

බස්නාහිර පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව மேல் மாகாணக் கல்வித் திணைக்களம் Department of Education - Western Province							
වර්ෂ අවසාන ඇගයීම - 2024 - 2025 ஆண்டிறுதி மதிப்பீடு - 2024 - 2025 Year End Evaluation - 2024 - 2025							
ශ්‍රේණිය தரம் Grade	11	විෂයය படம் Subject	Science	පත්‍රය வினாத்தாள் Paper	I	කාලය காலம் Time	1 Hour
නම பெயர் Name				විභාග අංකය சட்டிலக்கம் Index No.			

To be considered.

- Answer all the questions in Part I.
- Underline the most suitable answer.



01. Which structure is always found in a plant cell?

- | | |
|--------------|--------------------------|
| 1. Nucleus | 2. Large central vacuole |
| 3. Cell wall | 4. Chloroplast |

02. What is the instrument used to measure the electric current of a circuit?

- | | | | |
|--------------|------------|----------------|--------------|
| 1. Voltmeter | 2. Ammeter | 3. Calorimeter | 4. Ohm meter |
|--------------|------------|----------------|--------------|

03. Select the answer that contains only the sub atomic particles present in the nucleus of an atom?

- | | |
|--------------------------------|------------------------------|
| 1. Electrons only | 2. Protons and neutrons only |
| 3. Neutrons and electrons only | 4. Neutrons only |

04. Select the answer that correctly represent a similarity and a difference between cardiac muscle and skeletal muscle respectively,

- | | |
|---------------------------|--|
| 1. Striation, Branching | 2. Non-Striation, Branching |
| 3. Cylindrical, Striation | 4. Involuntarily controlled, Striation |

05. The forces applied on an object is shown below. What is the resultant force?



- | | | | |
|--------------------------|---------------------------|--------------------------|---------------------------|
| 1. $\overleftarrow{20N}$ | 2. $\overrightarrow{30N}$ | 3. $\overleftarrow{50N}$ | 4. $\overrightarrow{80N}$ |
|--------------------------|---------------------------|--------------------------|---------------------------|

06. Select the chemical compound that has the highest pH value.

- | | |
|------------------|-------------------------|
| 1. Sulfuric acid | 2. Sodium carbonate |
| 3. Vinegar | 4. Pottassium hydroxide |

07. In What form is the food produced by photosynthesis transported through the phloem tissue?

- | | | | |
|------------|------------|------------|------------|
| 1. Sucrose | 2. Maltose | 3. Glucose | 4. Lactose |
|------------|------------|------------|------------|

08. What is the separating technique used to separate L.P gas from crude oil?

1. Simple distillation 2. Steam distillation 3. Solvent extraction 4. Fractional distillation

09. Select the two factors that could affect on moment

1. Force and mass.
2. Force and perpendicular distance to the force from the rotation axis.
3. Mass and the perpendicular distance from the rotation axis.
4. Force and momentum.

10. Which of the following organelles is considered as the power house of the cell?

1. Ribosome 2. Endoplasmic reticulum 3. Golgi complex 4. Mitochondrion

11. What is the similarity between transverse waves and the longitudinal waves?

1. Particles of the medium oscillate perpendicular to the direction of energy propagates
2. Particles of the medium oscillate parallel to the direction of energy propagates
3. Particles propagates forward direction
4. Propagation of energy

12. What is the element that has the highest electronegativity and the valency is one?

1. F 2. Cl 3. O 4. Li

13. Select the answer that correctly represent a similarity and a difference in body covering skin between pisces and amphibian

1. Dry skin, having scales 2. Having scales, wet skin
3. Mucous skin with glands, having scales 4. Having scales, Dry skin

14. The frequency of a certain wave is 10 Hz. What is the period of that wave?

1. 0.01 S 2. 0.1 S 3. 1 S. 4. 10 S.

15. Select the mixture that can be separated by crystallization

1. Acetic acid + Water 2. Copper sulphate + Water 3. Alcohol + Water 4. Grease + Kerosene

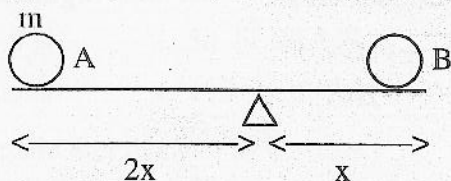
16. Which of following statements correctly represent the feature/ features of species belongs to the phylum cnidaria?

- a - Have a radial symmetrical body
c - Tube feet present for locomotion

b - All are hetero trophic

1. a only 2. b only 3. b and c only 4. a and b only

17. If the weight of A is m N, What is the weight of B?



1. 2m N 2. m N
3. 1/2m N 4. 4m N

18. Some properties of metals are listed below

- a - Good conductors of heat and electricity
b - All the metals react with dilute acids
c - Generally have a high density

Which of the above is/ are true

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

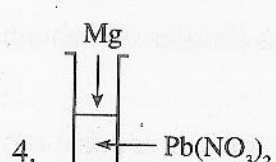
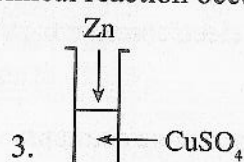
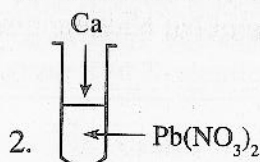
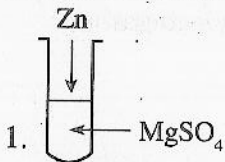
19. The plant which doesn't have an underground stem is,

1. Taro (Kirī ala)
2. Leeks
3. Araththa
4. Dahlia

20. The mass of an object is 10 kg. The time taken to lift that mass to a height of 5m is 2s. Calculate the power.

1. 250 W
2. 2500 W
3. 25 W
4. 2.5 W

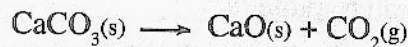
21. In which of the following test tubes does not a chemical reaction occur?



