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| | බස්නාහිර පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව<br>Department of Education - Western Province | |
| | පළමුවාර ඇගයීම - 2019<br>First Term Test Evaluation - 2019 | |
| ශ්‍රේණිය 11<br>Grade | විෂයය විද්‍යාව<br>Subject Science | පත්‍රය 1<br>Paper | කාලය පැය 01<br>Time 1 Hour |

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Name ……..

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- Answer all Questions.
- Select the most appropriate answer out of the four.
- Draw ' x' in the relevant box for each question in the answer sheet.

01. The type of protein present in hair and feathers of birds is,
    1. Keratin 2. Cutin 3. Albumin 4. Kitin

02. Which is an example for solid – solid homogenous mixture?
    1. Sand – cement mixture 2. Cake mixture 3.Salt and pepper powder mixture 4. Brass alloy

03 Select the answer containing biological molecules that are used for creating living matter.
    1. Carbohydrates, Proteins, Lipids 2. Lipids, Vitamins, Proteins

    3.Nucleic acids, Proteins, Vitamins 4. Carbohydrates, Lipids, Vitamins

04. When light ray travel through the optical fibre. The light ray is,
    1. Reflected 2. Refracted 3. Total internal reflected 4. Reflected and refracted

05. Velocity of a certain object changed within 10 seconds from 20 $ms^{-1}$ to 40 $ms^{-1}$ , Which is the acceleration of that object during that period ?
    1. 2 $ms^{-1}$ 2. ½ $ms^{-1}$ 3. 2 $ms^{-2}$ 4. ½ $ms^{-2}$

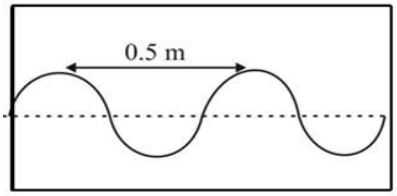
06. The only sugar that absent in plant is ,
    1. Maltase 2. Glucose 3. Sucrose 4. Lactose

07. Which is not an example for connective tissues?
    1. Blood 2. Bones 3. Epidermis of skin 4. Cartilage

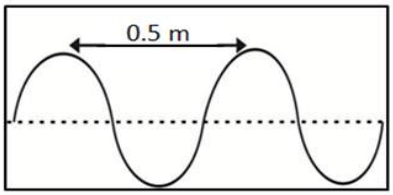
08. What is the salt that responsible for hygroscopic nature of common salt?
    1. Magneesium chloride 2.Calsium sulpate 3. Calcium caronate 4. Calcium chloride

09. An instrument that is not used in preparation of a standard solution,
    1. Wash bottle 2. Watch glass 3. Funnel 4. Conical flask

10. What is the similarity of two graphs obtained from the cathode ray oscilloscope?




1




11

1. Pitch of the two waves
2. Loudness of two waves
3. Amplitude of two waves
4. Pitch and loudness

11. Select the answer of correct sequence of tissues that contain cells of isodiametric and lignified walls respectively.

1. Parenchyma tissue and collenchymas tissue
2. Parenchyma tissue and sclenenchyma tissue
3. collenchymas tissue and sclenenchyma tissue
4. collenchymas tissue andparenchyma tissue

12.Select the correct matching from following.

A. – Night blindness - Vitamine A

B - Weakening of bones - Vitamine B

C - Weakening of gum - Vitamine C

1. A and B only 2. B and C only 3. A and C only 4. A , B , C all

13. Separating methods that use differences of densities of the components to separate them are,

1. Winnowing and sieving 2. Sieving and sifting

3. Sieving and floating on water 3. Sifting and winnowing

14. Which is not a pair with equal number of electrons from following atoms/ions?

1. $Na^{+}$ , $Ca^{++}$ 2. $Al^{+3}$ , $Na^{+}$ 3. $Na^{+}$ , $Mg^{++}$ 4. K+ , $Ca^{++}$

15. Select an instance of using microwaves.

a. In mobile phones

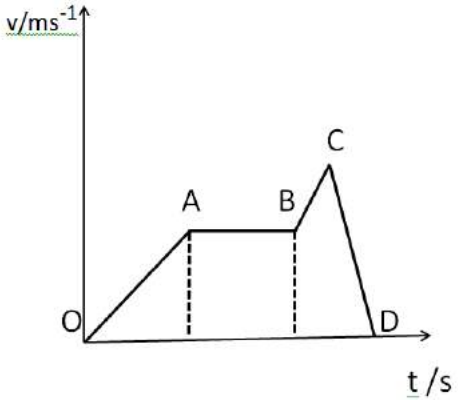
b. In radar systems

c. In physiotherapy treatments

d. In checking hidden symbols in currency notes

1. a and b only 2. B and c only 3. C and d only 4. A , b and c only

16. OA , AB , BC and CD of this velocity – time graph indicate respectively,




1. Uniform velocity, uniform acceleration, uniform deceleration, uniform acceleration
2. uniform acceleration, Uniform velocity, uniform acceleration, uniform deceleration
3. Uniform velocity, uniform acceleration, uniform acceleration, uniform deceleration
4. uniform acceleration , Uniform velocity , uniform deceleration, uniform acceleration

