air**  /**sampel udara**  /**Tiub-J**    Diagram 29  *Rajah 29*      Initial length of bubble gas……………………….................... 10.00 cm  *Panjang awal gelembung udara …………………………………. 10.00 cm*  Length of bubbles gas + potassium hydroxide solution………. 9.40 cm  *Panjang gelembung udara + potassium hidroksida* …………… *9.40 cm*  Length of bubble gas + potassium pyrogalate solution……….. 8.00 cm  *Panjang gelembung udara + potassium pirogalat* ……………. 8*.00 cm*  What is the percentage of carbon dioxide in the air sample?  *Apakah peratus karbon dioksida di dalam sampel udara?*  A 6%  B 10%  C 14%  D 16% |
| 44 | Diagram 30 shows the energy flow of a food chain which represented by four level of organisms.  *Rajah 30 menunjukkan aliran tenaga dalam satu rantaian makanan yang diwakili oleh empat peringkat organisma.*  Tertiery consumer  *Pengguna*  *tertier*  Secondary consumer  *Pengguna*  *sekunder*  Producer  *Pengeluar*  Primary consumer  *Pengguna*  *primer*    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 30  *Rajah 30*  Based on the above diagram, calculate the amount of energy received by the secondary consumer.  *Berdasarkan rajah di atas, kira jumlah tenaga yang diterima oleh pengguna kedua.*  A 4 kJ  B 40 kJ  C 400 kJ  D 4000 kJ |
| 45 | Diagram 31 is a bar chart showing a gradual increase in the concentration of carbon dioxide within 25 years.  *Rajah 31 ialah carta bar yang menunjukkan peningkatan kandungan gas karbon dioksida dalam masa 25 tahun.*    Diagram 31  *Rajah 31*  Which of the following activities causing this problem?  *Antara aktiviti berikut, yang manakah menyebabkan masalah di atas?*  I increasing the burning of fossil fuels.  *Peningkatan pembakaran bahan api fosil.*  II reduce the uses of CFCs  k*urangkan penggunaan CFC*  III deforestations for farming and development  *penyahutanan untuk pertanian dan pembangunan*    IV the usage of excess nitrates from fertilizers  *penggunaan baja nitrat secara berlebihan*  A I and II only  B I and III only  C I, II and III only  D I, II , III and IV only |
| 46 | Diagram 32 shows the set-up of a potometer to study the rate of transpiration under different conditions.  *Rajah 32 menunjukkan potometer gelembung yang disediakan untuk mengkaji kadar transpirasi dalam keadaan yang berbeza.*  scan0014  Diagram 32  *Rajah 32*  Which of the following conditions will result in the air bubble moving at the lowest speed from X to Y?  *Antara berikut, yang manakah akan meyebabkan pergerakan gelembong udara dari X*  *ke Y pada kadar yang paling rendah ?*  A Low humidity , high temperature and high light intensity.  *Kelembapan udara yang rendah, suhu tinggi dan keamatan cahaya yang tinggi.*  B High humidity, low temperature and high light intensity  *Kelembapan udara yang tinggi, suhu rendah dan keamatan cahaya yang tinggi.*  C High humidity, low temperature and low light intensity  *Kelembapan udara yang tinggi, suhu rendah dan keamatan cahaya yang rendah.*  D Low humidity, high temperature and low light intensity  *Kelembapan udara yang rendah, suhu tinggi dan keamatan cahaya yang rendah.* |
| 47 | Diagram 33 shows the cross section of human skin.  *Rajah 33 menunjukkan keratan rentas kulit manusia.*    Diagram 33  *Rajah 33*  Which of the following will occur when the surrounding temperature increase?.  *Antara berikut, yang manakah akan berlaku apabila suhu persekitaran meningkat?*  I R constrict  *R mengecut*  II Q relax  *Q* *mengendur*    III P erect  *P* *menjadi tegak*  IV S become active  *S menjadi aktif*  A I and II  B I and IV  C II and III  D II and IV |
| 48 | Diagram 34 shows the cross section of human placenta.  *Rajah 34 menunjukkan keratan rentas plasenta manusia.*  Artery Y        Foetus  Diagram 34  *Rajah 34*      Which of the following is the function of artery Y?  *Antara berikut yang manakah fungsi arteri Y?*  A Transport carbon dioxide from foetus to mother’s blood  *Mengangkut gas karbon dioksida daripada fetus ke darah ibu*  B Transport oxygen from mother’s blood to the foetus  *Mengangkut oksigen daripada darah ibu ke fetus*  C Transport nutrient from mother’s blood to the foetus  *Mengangkut nutrient daripada darah ibu ke fetus*  D Transport antibodies from foetus to the mother’s blood  *Mengangkut antibody daripada fetus ke darah ibu* |
| 49 | For human, the gene for brown-eyes is dominant over the gene for blue eyes.  Both husband and wife have heterozygous for brown eyes.  What is the chance of their child to have blue eyes?  *Pada manusia, gen warna mata perang adalah dominan berbanding warna biru. Kedua-dua suami dan isteri adalah bermata perang heterozigot.*  *Apakah kebarangkalian anak mereka mempunyai mata berwarna biru ?*  A 10 %  B 25 %  C 50 %  D 5 % |
| 50 | Diagram 35 shows the data of an investigation to estimate the population of snail in a vegetable farm.  *Rajah 35 menunjukkan data suatu penyiasatan bagi menganggarkan populasi siput di dalam sebuah kebun sayur.*  Marked then Released  First Capture  90 snail  *Tangkapan Pertama*  *90 ekor siput*  Second Capture  20 Marked  50 Unmarked  *Tangkapan Kedua*  20 bertanda  50 tidak bertanda  *Ditanda, kemudian*  *Dilepaskan*      Diagram 35  *Rajah 35*    What is the estimated population of the garden snails in the vegetable farm?  *Apakah populasi anggaran bagi siput yang terdapat dalam kebun sayur ini?*  A 126  B 225  C 315  D 420 |

**END OF QUESTION PAPER**

***KERTAS SOALAN TAMAT***