PROVINCIAL DEPARTMENT OF EDUCATION
NORTHERN PROVINCE

2nd TERM EXAMINATION - 2018

SCIENCE

Index No :- ..... | **Grade :- 11** | **Time :- 1. 00 hour**

PART - I

❖ **CHOOSE THE MOST SUITABLE ANSWER.**

(01) Which of the following is a dicotyledonous plant?

(1) Marchantia (2) Cycas (3) Jak (4) Coconut

(02) Which is the international unit of weight?

(1) N (2) kg (3) Nm (4) J

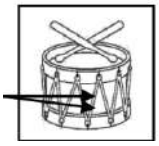
(03) Which of the following is not considered as a waste material?

(1) Faeces (2) Water (3) Urea (4) Carbon dioxide

(04) Which of the following solvents is not used to separate the substances by paper chromatography?

(1) Kerosene oil (2) Sap of leaves (3) Petrol (4) Acetone

(05) Which type of change occurs in the sound when the strings get tightened by the belt of the instrument shown here?



(1) Volume increases (2) Pitch increases

(3) Quality of sound changes (4) All of the above

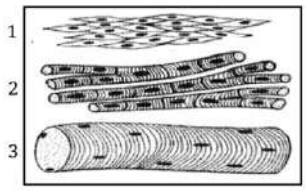
(06) Which of the following organelles are not membrane bound?

(1) Nucleus (2) Endoplasmic reticulum (3) Mitochondria (4) Ribosome

(07) Which of the following compounds doesn't have ions?

(1) $CaCO_3$ (2) CO_2 (3) NH_4Cl (4) $CuSO_4$

(08) The types of muscles shown below are respectively,



(1) Smooth muscle, Cardiac muscle, Striated muscle

(2) Cardiac muscle, striated muscle, smooth muscle

(3) Striated muscle, Cardiac muscle, Smooth muscle

(4) Smooth muscle, Striated muscle, cardiac muscle

(09) Which of the following statements are correct regarding minerals?

(1) They are necessary for maintaining the biological activities.

(2) Deficiency of these elements may cause diseases.

(3) Minerals can be divided into macro elements and micro elements.

(4) Minerals are one of the major biological molecules

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Tamil **History**

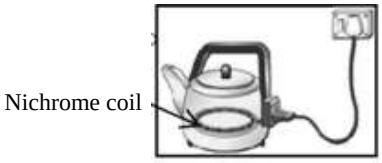
Science

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புலமைப்பரிசில் பரீட்சை
வகுப்புக்கள் தரம் I தொடக்கம்
5 வரை நடைபெறுகின்றன

Contact

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(10) Nichrome wire is used in electric kettle. Which property of the nichrome wire is used here?



(1) High conductivity (2) High resistivity

(3) High voltage (4) Expends less amount of electricity

(11) What is the mass of one mol of C 12 atom?

(1) 12 (2) 12g

(3) 6.02×10^{23} (4) $12 \times 6.02 \times 10^{23}$g

(12) Which of the following statement regarding isotopes is incorrect?

(1) Isotopes of an element have the same atomic number.

(2) Only mass number varies among isotopes of an element.

(3) Isotopes of an element have different number of neutrons.

(4) The chemical properties of the isotopes of an element do not change.

(13) Which of the following seeds contain hair like structures for their dispersal?

(1) Kurincha (2) Dipterocarpus (3) Orchid (4) Mahogany

(14) Which of the following is an instance where HCl is not used?

(1) To remove the rust from the steel objects (2) It is used as electrolyte in lead cells

(3) Used in the production of aqua regia (4) Used in the production of gelatin.

(15) Which gland secretes FSH?

(1) Pituitary gland (2) Ovary (3) Uterus (4) Testes

(16) Which is a suitable method for extracting sodium?

(1) Reduction (2) Electrolysis

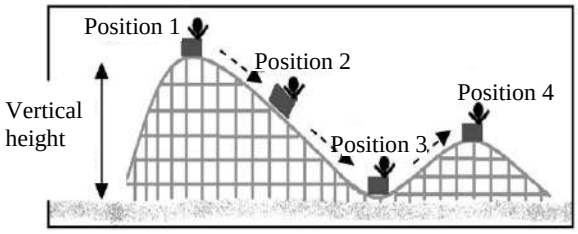
(3) Physical method (4) Solvent extraction method

(17) The diagram shows different positions of a vehicle moving with a constant velocity **V.** Consider the following statements regarding this motion.