17. A Student put the powder to the correct board . Scientific reason for adding powder is,

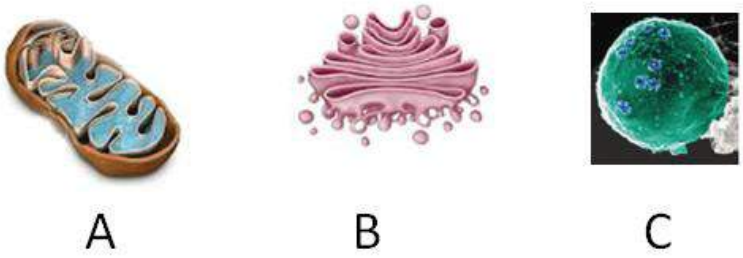
1. Frictional force is increased by powder
2. Frictional force is decreased by powder
3. The speed of carom discs is increased due to powder
4. The speed of carom discs is decreased due to powder

18. Formular of baking soda wich is commonly used to make the dough in food preparation is $NaHCO_3$.

What is it molar mass? ( Na – 23 H – 1 O – 16 C - 12 )

1. 80 $gmol^{-1}$
2. 82 mol
3. 84$gmol^{-1}$
4. 84 mol

19.



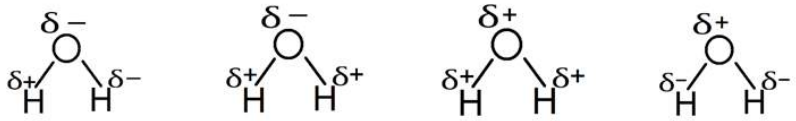

A B , C respectively

1. Ribosomes . Golgibodies , Mitochondria
2. Mitochondria, Ribosomes, Golgibodies
3. Golgibodies, Ribosomes , Mitochondria
4. Mitochondria, Golgibodies, Ribosomes

20. The function of golgi complex is ,

1. Generate energy
2. Production of secretory substances
3. Maintain water balance
4. Transport of protein

21. Select the correct diagram of water molecule.



1. 2. 3. 4.

22. Which answer contains the relevant gases respectively for the below statements.

A – To make dry ice

B - As a fuel for rocket

C - As row material for the production of sulphuric and nitric acid.

1. $CO_2$ , $H_2$ , $O_2$ 2. $H_2$ , $O_2$ , $CO_2$

3. $O_2$,$H_2$ , $CO_2$ 4 $CO_2$ , $O_2$ , $H_2$ ,

23. Witch answer contains decomposition and single displacement reaction respectively?

A - $C + O_2 \longrightarrow CO_2$

B - $2\,KMnO_4 \longrightarrow K_2MnO_4 + MnO_2 + O_2$

C - $Zn + 2\,HCl \longrightarrow ZnCl_2 + H_2$

D - $2\,NaOH + CuSO4 \longrightarrow Na_2SO4 + Cu(OH)_2$

1. A and B 2. B and C 3. B and D 4. A and B

24. Select the answer with correct statement from following .

A - Water has high specific heat capacity due to inter molecular interactions among water molecules

B - Graphite and diamond are two ways of atomic lattice

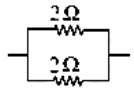
C - Boiling point and meling points of covalent compound are low

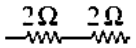
1. A and B only 2. B and C only 3. A and C only 4. A , B , C all

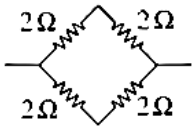
25. The instance where atmospheric pressure is <u>not used</u> ,When

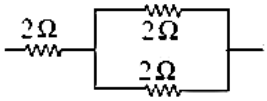
1. Drinking soft drink by using straw.
2. Removing water from a tank by using a siphon
3. ixing rubber sucker on to a glass
4. Applying break on a vehicle

26. Sets of resistors are shown in above diagrams.The correct sequence of equivalent resistance , When they Arrange in ascending order is ,

1. 


2. 


3. 


4. 


A B C D

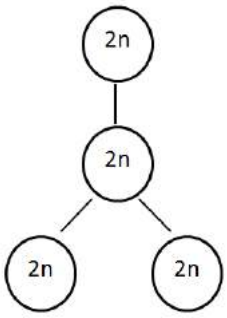
1. D ,B ,C, A 2. B ,C ,D ,A 3. A ,C ,D ,B 4. A ,B ,D ,C

27. Four men applied equal forces to a car with a weight of 1000 kg to give an acceleration of 10 $ms^{-2}$ .

What is the force applied by

1. 10 000 N 2. 1000 N 3.500 N 4. 250 N

28. The instance of seeing this method of cell division is




1. When producing ovules within the ovary.
2. When producing sperms of sperm mother cells.
3. When healing the wound on the skin
4. When producing pollen

29. What does mean by growth?

1. Increase the number of cells by cell division.
2. Formation of zygot by the union of gamates.
3. Differenciation of cells.
4. Invercible increase of the size of the cell.