22. Tissue Parenchyma act as a simple permanent tissue in a plant. Which of the following is not a function of it?

1. Storage of food
2. Production of food
3. Providing support for herbaceous plants
4. Increases the height of the plant

23. The balanced chemical equation for the decomposition of CaCO_3 is mentioned below.
(Ca=40, O=16, C=12)



Calculate the mass of CaCO_3 required to decompose in order to obtain 280 g CaO?

1. 250 g
2. 300 g
3. 400 g
4. 500 g

24. The power of an electrical equipment is 100 W. Calculate the quantity of electrical energy spent if this equipment works for 10 hours.

1. $100 \times 10 \times 60 \text{ J}$
2. $100 \times 10 \times 60 \times 360 \text{ J}$
3. $100 \times 60 \times 60 \text{ J}$
4. $100 \times 10 \times 60 \times 60 \text{ J}$

25. What is false regarding the polysaccharides?

1. Hydrolysis of polysaccharides forms relevant mono saccharid
2. Polysaccharides are crystals
3. They are insoluble in cold water
4. Some polysaccharides are composed of glucose

26. Consider the following statements

- a - The unbalanced force act on an object moving with uniform velocity is zero
- b - The acceleration of a body occurs due to the unbalanced force is inversely proportional to its mass.
- c - Resultant force on an object throwing vertically up is always acting upwards.

What is/ are true from the above statements

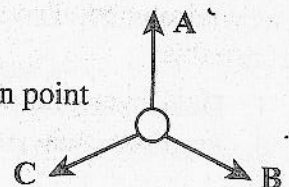
1. Only a
2. Only a and b
3. All a, b and c
4. Only b and c

27. Which of the following is not an example for solid-solid homogenous mixture?

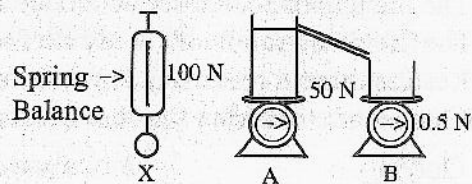
1. Brass
2. Steel
3. Nichrome
4. Concrete

28. The following shows how an object is in equilibrium under three inclined forces. Which statement is true about this system.

1. The resultant force is equal to the addition of all A, B and C forces.
2. The resultant of A and B is equal to force C in every aspect.
3. The lines of action of all the three forces A, B and C do not meet at a common point
4. The resultant of all A, B and C is zero



1. Calculate the mass of NaCl required to prepare 250 cm³ of 5 g dm⁻³ of NaCl solution.
1. 0.5 g
 2. 0.125 g
 3. 1.25 g
 4. 1.5 g
2. Which of the following is **not** a feature of a hormone?
1. Stimulate the target organs
 2. Small concentration is required
 3. Inorganic compounds
 4. They are transported through blood
3. What is the element that obtains the electronic configuration of Ne after emitting two electrons?
1. F
 2. Cl
 3. O
 4. Mg
4. Select the pair of plant that is having extrose stamens
1. Corn, Tridax
 2. Lebbek flower (Pinna), Jasmin
 3. Orchid, Tridax
 4. Pinna, Orchid
5. Which one of the following is **not** an advantage of frictional force?
1. Can walk on a surface
 2. Use of coir ropes to tie something
 3. Pushing a cupboard by placing coconut husks under its legs to move it around
 4. Sanding a wood with a sandpaper
6. What are the enzymes that helps for the digestion of proteins?
1. Pepsin, Tripsin, Peptidase
 2. Pepsin, Amylase, Sucrase
 3. Moltase, Amylase, Lactase
 4. Sucrase, Lactase, Tripsin
7. Name the Characteristic of sound which depend on amplitude of sound wave?
1. Loudness
 2. Pitch
 3. Quality of Sound
 4. Frequency
8. Select the **false** statement regarding the ionic bonds.
1. Conducts electricity in the fused (molten) state or in aqueous solutions
 2. Have a solid crystalline from at room temperature
 3. Have high melting points and boiling points
 4. Exists as molecules composed of several atoms
9. Which is **not** a function of Adenosine Tri Phosphate (ATP)?
1. Storage of energy
 2. Release of energy
 3. Do the cellular respiration
 4. Act as an energy carrier
10. The object X is fully immersed in A. Then the reading of the spring balance was reduced to 80 N. What are the readings A and B.
1. 70 N, 20.5 N
 2. 50 N, 20.5 N
 3. 150 N, 0.5 N
 4. 150 N, 20.5 N
11. Select the molecule that has two lone pairs.
1. H₂O
 2. NH₃
 3. CH₄
 4. CCl₄
12. The heavy traffic congestion in the morning creates a harmful situation for both passengers and the environment. Private vehicles are also being used excessively what could be the most suitable alternative to this.
1. Developing the public transport services
 2. Construct new roads
 3. Promoting private vehicle usage
 4. Providing facilities for employees to settle near offices