A. Potential energy of the vehicle is same in all positions.

B. Kinetic energy of the vehicle is same in all positions.

C. The potential and kinetic energies of the vehicle don't change in all the positions.



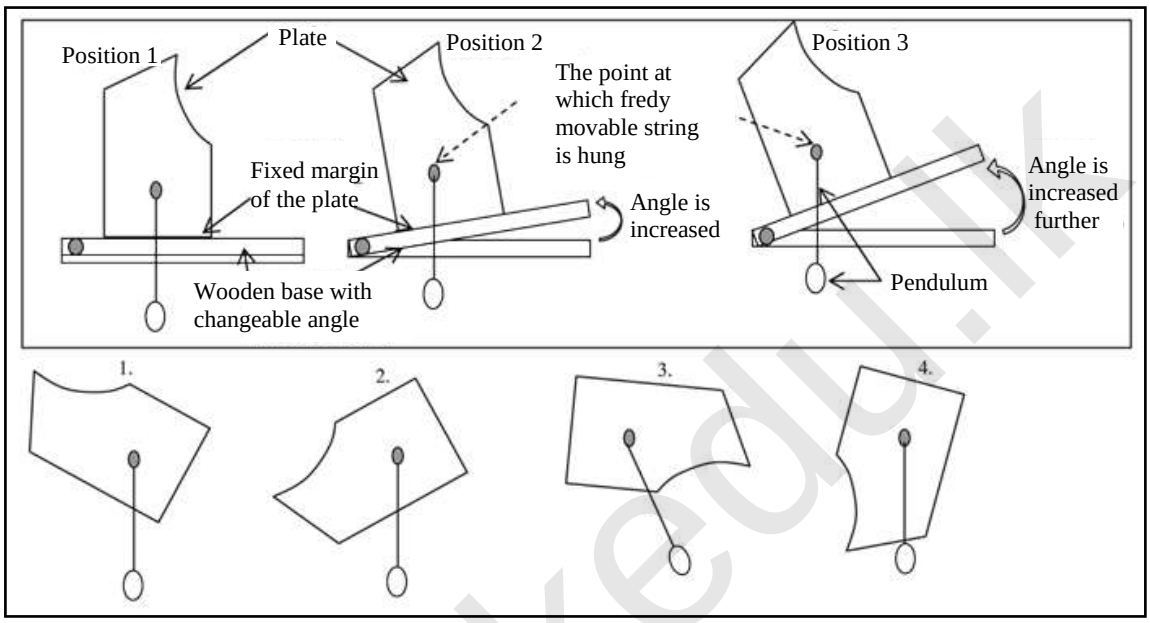
Which of the above statements is/are correct?

(1) A only (2) B only

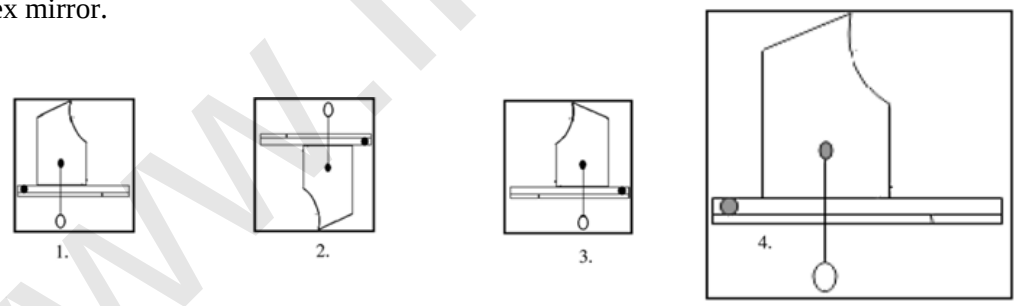
(3) C only (4) A,B, and C are correct

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(18) The following diagram shows thin metal plate with uniform thickness fixed vertically on a wooden base, so that its angle can be changed. A small pendulum is hung from a string t point from which the string can move freely. The images show how the metal plate and the pendulum move when the wooden base is slowly rotated anti-clockwise, starting from a horizontal position. Which of the images given below shows an impossible position of the string and pendulum as the angle of the base is further increased?

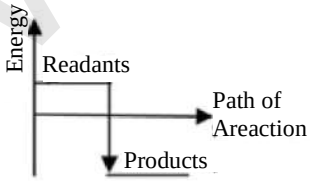


(19) Choose from below, the image of the metal plate (mentioned in question 18), in position 1, formed in a convex mirror.

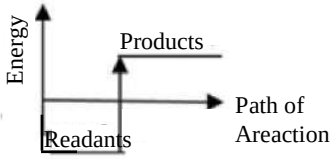


(20) Which of the following graphs shows the graph of enthalpy changes of an exothermic reaction. .

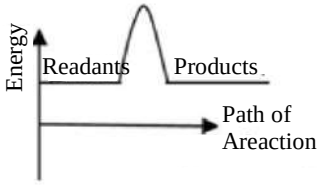
(1)



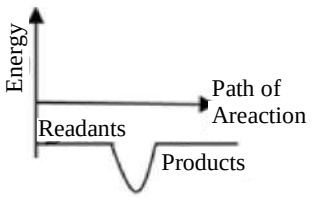
(2)



(3)



(4)



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(21) Which of the following glands secrete the enzymes which take part in the digestion of food in the small intestine?

(1) Small intestine only
(2) Small intestine and pancreas
(3) liver and small intestine
(4) Stomach and small intestine

(22) What is the mass of pure NaOH found in a solution of NaOH with a mole fraction of $\frac{2}{11}$?
(Na - 23, O - 16, H- 1)

(1) 40 g (2) 80 g (3) 2 g (4) 342 g

(23) Choose the correct statement about enzymes.

(1) All enzymes are inorganic compounds.
(2) Enzymes are made of proteins.
(3) Enzymes function well in high temperatures.
(4) Enzymes cannot function as biological catalysts.

(24) Which of these processes is carried out in the production of quick lime stone

(1) $CaCO_3$solid is heated.
(2) Adding $H_2O_{(l)}$to solid CaO.
(3) Adding a dilute acid to solid $CaCO_3$, and then adding water.
(4)All of the above are true.