30. Meiosis is important,

1. When asexual propagation is occur.
2. When maintain fixed chromosome number over generation.
3. When producing identical daughter cells from mother cells.
4. When growing the body of multicellular organisms.

31. Select the answer containing correct sequences.

A Metal sodium gives sodium oxide by reacting with cold water.

B Oxides of sulphur show strong acidic properties.

C Silicon is used to make the electronic devices such as transistors

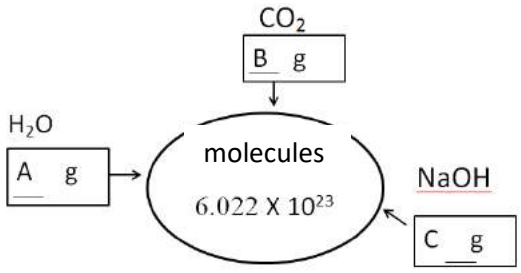
1. A and B only 2. B and C only 3. A and C only 4. A , B , C only

32. Molar fraction of water that is contained in a solution prepared by dissolving 40 g of sodium hydroxide in of water is, ( H = 1 , O – 16 , Na = 23)

1. 40/41 2. 1/41 3. 4/41 4. 1/18

33. Values of A , B and C respectively are ,

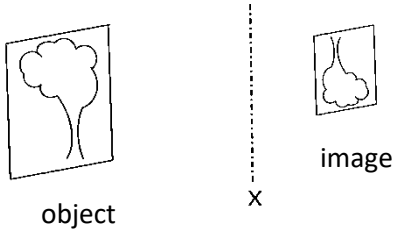
1. 40 , 44 , 18 2. 40 , 18 , 44
2. 18 , 44 , 40 4. 44 , 18 , 40




34. A photo is hung as in the diagram, Select the correct Statement about the photo.

1. It is in equilibrium under the action of 3 parallel force
2. It is in equilibrium under the action of 2 forces
3. It is in equilibrium under 3 non parallel forces
4. It is in the equilibrium under 3 equal forces.

35. Image created on the wall by a tree that grew away from the window is shown in the diagram.




The optical equipment represented by x is,

1. Convex lens 2. Concave lens 3. Convex mirror 4. Plane mirror

36. If the time taken by ultra sound waves transmitted by a ship to reach the detector again after reflection from the sea bottom is 6 seconds , The depth of the sea is , (speed of sound in water is 1440 $ms^{-1}$ )

1. 1440 X 6 m 2. $\frac{1440 \text{ X } 6 \text{ m}}{2}$ 3. $\frac{1440 \text{ X } 2 \text{ m}}{6}$ 4. $\frac{1440 \text{ X } 6 \text{ m}}{3}$

37. The optical instruments that can be taken a virtual image only,

1. Convex lens and concave lens 2. Convex mirror and concave mirror
3. Convex mirror and concave lens 4. Convex lens and concave mirror

38. Read the statement given below about solubility .

a Temperature affects on the solubility of a solid.

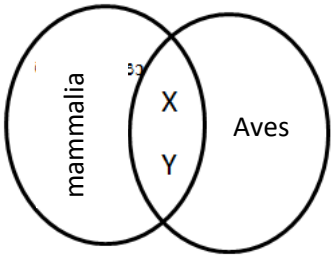
b Pressure affects on the solubility of a gas.

c Non polar solutes dissolve in non polar solvents.

The true statements from above are,

1. Only a and b 2. Only b and c 3. Only a and c 4. Only a , b and c

39. X and Y are common features of group mammalia and aves . Which answer contains relevant common features for X and Y respectively?




1. Having 4 chambered heart and teeth present inside the mouth
2. Having 4 chambered heart and become homoiothermic
3. Become homoeothermic and body is covered by feathers
4. Posses mammary glands and having light bony endoskeleton

40. 50 mg of potassium iodate is contained in 1 kg of Iodized salt. What is the composition of Potassium Iodate in that salt solution.

1. 0.5 ppm 2. 50 ppm 3. 550 ppm 4. 5000 ppm

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Department of Education - Western Province

පළමු වාර ඇගයීම - 2019
First Term Test Evaluation - 2019

| ශ්‍රේණිය 11<br>Grade | විෂයය විද්‍යාව<br>Subject Science | පත්‍රය 11<br>Paper | කාලය පැය 03<br>Time 03 Hours |
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Name - .....