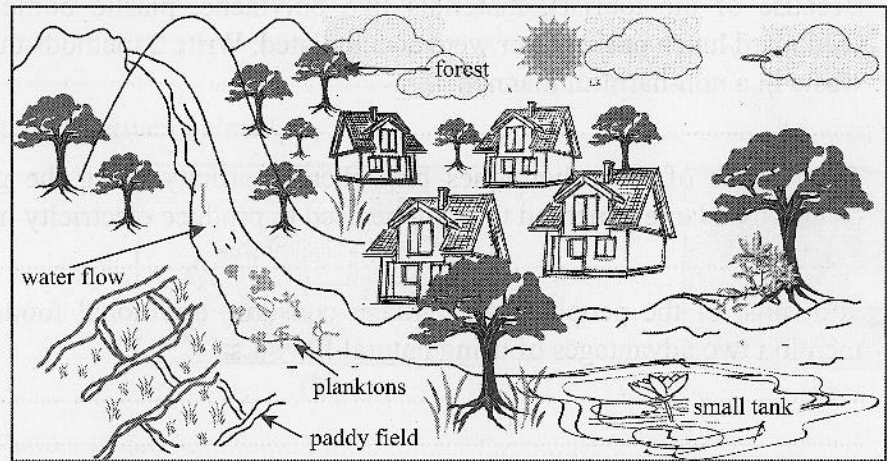


බස්නාහිර පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව மேல் மாகாணக் கல்வித் திணைக்களம் Department of Education - Western Province		වර්ෂ අවසාන ඇගයීම - 2024 - 2025 ஆண்டிறுதி மதிப்பீடு - 2024 - 2025 Year End Evaluation - 2024 - 2025	
ශ්‍රේණිය தரம் Grade	11	විෂය பாடம் Subject	Science
පිටුව வினாத்தாள் Paper	II	විෂය අංකය சுட்டிலக்கம் Index No.	காலம் Time 3 hours

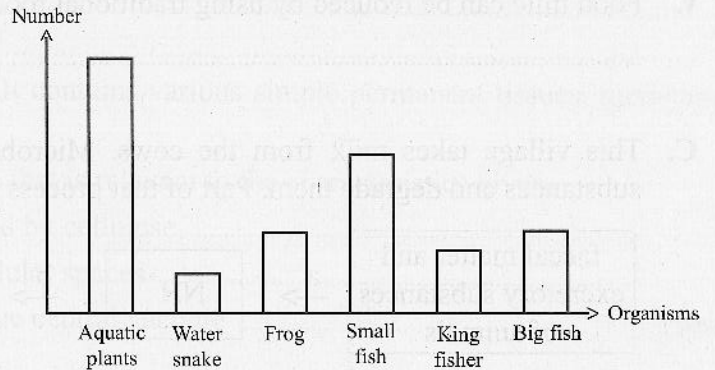
Instructions

- Answer all the questions in Part A, in the space provided.
- In part B answer three questions only.

01. Given below is a picture of a village. There is a forest on a mountain near the village. A stream of water flows fast across the village near the forest. There are also some paddy fields and a tank nearby.



- A. Given bar graph shows the various types of organisms found in the tank by some explorers. The values are also given in the graph.



- i. To which organizational level of biosphere does the tank belong? (01 mark)
- ii. Write a 4 linked food chain associated with the tank.

..... (01 mark)

iii. Draw an energy pyramid for the food chain you have written.

(01 mark)

iv. In recent past, the farmers have put high amount of insecticides to their paddy fields carelessly. Write a disease that may cause to farmers due to this.

(01 mark)

v. In several places of the tank, there was a green coloured foamy layer seen. It emitted an unpleasant odour too. What is this incident called?

(01 mark)

B. Due to the tourist attraction for this village, to provide facilities for them, some new building constructions were done including small boutiques and canteens.

i. Write 2 harmful effects to this environment due to improper constructions.

(02 marks)

ii. Because of the tourists, materials like polythene, plastic bottles, phone batteries, tissue paper, cardboard lunch packs, litter were accumulated. Write 2 methods that can be applied to manage these waste in a non-harmful manner.

(02 marks)

iii. The owners of some boutiques has taken electricity using the generators because there was no electricity. Name a method that can be used to produce electricity in this village.

(01 mark)

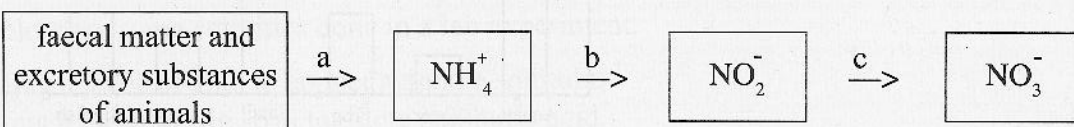
iv. Still most of the people in the village consume traditional food. They are used natural flavours mention two advantages of using natural flavours.

(02 marks)

v. Food mile can be reduced by using traditional food. Write one use of it.

(01 mark)

C. This village takes milk from the cows. Microbes are acted on the faecal matter and excretory substances and degrade them. Part of that process is given below.



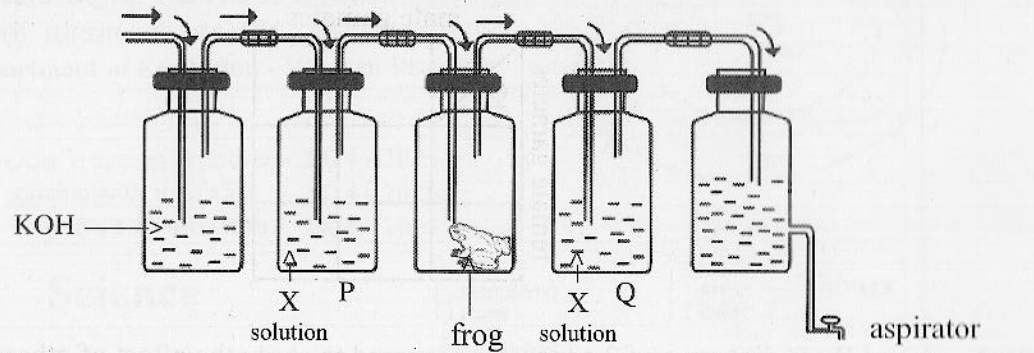
i. Name the process 'a'

(01 mark)

ii. Name the bacteria that helps for the process c.