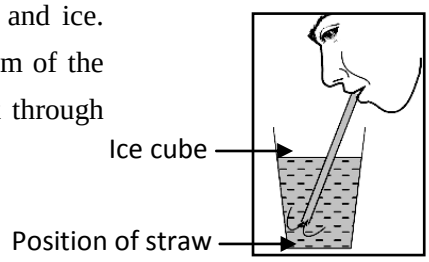
(25) Which of the following parts of the brain is well developed in human brain?

(1) Cerebrum
(2) Cerebellum
(3) Medulla oblongata
(4) Hypothalamus

(26) Which of these blood vessels carry blood away from the glomerulus in the kidney?

(1) Renal artery (2) renal vein (3) afferent arteriole (4) efferent arteriole

(27) The figure shows the image of a glass filled with soft drink and ice. When the straw is in the position shown here, (near the bottom of the glass) which pressure/pressure will help in sucking the drink through the straw?



(1) Atmospheric pressure
(2) Pressure of the column of soft drink
(3) Pressure exerted by the ice cube, atmospheric pressure.
(4) Atmospheric pressure, pressure exerted by the column of soft drink, pressure exerted by the ice cube

(28) What is the reason for ice cube to float, as shown in the figure for question 27?

(1) The density of ice is less than that of water.
(2) The density of water is less than that of ice.
(3) The density of water equals that of ice.
(4) Nothing can be said

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(29) Which of the following changes can never be observed during a chemical reaction?

(1) Color change

(2) Heat change

(3) Release of gases

(4) Re-arrangement of bonds between atoms

(30) A small about of solid salt exposed to air liquified after a few days. What can be the reason for this?

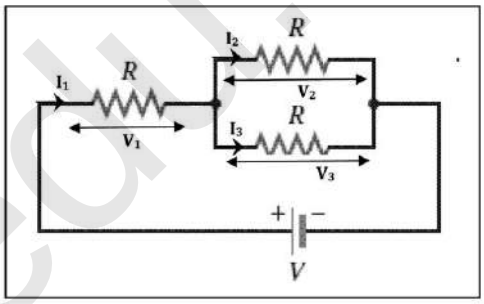
(1) The salt absorbed water vapor.

(2) The impurities in the salt absorbed the water.

(3) Both the salt, and the impurities absorbed the water.

(4) The salt underwent chemical dissociation and water was formed.

(31) All the resistors in the image are identical. Choose the correct relationship between the current flowing through the resistors (**I**),and the potential difference (**V**).

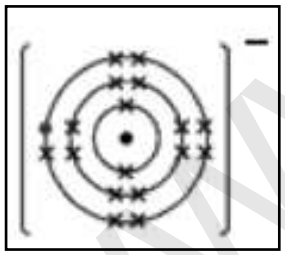


(1) $V_1 = V_2 = V_3$, $I_1 = I_2 = I_3$

(2) $V_2 = V_3$, $I_1 = I_2 + I_3$

(3) $V = V_2 + V_3$, $I_1 = I_2 + I_3$

(4) $V_1 + V_2 + V_3 = V$, $I_1 = I_2 = I_3$

(32) 

The figure shows an atom with completely filled valence shell, and a negative charge. Which element's ionic form can this possibly be? Choose from the following.

(1) **Ar** (2) **K** (3) **Cl** (4) **S**

(33) Which of the following plant tissues has lignin deposit?

(1) Sclerenchy matous tissue (2) Parenchymatous tissue

(3) Collenchymatous tissue (4) Meristamatic tissue

(34) The features of an organism are as follows.

A. Body covered with fur / hairs

B. Has ear lobes.

C. Has complete double circulation.

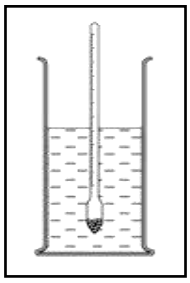
Which class can this animal belong to?

(1) Vertebrate (2) Mammal (3) Aves (4) Arthropoda

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(35) Which of the following liquids can be used in the thermometer that can measure temperatures below 0^0C?

(1) Mercury (2) Alcohol (3) Water (4) Bromine

(36) 

A floating hydrometer is shown in the figure. Choose the law which closely relates it floating in water.

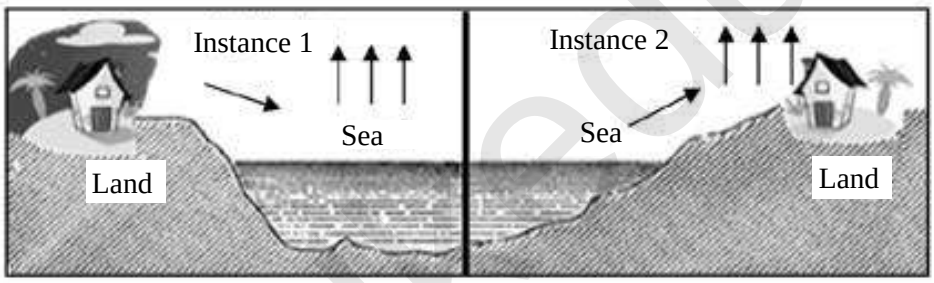
(1) Newton's Law

(2) Ohm's law

(3) Luis's law

(4) Archimedes' principle

(37) In the diagrams shown below, the arrows denote the direction of wind in a coastal area during two different times of the day. The following statements are proposed as reasons for this movement of wind.