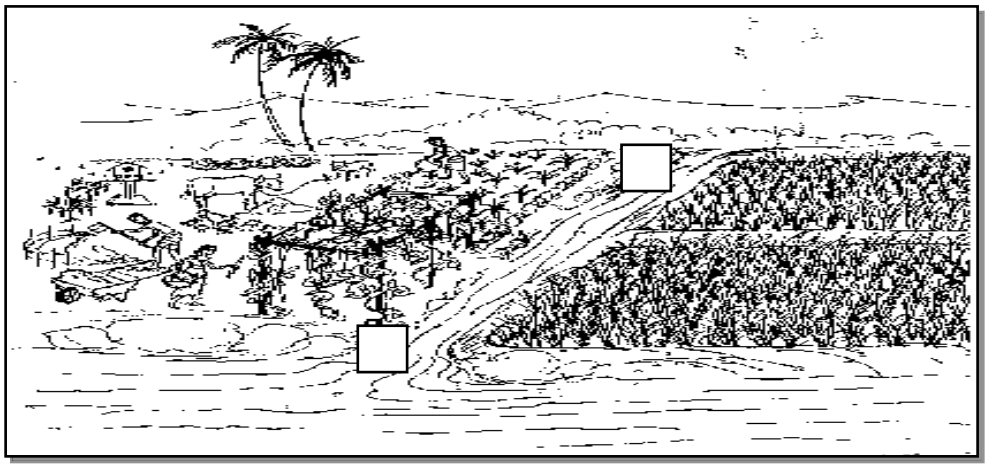
**Introductions (**

- **This paper consists with A and B parts.**
- **Answer the questions in part A in the spaces provided.**
- **Answer any <u>three questions</u> from part B.**
- **Each questions in part A allocates 15 marks and 20 marks for each question in part B.**
- **Attach the answer script of part B with part A before submitting the paper.**

## Part

## 01.

Figure given above illustrates a reservoir and a paddy field located close to a farm. The reservoir is enriched



with water that floes close to the farm. Water in the reservoir is used for cultivations.

A (1). Write a food chain with three link present in associate with the reservoir.

…….

(2). Water in the reservoir has converted to green colour. Name the type of organism that grows in high.

…….. .

(3).Name the main nutrient collecting to the soil due to releasing organic waste of the farm to the paddy field…….....

(4). Name the deficiency symptom of the plants due to lack of that nutrient.

……

B (1) Farmers said that a species of caterpillar migrating to the paddy field damage to the paddy cultivation .

Name the group of animal that the adult of caterpillar belongs……...

(2) Name two morphological features of above animal that is used to group to the above animal group.

……...

(3) It was discovered that use of pesticides excessively for the control of caterpillar affects the reduction of harvest in vegetable cultivations. State the reason for this briefly. …….....

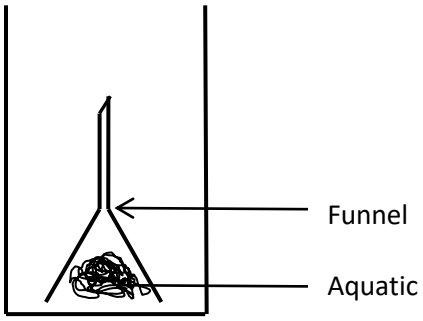
…….

(4) Write down the energy transformation when following water in above figure From X to Y

……..

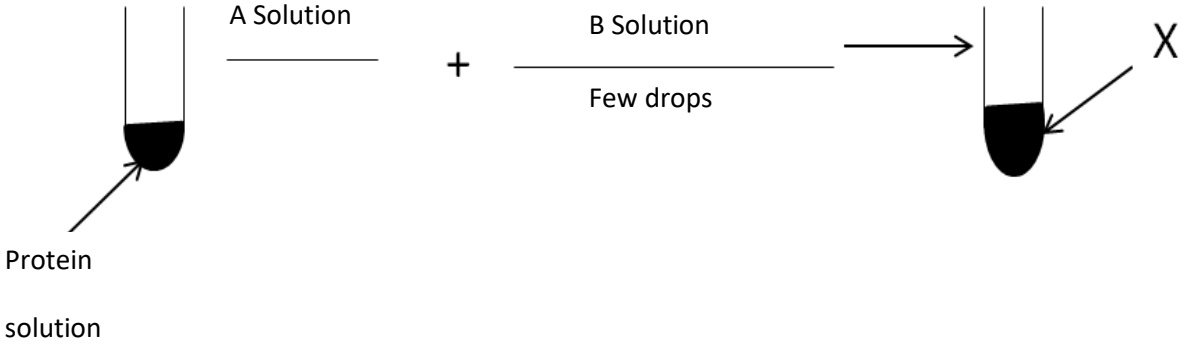
C Following figure indicates the incomplete setup prepared by a student for testing byproducts of photosynthesis using aquatic submerged plants grow in shallow area of the above reservoir.