(01 mark)

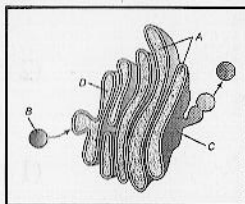
02. A. Production of energy using stored food inside the cells is called cellular respiration. Given below is an apparatus used by a student to test whether CO_2 is emitted during respiration.



- What is the solution X. (01 mark)
- Write the colour change in X in the bottle Q when aspirator is on? (01 mark)
- What is the purpose of using bottle P? (01 mark)

B. When considering the plant and animal cells, there are similarities as well as differences.

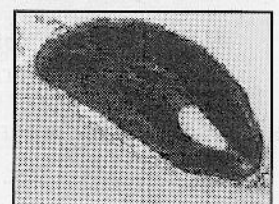
- Write one similarity and a dissimilarity between plant and animal cells.
 Similarly
 Dissimilarity (1 × 2 marks)
- Write the function of organelles given below. (03 marks)



(a)



(b)



(c)

-
-
-

C. Plant body is a result of several tissues. It contains various simple permanent tissues, meristamatic tissues, complex tissues, etc.

- Name the type of simple permanent tissue that is relevant to the characteristics given.
 (a). The corners of the cell wall thickened by cellulose.
 (b). Cells are tightly packed, No intercellular spaces
 (c). Spherical, isodiametric cells with large central vacuole (1 × 3 marks)

D. Human beings have 23 pairs of chromosomes and out of them one pair determine the sex.

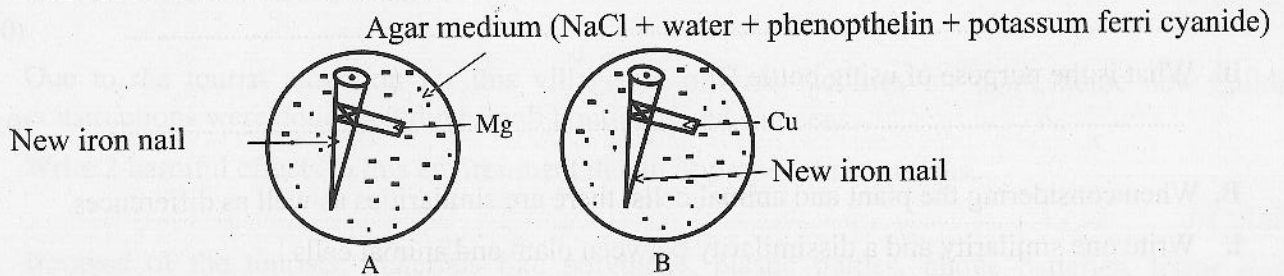
- In which chromosome does the genes of sex linked inherited disorders present. (1 mark)
- Write the genotype of the carrier mother of red green colour blindness. (Recessive gene is c) (1 mark)

- iii. Using the punnet square write the genotypes of the off springs obtained by the marriage of a carrier mother and a healthy father for the disorder colour blindness. (2 marks)

	male gametes	
female gametes	$\frac{X}{X}$	
	$\frac{X}{Y}$	

03. A. A and B are diagrams of 2 apparatus prepared to study the effect of other metals on corrosion of iron.

Took observations after few hours.



- When preparing agar, what is the reason for putting some NaCl to the mixture. (1 mark)
.....
- What type of ions are identified using the following indicators. (2 marks)
 - Phenolphthalein
 - Potassium ferric cyanide
- Which iron nail in A and B plates will give a blue colour around it. (1 mark)
.....
- Write the oxidation half reaction occur at A plate. (2 marks)
.....
- In which nail, Cathodic protection of iron has taken place. (1 mark)
.....
- Write an example where cathodic protection of iron is practically used. (1 mark)
.....

B. Given below are some activities done in a lab experiment.

P - Adding a piece of zinc to copper sulphate solution.

Q - Adding a piece of Mg strip to dilute sulphuric acid.

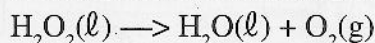
R - Put a small amount of Manganese dioxide to Hydrogen Peroxide solution.

- Which activity shows a colour change? (1 mark)
.....
- From which experiment, effect of catalysts can be tested? (1 mark)
.....

iii. Write 2 common characteristics of a catalyst.

..... (1 mark)

iv. Decomposition of Hydrogen peroxid is given below.



a) Find the mass of O_2 formed when 68 g of H_2O_2 solution is completely decomposed. (H=1, O=16)

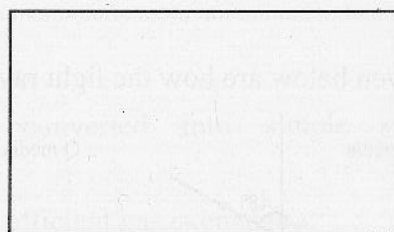
..... (2 marks)

b) Write a method to collect this produced O_2 sample.

..... (1 mark)

c) Draw the Lewis structure of an Oxygen

Molecule inside the given square.



(1 mark)

04.A. Supplying potential difference across a p - n junction using an external power supply is called biasing. Given below is a p - n junction before biasing it.

i. Name the region z.

..... (1 mark)

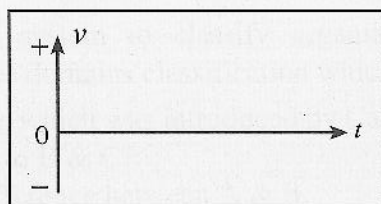
ii. What is the device made only using a p - n junction.