A. Radiation from the sun B. Evaporation of water

C. The land heats up D. The air heats up

Which of these are correct?

(1) A, B, C (2) B, C, D (3) A, C , D (4) A, B, C, D

(38) If a vehicle traveling with 30ms-^{1}speed should reach an acceleration of 20ms^{-2}in 4S, find the magnitude of speed that should be increased during this time interval?

(1) 110ms^{-1} (2) 30ms^{-1} (3) 80ms^{-1} (4) 100ms^{-1}

(39) The vehicle mention in question (38) has a mass of 200 kg.If the engine of the vehicle travelled 280 m in 4 S, find the power of the engine?

(Consider that there is no power loss due to friction)

(1) 4000W (2) 1 120 000W (3) 280 000W (4) 280W

(40) Production and consumption of power should be planned during power management for a sustainable development. Which of the following activities cannot be considered as a part of this?

(1) Avoiding new sources of energy and sticking to the old sources.

(2) Monitoring the daily consumption of energy.

(3) Supervising the consumption of energy.

(4) Calculating the efficiency of the energy.

(40 × 2 = 80 Marks)

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PROVINCIAL DEPARTMENT OF EDUCATION
NORTHERN PROVINCE

2nd TERM EXAMINATION - 2018

SCIENCE

Index No :-	Grade :- 11	Time :- 3. 00 hours

PART - II A

Structured questions

❖ **Answer all questions.**

(01) For the sustainable development of Sri Lanka, the activities such as energy management, minimization of food miles, usage of traditional knowledge and technology, Reduction of the problems caused by the change in life style are given prominence. The following table was prepared by the information from a farmer to know about the methods used in home garden and fields. Consider the following table and answer the following questions.

Energy sources used	Fire wood, Hydroelectricity, sun, kerosene oil
Food in taken	Golden rice, coconut obtained from the garden, wheat flour, vegetables, Fruits
Cultivated plant crops	Paddy field of golden rice, Amananth young plants, Carrot, Brinjal, Tomato etc.
Methods of weed and pest control, and using Fertilizers	Spraying chemical pesticides, Jute cultivation after the harvesting of paddy, Burying body parts and cow dung, using sap of garlic bulbs, margosu, cloves for rebelling insects, Picking weeds by hands.

(i) Which of the above energy source is non-renewable?

……..……

(1 Mark)

(ii) Mention the pollutant gas evolved during the combustion of kerosene oil?

……..……

(1 Mark)

(iii) Which of the food item is transported from far (which has high food mile value)?

……..……

(1 Mark)

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(iv) Which type of vitamin can be obtained from consuming golden rice?

……...

(1 Mark)

(v) Which of the above pest and weeds control methods doesn't use traditional method and technology?

……...

(1 Mark)

(vi) From the information gathered at the famer's house, if the following activities are suitable for sustainable development, mark √, and if unsuitable, mark x. Give a reason each for your answer.

Activity	Suitability	Reason
(a) Using solar energy		
(b) Planting jute in paddy fields		
(c) Planting different types of plants in the same area (multiple cropping)		
(d) Using wheat flour		

(6 Marks)

(If any 2 of √ or × correct, one Mark)

(vii) So far, no one in that famer's house have been diagnosed with non-communicable diseases such as diabetes or high blood pressure. State a lifestyle mentioned above, which can be the reason for this.

……...

(1 Mark)

(viii) However, studies show that they have the possibility of acquiring kidney diseases and cancers in the future. State a factor from the table that can be the reason for this.

……...

(1 Mark)

(ix) No information regarding the waste disposal in sustainable development is obtained here. Give a reason why "Incorrect waste management will affect development".

……...

(2 Marks)

15

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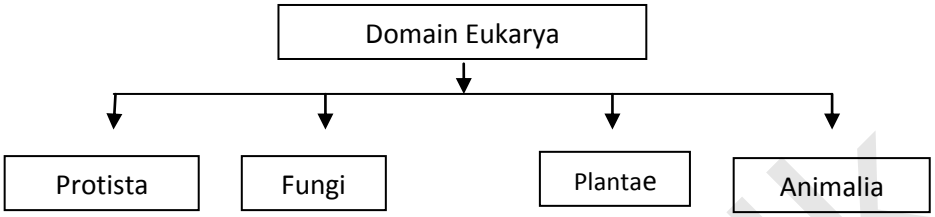
(02) (A) Classification of organisms based on their evolutionary relationship is very useful

(i) In biology how is the classification which depict the evolutionary relationships among organism called?

……...……

(1 Mark)

(ii) Answer the following questions based on the taxonomical levels given in the chart



(a) State the taxonomical level of Protista, Fungi, Plantae and Animalia

……...……

(1 Mark)

(b) State a property of nucleus of cells which belongs to domain Archaea,to differentiate from the nucleus of cells from domain Eukarya?

Eukarya : ……...……

Archea : ……...……

(1 Mark)

(c) Which of the taxonomical levels of Protista,Fungi,plantae and Animalia contain photosynthetic organism?