(1) Complete the faults of the setup.
(2) Name the byproducts formed when receiving light well to the setup…….
……
(3) The rate of releasing the by product was reduced after some time If the sunlight received well. What is the reason for this?
……..
……..




02

A, A few steps of an experiment of a food test is given below




(1). Name the chemical substances indicated as A and B

A …… B……

(2). Write the colour of the X solution when A and B solutions are added……..

(3). What is the building unit of proteins? …….

B The scientific experiments were carried out using garden pea plant.

(1) Name the scientist who discovered about heredity by the experiment done by using garden pea plant
……..

(2). Write two reasons for use of garden pea plant for his experiment. …….

……...

(3). Write the phenotype of $F_1$ generation that received crossing the plant of breeding long pods and pure breed short . (use **L** for long pods and **l** for short pods……

(4). Fill the punnet square relevant to the crossing of two plants of $F_1$ generation.

| | **L** | **l** |
|---|---|---|
| **L** | | |
| **l** | | |

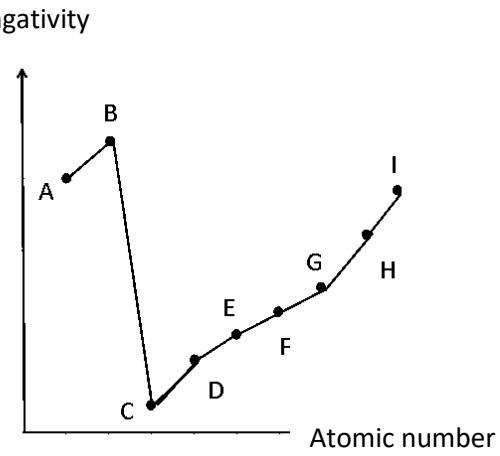
C Building unit of organisms is the cell.

(1) Write two information in cell theory. ……...
……..

(2) How a prokaryotic cell is differentiated from a eukaryotic cell. …….
……

(3) What is the common name for sum of chemical and physiological activities take place in a cell.
……

03.A




The graph given above indicates the change of electrnegativity with atomic number of a few adjustment elements of second and third periods of periodic table.(The given symbols are not the standard symbols. Answer using these symbols )

(1) Identify B and D elements and mention them by using correct symbols……
(2) Name the element from the graph having minimum first ionization energy……
(3) Write the formulae for the compound formed by reacting A and E elements. ……
……
(4) C and D are belongs to same period. What is the reason for that ……
……
(5) State two applications of element H …….
……

B (1) Some metals extract through reduction method .Name two raw materials which is adding to the top of the blast furnace when iron is extracted. …….

(2) Incomplete two reactions occur in the blast furnace are given below. Name X and Y of it.

$C + \underline{X} \longrightarrow CO_2$ X - .....

$C + \underline{Y} \longrightarrow 2\,CO$ Y - .....

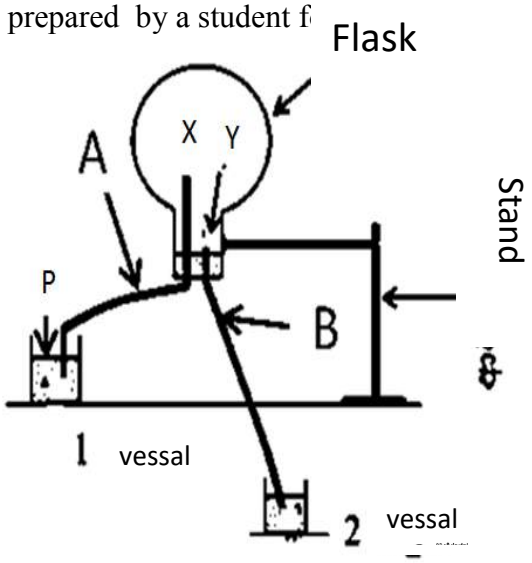
(3)Calculate the number of iron atoms contained in 28 g of iron. ( Fe = 56)……..

……

(4)Write a compound contained in the slag formed in extraction of iron. …….

04 A

The diagram indicates the setup of pressure water function prepared by a student f exhibition.As soon as the B end of YB tube is connected to the sucker And operate it, B end is immersed in the water vessel.




(1) Indicate the direction of water flowing in A and B tubes using arrows.
(2) In which end from x and y that the wter fountain is created. …….
(3) What is the effected value of surface P on the sea level when the water fountain is activated. ……..
(4) Which is expected by adding coloured water to the 1 vessel …… ……..
(5) Explain briefly the way of formation of this water fountain…… ……..

B (1) Calculate the pressure created on the bottom of the 2 vessal when water is filled up to 50 cm.(Density of water is 1000 $kgm^{-3}$ , gravitation acceleration is 10 $ms^{-1}$ )

……
……
……

(2) A ball that fallen to 2 vessel and floats on water. Indicate the way of creating forces on the ball in that instance using a diagram.
(3) State the principal of Archimedes regarding floating an object…… ……..
(4) What is the standard instrument used to measure the density of a liquid with the help of Archimedes principle. ……..