..... (1 mark)

iii. Your are provided with the 1.5 V dry cells, electric bulb and a switch. Using these, draw the circuit to show how current passes through the p - n junction. Use standard symbols in the circuit.

(2 marks)

iv. If an alternating current is supplied to the above p - n junction, draw the out put current by a graph in the given square.

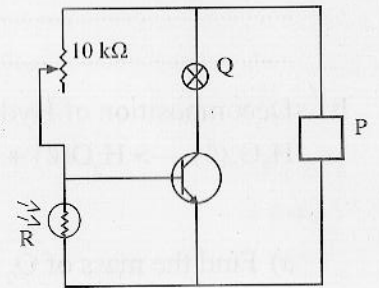


(1 mark)

vi. Given below is a circuit diagram that a student has drawn.

- a). Draw the correct way how the dry cells should be connected in the space given in P.

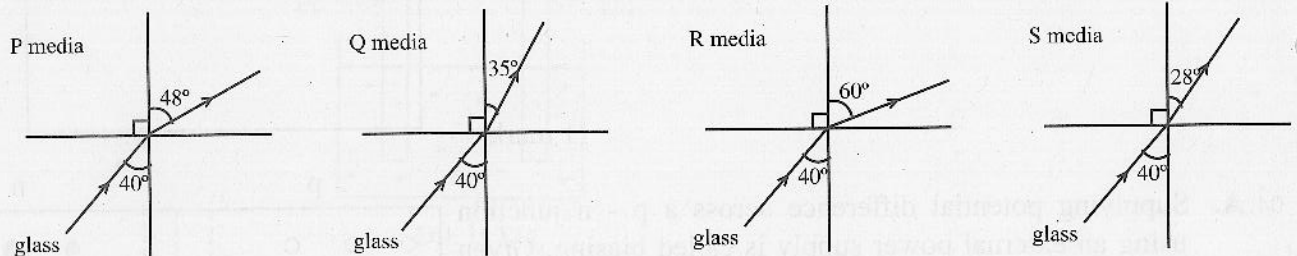
(1 mark)



- b). Name device R. (1 mark)

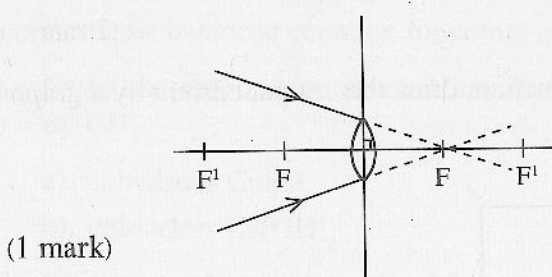
- c). Say whether the Q bulb glow or not, when a high intensity of light falls on R.
..... (1 mark)

B. Given below are how the light ray refracts to the media P, Q, R, S from glass medium.

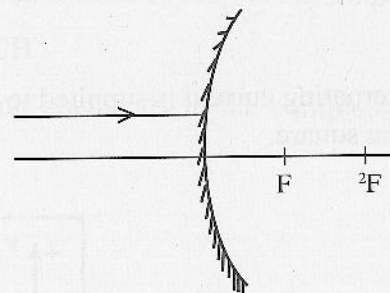


- i. Write the P, Q, R and S media in the order of increasing the density.
..... (1 mark)
- ii. Write an expression for the refractive index of Q medium relative to glass.
..... (1 mark)
- iii. When the incident angle gradually increases, in which medium the total internal reflection will occur first. (1 mark)
- iv. Write 2 instances where total internal reflection is used in a useful manner. (2 marks)
.....
.....

v. Complete the following ray diagrams.



(1 mark)

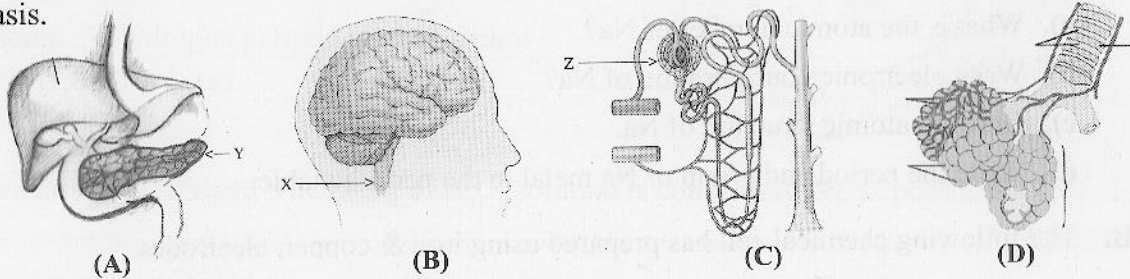


(1 mark)

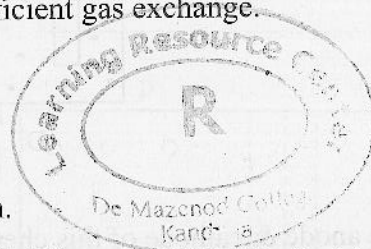
Part B

• Answer only 03 questions.