……...……

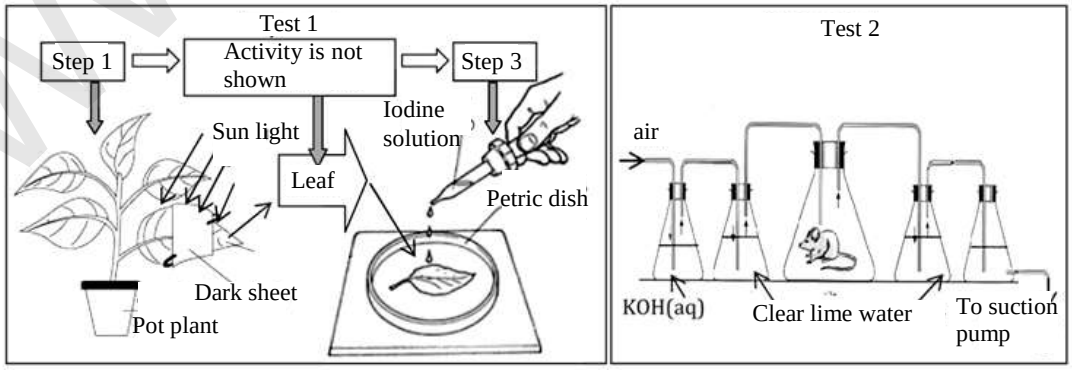
(2 Marks)

(d) Classify the organisms belongs to Plantae in 2 groups?

……...……

(1 Mark)

(B) The diagrams given below show the methods of identification of two substances released from 2 main metabolic activities in the organisms



(i) What is the aim of step 1 in test 1

……...……

(1 Mark)

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(ii) What is the reason for keeping the plant in dark for 48hours before doing the test?

……...……

(1 Mark)

(iii) In test 1, step 2 and 3 should be carried out immediately after few hours of step 1.state the test that should be carried out for leaf in step 2 which is not shown here in the diagram?

……...……

(1 Mark)

(iv) Show the part of the leaf by shading where colour change occurs when Iodine solution is added

(1 Mark)

(v) Which metabolic activity of rat is tested in test 2 ?

……...……

(1 Mark)

(vi) Complete the table regarding the test 1 and 2 ?

	Test 1	Test 2
1. Substance used for the metabolism		
2. A product produced in metabolism		

(4 Marks)

15

(03) (A) Given below are some of the elements belongs to the 3rd period of periodic table.

Na	**Mg**	**Al**	**Si**	**P**	**S**	**Cl**

(i) Which one has highest electronegativity value?

……...……

(1 Mark)

(ii) Which element forms an oxide with dual character?

……...……

(1 Mark)

(iii) Among Na, Mg, Al and S choose the element with higher 1st ionization value?

……...……

(1 Mark)

(iv) Of the given elements, one metal element with valance 2 and one non-metallic element with valence 2 were subjected to chemical bonding and a compound was formed. Find

The metallic element - .....

The non-metallic element - .....

Formula of the compound formed - .....

(2 Marks)

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(v) Write the equation for the reaction of Na with cool water

……

(2 Marks)

(vi) Name one indicator to test acidic/basic/neutral characteristic of the solution formed during the above reaction?

……

(1 Mark)

(B) It's decided to show that the rate of reaction of Mg with dilute acid depends on the surface area of reactants. For this, equal volumes of acidic solutions are mixed with equal weight of Mg, which are in different in size, in two separate identical conical flasks.

(i) Define the term "Rate of reaction"?

……

……

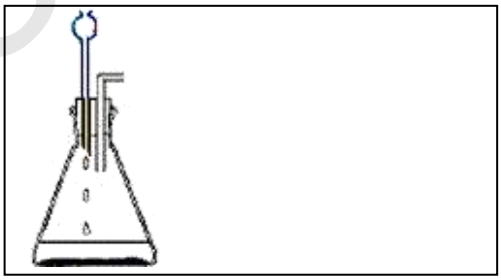
(2 Marks)

(ii) State the reason why it is important to maintain the same concentration of acids in both conical flasks?

……

(1 Mark)

(iii) It is decided to collect the gas evolved in this reaction. Complete the setup needed to collect the gas in the following diagram.



(2 Marks)

(iv) Write the laboratory test to identify the collected gas?

……

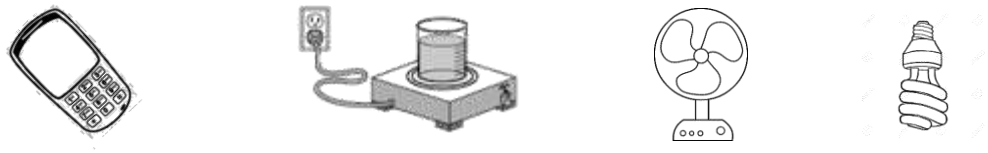
……

(2 Marks)

15

(04) (A) Some instances where electricity is used in our day today life is given below(figures are not drawn to scale)

A **B** **C** **D**



A. Using cell - phones to communication
B. Using electrical stoves made with nichrome coils to produce heat needed for cooking.
C. Using fan.
D. Using CFL bulbs.

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(i) Which electrical instrument is responsible for the rotational motion of fan blades?

……

(1 Mark)

(ii) As the fan rotates, heat is transferred by the movement of gaseous molecules. Name the type of heat transfer that occurs here.

……

(1 Mark)

(iii) From the above instances, choose the instance where micro waves are being used?

……

(1 Mark)

(iv) Which has greater wavelength from the following, the light waves from CFL or the heat waves (IR) from electric stoves?

……

(1 Mark)

(v) Identify the following waves which represent the above waves (light waves from CFL and heat waves(IR) from electric stove).