C (1) When this ball was fallen to the water, awave was created in the water. To which type of mechanical Waves it belongs? …….

(2) Write the feature of electromagnetic wavew that is differentiated from mechanical waves.

……..

Part B

05. Rough diagrams of some organisms are given below.Answer the questions by referring the diagrams given below.

P Q R S T

A (1) Write the relevant domains of G and S organism respectively.

(2) Write two letters of relevant organisms that participate in the formation of lichens.

(3) Which letter represents the photo autotrophic organism ?

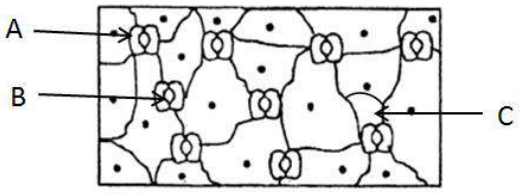
(4) Which letter presents the organism that has evolutionary relationship with phylum Chodata ?

(5) Write one special feature in the body of above (4) mentioned organism.

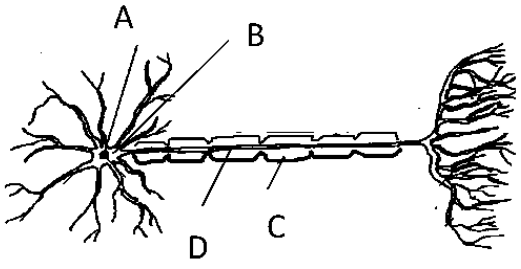
B An organism that genetically identical to the mother plant is known a clone.

(1) Which artificial vegetative propagation method is widely used to obtain clones of potatoes ?
(2) Name the nutrient that should be included in the culture medium.
(3) Write one advantage of this vegetative propagation method.

C The diagram given below shoes the lower epidermal cells observed through the light microscope.

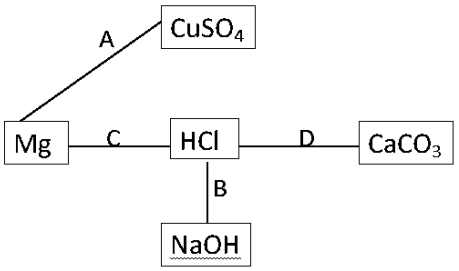



(1) Name A and B of above diagram?
(2) What is the function of B ?
(3) Name the organelle that present in A , But absent in C and write the special process perform by that organelle.
(4) Write above process in a balanced chemical equation.
(5) Write the name of tissue that transport water for the above process and write one type of cell present in that tissue.
(6) A diagram of very important cell found in the body of vertebrates is given below.
  (a) What is the name of above given cell?
  (b) Name a , b , c and d in above diagram.
  (c) What is the use of covering of D by C




06. The diagram shows some reactions take place between the magnesium metal and the solutions as well as reactions among th solutions. These reactions are named as A ,B , C and D

(1) Write the letter of relevant reaction which emis the gas that turns the lime water in to milky colour.
(2) Which letter represents the reaction that produce hydrogen Gas?
(3) Which solutions will produce a salt and water as products, When they react ?
(4) A reddish brown colour precipitate was deposited during one of the above reaction.
(a) What are the reactants of that reaction?
(b) Write the balanced chemical equation for that reaction .
(c) According to the nature of chemical change , to which type of chemical change does it belong?
(d) Write two strategies to increase the rate of reaction of that reaction.




B Ammonia gas is produced by reacting hydrogen with Ammonia. Ammonia is very important for the production of fertilizer.

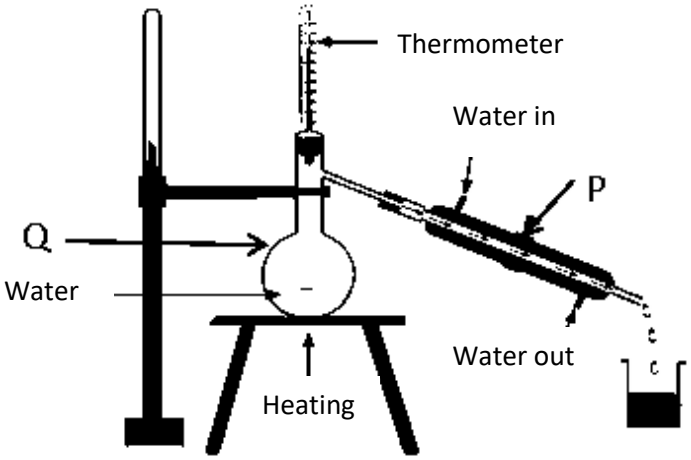
(1) Draw a lewis dot cross diagram of Ammonia.
(2) What type of chemical bonds exist in ammonia

C 44 g of carbon dioxide is dissolved in 360 g of water under high pressure.