05. A. The following diagram shows some parts of human body which are used to co-ordination and homeostasis.

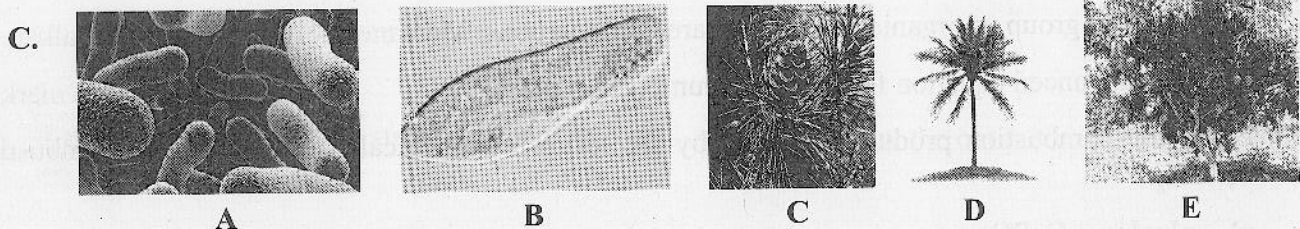
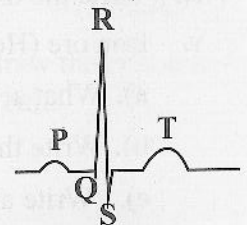


- Choose the appropriate letter for the following biological processes in the human body.
 - respiratory gas exchange.
 - nervous coordination
 - excretion
 - Process of complex organic compounds converted into simple organic products (1×4 marks)
- Write two adaptations of the respiratory surfaces for efficient gas exchange. (2 marks)
- Write a function of a X. (1 mark)
- The substances produced by Y,
 - Name a enzyme that digests protein. (1 mark)
 - Name the hormone that turns glucose into glycogen. (1 mark)
- Name two components that are not present in the filter in Z but are present in the blood. (2 marks)



B. Electro cardio gram (E.C.G.) is used to get information about heart function. This tracing denote the potential changes take place in cardiac muscle cells during heart function. E.C.G. of a healthy person as follows.

- Name the stages represented by the places QRS. (1 mark)
- Which valve closes when "lub" sound occurs? (1 mark)
- State correctly the blood pressure of a healthy man. (1 mark)
- Briefly explain about atherosclerosis. (1 mark)



The most appropriate system to classify organisms is the natural classification. The latest classification is the three domains classification which was introduced by Carl Woese.

- Name the three domains which was introduced by Carl Woese (1 mark)
- Which domain belongs to B & C? (1 mark)
- Name one structural difference between A & B. (1 mark)
- Write a similarity & a difference between C & D (2 marks)

(Total 20 marks)

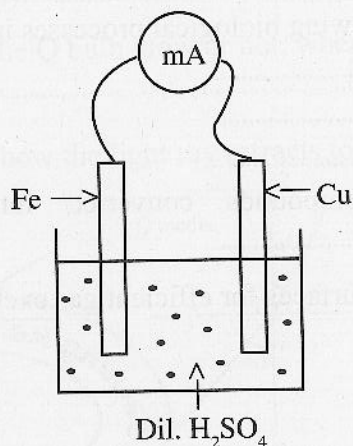
6. A.

i. Na metal is represented in standard form as follows.



- What is the atomic number of Na? (1 mark)
- Write electronic configuration of Na? (1 mark)
- Draw an atomic structure of Na. (2 marks)
- Write the period and group of Na metal in the periodic table. (2 marks)

B. The following chemical cell has prepared using iron & copper, electrodes.



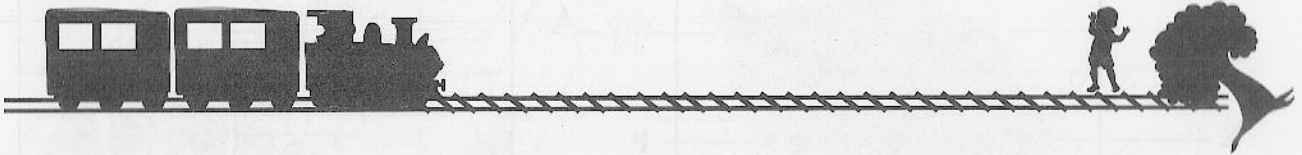
- Write the anode & cathode of this chemical cell. (2 marks)
- Name the direction of the electron flow. (1 mark)
- The H_2SO_4 which is used here is called as a strong acid, why? (1 mark)
- Write the oxidation half reaction in anode of this chemical cell (1 mark)
- Iron ore (Hematite) is oxidized in the blast furnace as a raw material for extraction of iron.
 - What are the other two raw materials in iron extraction (2 marks)
 - Write the temperature range within the blast furnace when oxidized in hematite. (1 mark)
 - Write an advantage of flotation of slag on molten iron. (1 mark)

C. The simplest group of organic compounds are hydrocarbons. Methane (CH_4) is the simplest alkane.

- Write the balanced equation for complete combustion of CH_4 . (2 marks)
- Name the combustion product identified by the following chemicals in the complete combustion of CH_4 .
 - anhydrous CuSO_4 (2 marks)
 - colourless $\text{Ca}(\text{OH})_2$ (1 mark)
- Write the molecular formula of propane with three carbon atoms. (1 mark)

(Total 20 marks)

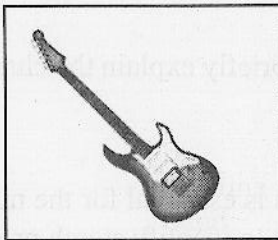
07. A. The below diagram illustrates a train travels at uniform velocity of 20 ms^{-1} on a straight railway line in a foggy morning. A tree has fallen blocking the railway line. A student is near that tree and soon after hearing the sound of the train coming in a distance. He runs towards the train parallel to the railway line with waving the torch.



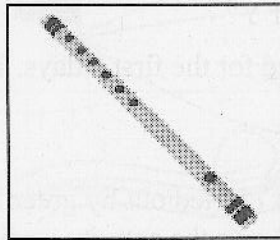
- If the student heard the sound of the train 5 seconds after emitting the sound, What is the distance between the student and the train at that moment? (Speed of sound in air is 330 ms^{-1}) (2 marks)
- In which mechanical wave form does sound travel in air? (2 marks)
- Calculate the deceleration of the train if the train driver perceiving the emergency signal given by the student uniformly reduced the velocity of the train to 0 ms^{-1} in 80 seconds. (2 marks)
- Draw the velocity time graph of the train motion during the 80 seconds. (2 marks)
- Calculate the distance traveled by the train during 80 seconds using the graph. (2 marks)

B.