…… ……

(2 Marks)

(vi) Which physical quantity (except wavelength) helped you to identify the above waves?

……

(1 Mark)

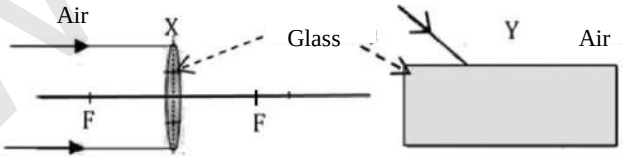
(B) We use many optical instruments in our day -to-day life for the betterment of our eye vision.

(i) Which electromagnetic wave is responsible for our eye vision?

……

(1 Mark)

(ii) Figures X and Y show two optical instruments.



(a) Name the instrument X

……

(1 Mark)

(b) Complete the path of the light rays in X and Y

(3 Marks)

(c) How is this change in path of the light ray (as shown in the question 2) called?

……

(1 Mark)

(d) Which serves as optically denser medium in this instances (X and Y)?

……

(1 Mark)

(e) Name one instance where the instrument X is used?

……

(1 Mark)

15

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PROVINCIAL DEPARTMENT OF EDUCATION
NORTHERN PROVINCE

2nd TERM EXAMINATION - 2018

SCIENCE

Grade :- 11

PART - II B

Essay questions

❖ **Answer any three questions.**

(05) Reproduction is essential for the existence of organism on earth

(A) (i) Some reproduction methods and the organisms which show the given reproduction methods are given in the columns A and B

A	B
Binary fission	Bat
Formation of spores	Algae
Formation of seeds	*Mucor*-Fungus
Producing living young with in the body (viviparous)	Maize

(a) Choose the organisms from column B which produce spores and the organism which reproduces by parity?

(b) Choose the method of reproduction of bacteria?

(ii) Choose one organism from column B which lives in water?

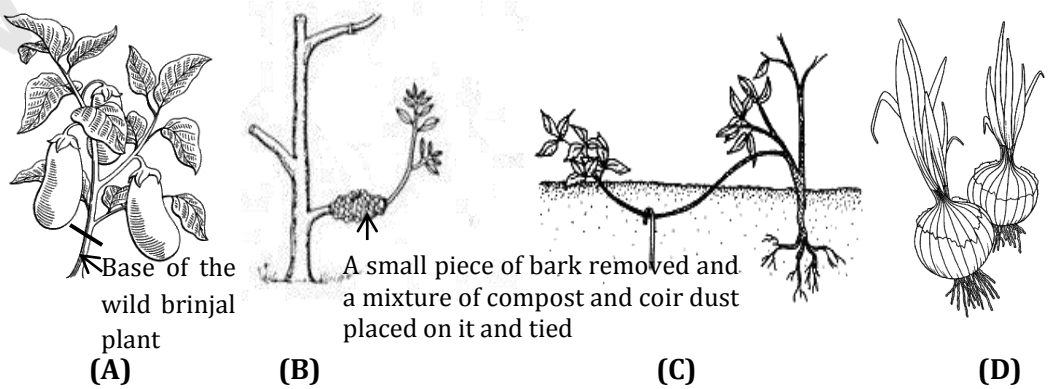
(iii) Which tissue translocates the food produced by photosynthesis in maize leaves?

(iv) Which carbohydrate is stored in the seeds of maize?

(v) In which of the given organisms, embryonic membranes are formed around the embryo?

(vi) What is the advantage of having myelin sheath in the neurones of bats?

(B) Some instances of vegetable reproduction methods in some plants are shown below.



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(i) Which plant has underground stem?

(ii) Name the type of root plant D posses?

(iii) Grafting can be made successfully in brinjal plant but not in maize plant. State the reason for this?

(iv) Name the methods of layering carried out in plant B and plant C separately

(v) State the steps carried out for layering in plant C

(vi) State an advantage of reproducing plants by vegetative methods of reproduction

(20 Marks)

(06) (A) It is planned to record the temperature change taken place when aqueous sodium bicarbonate solution ($NaHCO_{3(aq)}$) is mixed with citric acid solution using a thermometer.

(i) State the elements which forms bicarbonate compound?

(ii) The solid bicarbonate was dissolved in required amount of water and then the aqueous solution was formed. Which apparatus would you choose to take the required amount of water?

(iii) What is the colour of sodium bicarbonate solution?

(iv) Calculate the required mass of Sodium bicarbonate that should be measured to prepare 0.03mol sodium bicarbonate solution.

(v) State the composition of $0.05dm^3$ sodium bicarbonate solution in mass/volume $(\frac{m}{V})$ ratio

(vi) Which change in thermometer reading can be observed when the above two solutions are mixed?

(vii) Mention the reaction type taken place between bicarbonate aqueous solution and citric acid by considering enthalpy change and the above observation

(B) Answer the following questions based on the reactions given below

(a) $Fe_2O_{3(s)} + 3CO_{(g)} \rightarrow 3CO_{2(g)} + 2Fe_{(l)}$

(b) $CuSO_{4(aq)} + Zn_{(s)} \rightarrow Cu_{(s)} + ZnSO_{4(aq)}$

(c) $2Mg_{(s)} + O_{2(g)} \rightarrow 2MgO_{(s)}$

(d) $NaOH_{(aq)} + HCl_{(aq)} \rightarrow$ .....