( C = 12 , O = 16 , H = 1)

(1) Calculate the number of water moles in the mixture.
(2) Calculate the number of $CO_2$ moles in the mixture.
(3) Express the composition of water as a mole fraction.
(4) Which type of mixture is this?

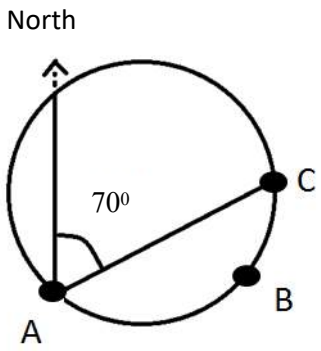
D One of the method of separating components in a mixture is shown in the diagram.




(1) Write the name of the separating method shown by the diagram.
(2) Write the name of P and Q equipment.
(3) Write one application of the method.

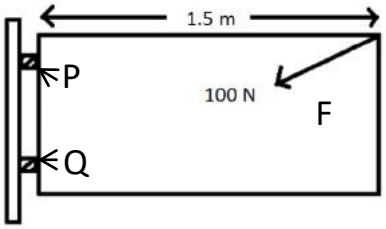
07. A. ABC is a running track with a length of 200 m .AC is a linear running track with a length of 100 m.

- Student X started the race at point A and took 25 s to run 200 m through he point B
- Student Y startd the race at the same time from the point A and took 20 s to reach point C strarghtly




(1) Calculate The average speed of X.
(2) What is the displacement of Y?
(3) Calculate the velocity of T ?
(4) Plot the velocity – time graph for the motion of Y.
(5) Calculate the momentum of Y. if his mass is 50 kg.

B. The diagram given below shows the way that a student applied the force to open a gate.

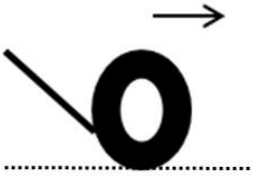



(1) Calculate moment of the force effect on point P.

(2) Write one strategy can be applied to reduce the fraction of P and Q

(3) State common feature of couple of forces.

(4) Motion of a tyre due to applied force is shown in the diagram. Mark the place that friction is acting on the tyre in a rough diagram on your answer sheet



C The way that the forces are acting on two objects are shown in the diagrams given below.

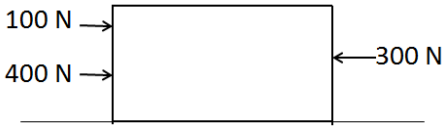



Diagram 1

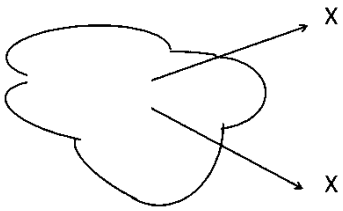
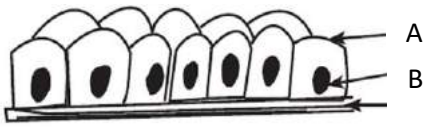



Diagram 2

(1) What is the resultant force acting on the object in diagram 1 ?
(2) The diagram 2 shows the way that two angular forces are acting on an object. Mark the direction of the resultant force on the drawn diagram on your answer sheet.
(3) Give one example for an object stay in equilibrium under 3 forces.

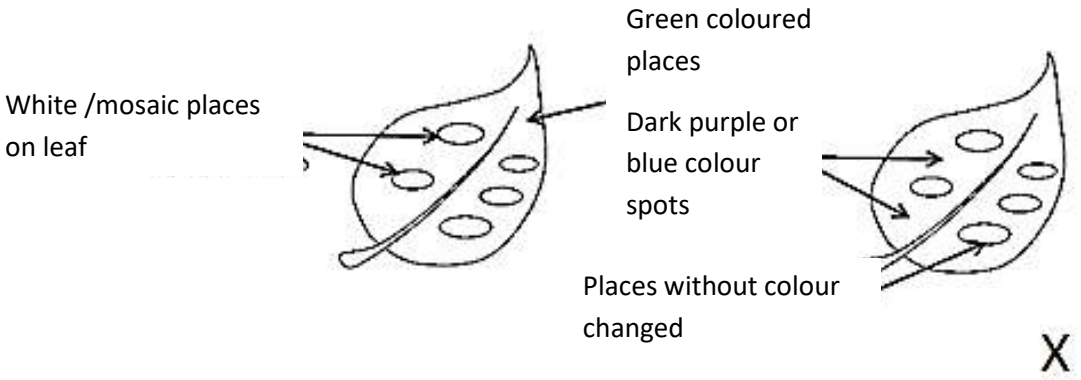
08 A Group of cells with a common origin that has been modified to perform particular function in the body Is known as a tissue.




(1) Name te tissue given in the diagram .
(2) Name A and B .
(3) Write a common feature of this tissue.