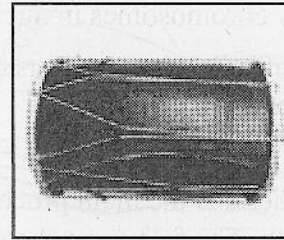
- State one procedure followed to produce different pitches in the following musical instruments.



(a)



(b)



(c)

(3 marks)

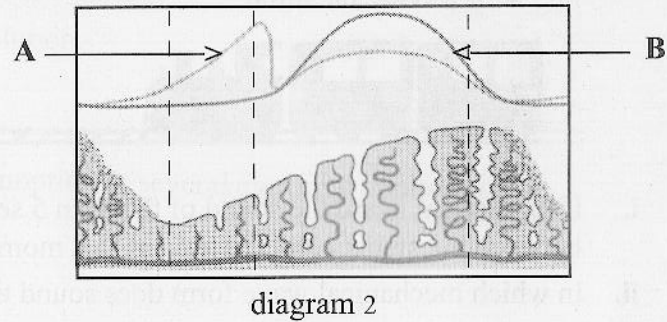
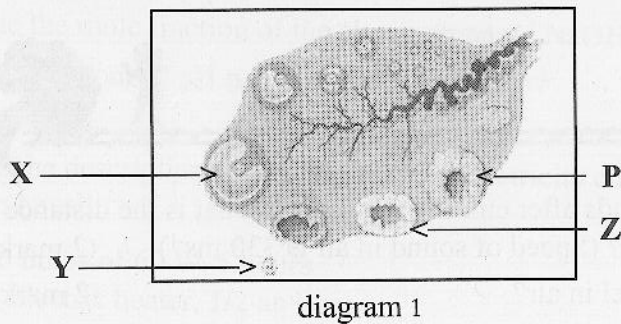
- What is the characteristic of sound that changes during the activity used to produce the different notes of the above musical instruments? (1 mark)
- What is the hearing range of the human? (2 marks)
- Write down the types of electromagnetic waves that used to the following activities.
 - Observe internal body organs of human
 - Using remote controllers
 - Destroy germs
 - For cooking purposes

(1×4 marks)

(Total 20 marks)

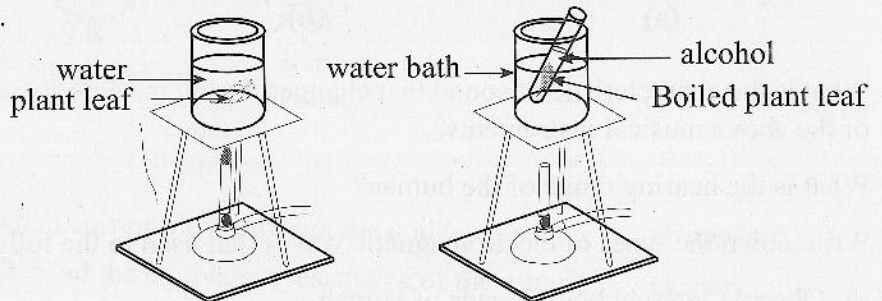


08. A. Production of ova in females initiate since foetal stage. Below diagram 1 shows a cross section of an ovary with various stages of ovum and diagram 2 shows the changes that take place in uterus during menstrual cycle.



- Name X in diagram 1 (1 mark)
- What is the name of the hormone that causes X to burst and Y to be released? Also write the name of the gland that secretes it. (2 marks)
- Name the hormone A secreted by the ovary during the development of X. (1 mark)
- What is the function of A? (1 mark)
- How many chromosomes in nucleus of Y? (1 mark)
- The level of A & B hormones is reduced for the first 4 days. Then briefly explain the changes that take place in uterus. (1 mark)

- B. Photosynthesis is the main process that carried out by green plants is essential for the maintenance of life on earth. The following diagram shows the activity carried out to identify starch produced during photosynthesis in leaves.

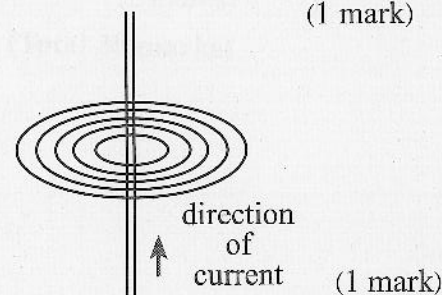


- Explain why water bath is used in the above activity. (1 mark)
- Mention the reason that the leaves did not whiten well even though they were boiled in alcohol for a long time. (1 mark)
- After the leaves were boiled in alcohol, wash them before adding iodine solution. Explain the reason. (1 mark)

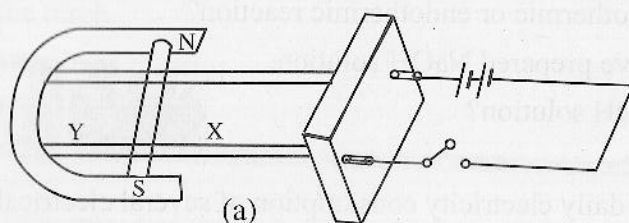
C.

- When an electric current flows through an electric conductor a magnetic field is created in the vicinity of the conductor.

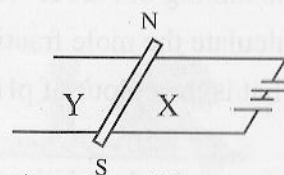
Find and mark the direction of magnetic field in the following figure using arrow head in your answer paper.