(i) Which substance is used to identify water?

(ii) Choose a metallic-oxide

(iii) Which reaction does form white flame?

(iv) Which reaction is neutralization reaction?

(v) Complete the reaction d)

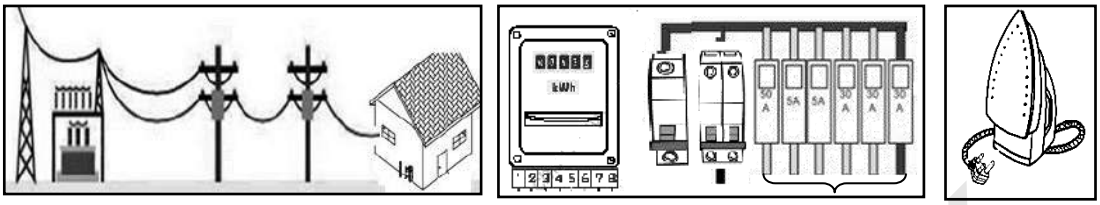
(vi) In reaction b) when the reactants are $CuSO_{4(aq)}+Zn_{(s)}$, reaction take places very easily but when the reactants are $ZnSO_{4(aq)}+Cu_{(s)}$, reaction doesn't take place. State the reason for this?

(vii) In which industry does reaction a) is used?

(20 Marks)

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(07). **(A)** The diagram below shows how electricity board supply electricity to a consumer in Sri Lanka. Before supplying electricity to houses the electric voltage is reduced using step-down transformers. Further, diagram shows the parts of an electric circuit inside houses and an iron.



(i) What type of electric current is supplied to houses (based on the direction of current flow) ?

(ii) Name the component A which is used to measure the usage of electric current in a house?

(iii) To avoid electrical leakages/ accidents the components B and C are used as safety measures. Identify the components B and C?

(iv) Name the two wires which can be disconnected by using isolator in a house .

(v) What technique is used to avoid the leakage of current in the plug of an iron

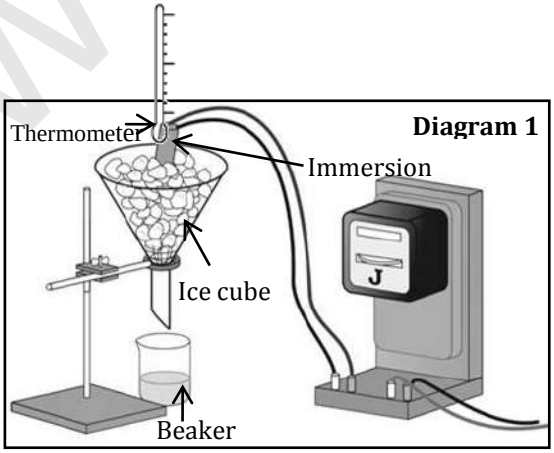
(vi) Suggest an effective method to reduce electric wastage when using an iron?

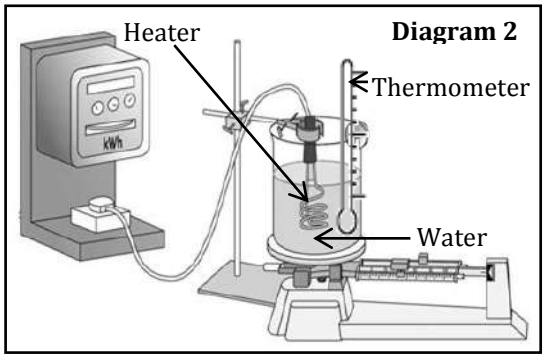
(vii) What is the reason for maintaining the loosely fitted wires in between the electric posts?

(B) Diagram 1 shows that the immersion heater is placed inside a funnel full of ice cubes and allowed to heat.Melted water is collected in a beaker as shown in the figure.

Diagram 2 shows that the collected water is again heated and the mass change is measured.

Answer the following questions based on the diagrams





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(i) Name the change of state of water in Diagram 1

(ii) In diagram 1, when the heat is supplied it is observed that the temperature remains constant for sometime. What might be the temperature reading at this stage?

(iii) Name the instrument which is used to measure the mass of water in diagram 2.

(iv) Calculate the amount of heat provided to 0.4kg of water to increase the temperature from 20^0 c to 70^0 c(take specific heat capacity of water as $4200Jkg^{-10}c^{-1}$ and assume that no heat is lost to the environment)

(v) The mass of water reduced after reaching 100^0c.What is the reason for this?

(vi) Mercury is used as thermometric liquid in most thermometer. What special property of mercury is responsible for this?

(20 Marks)

(08) (A) (i) In human systems, nutrients absorbed by digestive system are conducted to the tissues through circulatory system. Nitrogen that reaches blood from liver is removed from the body by excretory system.

(a) Breaking down foods into small particles is one of the process in digestion. How is this process called?

(b) Which organ filters the nitrogen waste that accumulates in blood?

(c) Which hormone reduces the amount of water excreted from the organ mentioned in b)

(d) Some special characteristic features are found in the circulatory system to pump blood all over the body and to exchange substances

(i) Which organ pumps the blood through circulatory system?

(ii) Name the blood vessel which carries blood to the body from the organ mentioned in the above question?

(iii) Name a component of the nutrients that reach the blood through capillaries of villi in the small intestine.