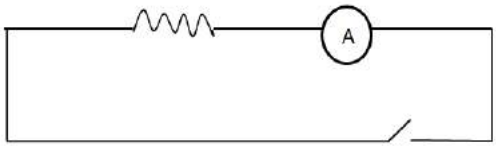
(4) Write a function done by this tissue.

B Given below is a diagram of te results of an experiment conducted by grade 11 students.

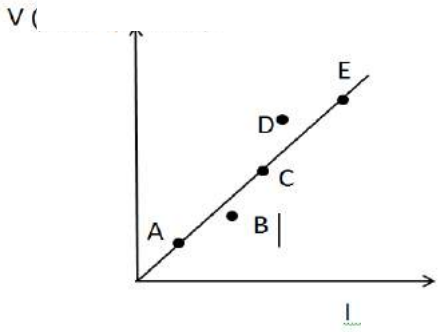



(1) What is the objective of this experiment?
(2) Write the solution used for starch test and the colour received
(3) Name a plant leaf that can use for the above test.
(4) Write two steps that should follow to obtain above observation shown in leaf x in the diagram.

C An incomplete circuit diagram of an experiment that arranged by a student using a Nichrome wire coil, a volt meter, a ammeter , a rheostat and 4 dry cells, to check the accuracy of Ohm, s law in given below.




(1) Draw the completed diagram of this circuit on your answer sheet'
(2) What do you expect from the rheostat in the circuit.
(3) The student plot the graph among potential difference and currant by using data in 5 difference instances.
  (a) Write the relationship between currant and potential difference in a circuits.
  (b) Data for B and D are away from the other data. Write an experimental error that could lead the deviation of A and B
  (c) Suggest a method to avoid above mentioned error.
(4) You are provided resistors with 10 Ω , 3 Ω and 2 Ω . Draw 02 diagrams to obtain equivalent resistance of 5 Ω by using aove resistors.



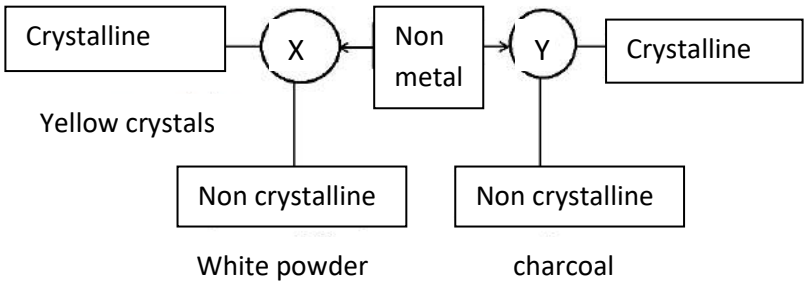

09 A A student decided to use the reacton between Magnesium and water to measure the rate of reaction

(1) What is the precaution should be taken before measure the mass of magnesium
(2) Why does the hot water used for above reaction.
(3) It is suggested to collect the gas emit during the reaction between magnesium and water by using downward displacement of water. What is the reason?

(4) Write another method to collect that gas .

(5) Is that solution resulted by the reaction acidic or basic?

B A diagram green below shows allotropes of 2 non metallic elements.




(1)Name x and y by using above information.

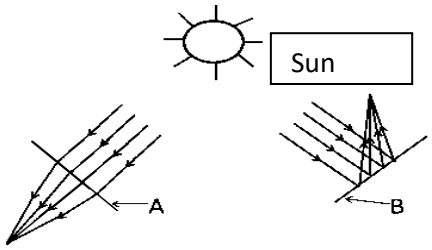
(2) What is the insulated crystalline allotrope of Y

(3) Write an observation can be taken, When piece of X is burned in air.

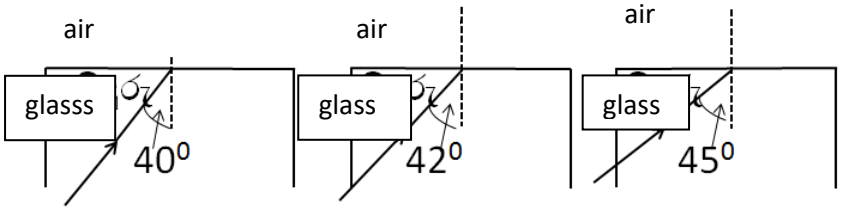
(4) When ignite charcoal in high temperature , It creates $CO_2$ by react with oxygen. Write the relevant Balanced chemical equation for that.

C (1) State the Snell ، s law of refraction

(2)Given below diagrams show the thing happened to the light rays of the sun, When light rays fall on two optic instrument




(3)The critical angle of glass is $42^0$ . Copy the diagrams given below and complete the ray diagrams Accordingly




D (1) To which group belongs to the musical instruments given below .

Drum , udakkiya , Rabbana , dawla

(2)The different strings of the violin produce different pitches even though strings having soe tension. What is the reason for that?

(3) How does the frequency change when the length of vibrating string decreases.