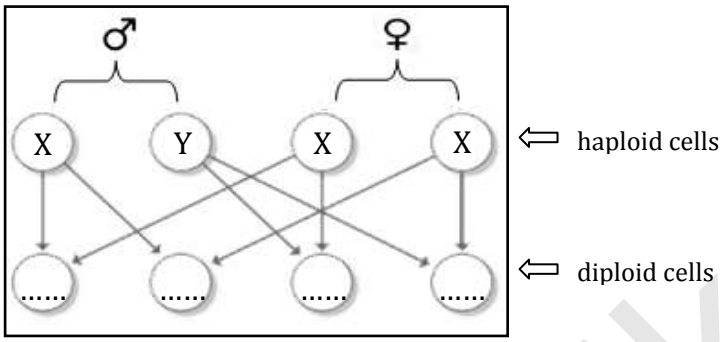
(ii) The chromosomes in nuclei of cells are found in homologous pairs or singles. The set of chromosomes of cells is determined based on this.

(a) Which type of cell division occurs only in diploid cells?

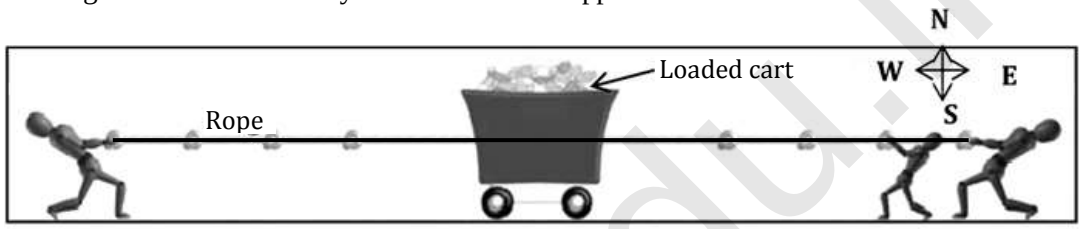
(b) The reduction in the number of chromosome occurs during gametogenesis. Name the gametes found in humans.

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(c) Complete the diagram given below using only sex chromosomes during the formation of diploid cells by fusion of male and female gamates.



(B) The diagram shows an activity where horizontal opposite forces are involved.



(i) If each men apply a horizontal force of 250N on rope, Mark the forces applied on rope in a line diagram.

(ii) Find the resultant force of the horizontal forces applied by men.

(iii) From this, state the direction of motion of the cart

(iv) Name the force between wheels and the surface of ground which opposes the motion of cart?

(v) State how the grooves on the surface of the wheels affect the velocity of motion of the cart.

(vi) If further 30kg mass is loaded to the cart by how much the perpendicular reaction force will increase?

(vii) It will make pulling easier if the rope is made of coir .Explain this statement scientifically?

(20 Marks)

(09) (A) The substances such as oxygen,sodium chloride ,Calcium sulphate and calcium carbonate are dissolved in sea water.

(i) Which of the above substance is found in gaseous state?

(ii) Which substance release carbon dioxide when diluted acid is added to it?

(iii) By considering the compounds which water is formed and the types of bonds it has, which type of solvent is water?

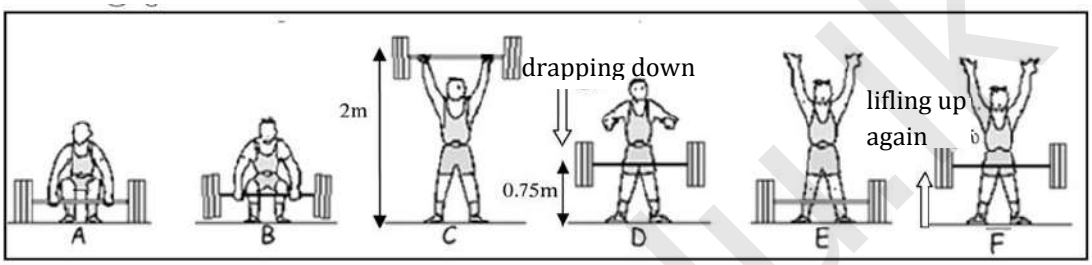
(iv) Which property of NaCl is the cause for being dissolved in sea water?

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(v) Why does the sea water conduct electricity where as pure water does not conduct electricity?

(vi) Which is the suitable extraction method for obtaining pure NaCl by removing impurities from the NaCl which is extracted from sea water?

(B) The figures show various position of a weight lifter during a weight lifting competition. The weight is in the horizontal position in A and E. The weight weighs 50kg.



(i) When the weight is lifted vertically upwards, against which force the work is done here?

(ii) In which position among A,B,C,D,E,F more energy is stored in weight?

(iii) Find the potential energy of weight when the weight is in the position of C ($g = 10ms^{-2}$)

(iv) The weight lifter lifts the weight to a height of 2m and keep it in that position for some time and then slightly keep the weight down and drops the weight vertically downwards with the initial velocity of $1ms^{-1}$.Weight travels downwards in a straight line motion and reaches the ground after 0.4s.

(a) Find the final velocity of weight when it reaches the ground? ($g = 10ms^{-2}$)

(b) Draw the velocity-time graph for the motion of weight from the initial position (from above the ground where it is dropped) until it reaches the ground

(c) What is the height from where the weight is dropped?

(d) The weight hits the ground as shown in E and then bounce upwards for some distance as shown in F. Write the Newton's law of motion explaining this bouncing?

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