- ii. A conductor placed in a magnetic field moves when a current flows through the conductor as a result of a force acting on it.
In the following cases write the direction in which the force acts separately from the X and Y direction.



(a)



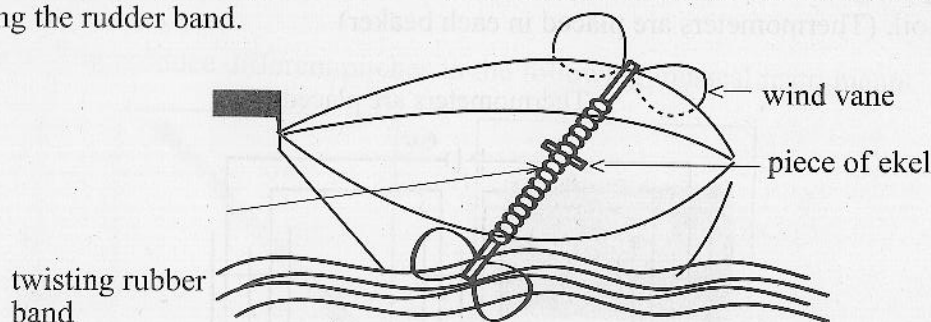
(b)

(2 marks)

- iii. In a certain transformer, the number of turns in the primary coil is 100 and that in the secondary coil is 20,000. A voltage difference of 12 V is supplied to the primary coil.

- Find the output voltage of the secondary. (1 mark)
- If the current output of the secondary coil is 0.1 A, Find the current input of the primary coil. (1 mark)

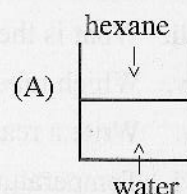
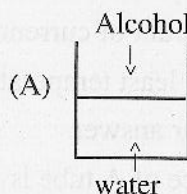
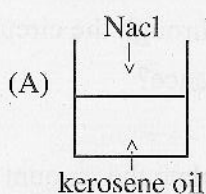
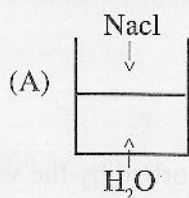
- D. Below is a toy boat prepared by a student for an exhibition. The boat is sailed by turning its wind vane and twisting the rudder band.



- The rubber band is twisted as the piece of splinter rotates, what type of energy is stored in the rubber band. (1 mark)
- Mass of the boat is 100 g. It's starting velocity is 0.2 ms^{-1} . Calculate the initial momentum. (2 marks)
- What is the initial kinetic energy of the boat? (1 mark)
- What is the upthrust exerted on the boat? (1 mark)

(Total 20 marks)

09. A. The nature of the solute and the solvent concerned with the preparation of solutions in day to day activities. The following A, B, C and D four set ups were used to test factors affecting solubility.



* solute and solvents were added to the above four beakers and mixed well before getting observations.

- Which beaker has the solute and solvent mixed well? (1 mark)
- What is the polar solute used in the above activity? (1 mark)
- In 25°C , solubility of MgCl_2 is 53.00 g in water. What is the mass of MgCl_2 when it dissolves in 200 g of water in the same temperature? (2 marks)
- Name two factors that affect solubility of a gas in water. (2 marks)

B. NaOH solution was prepared by using 10 g of NaOH dissolves in 360 g of water. (Na = 23, O = 16, H = 1)

- The mixing of NaOH with water is exothermic or endothermic reaction? (1 mark)
- Calculate the mole fraction of the above prepared NaOH solution. (2 marks)
- What is the colour of pH paper in NaOH solution? (1 mark).

C.

- Below is the description related to the daily electricity consumption of several electrical appliances in a certain house.

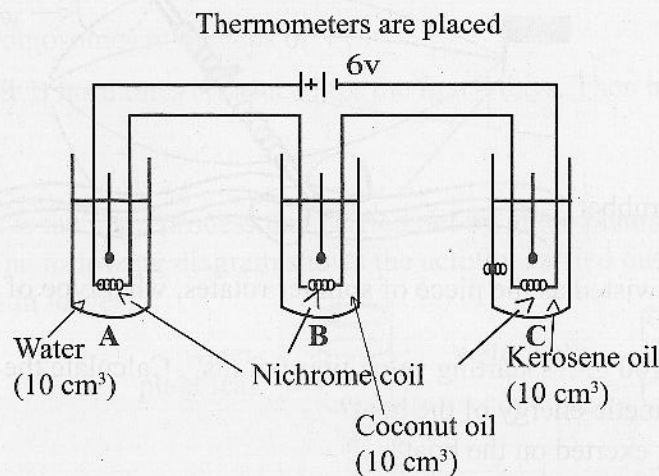
Using 10 bulbs of 60 W, 5 hours

1500 W Electric heater, 1/2 an hour

According to the above details, calculate the number of units used up in a day. (2 marks)

- What is the use of RCCB (Residual current circuit breaker) in a domestic electric circuit? (1 mark)

D. Following diagram shows the activity which is done by using same volume of water, coconut oil & kerosene oil. (Thermometers are placed in each beaker)



- What is the change in nichrome wire, when current flow through the coil? (1 mark)
- The resistance of a nichrome coil is 2 Ω . Find the equivalent resistance of the circuit. (1 mark)
- What is the whole amount of current passing through the circuit? (1 mark)
- Which tube shows the least temperature difference? (1 mark)
- Write a reason for your answer. (1 mark)
- Temperature difference of A tube is 5 $^{\circ}\text{C}$ calculate the amount of heat absorbed by the water. (specific heat capacity of water is 4200 J kg⁻¹ $^{\circ}\text{C}^{-1}$, density of water is 1000 kg m⁻³) (2 marks)

(Total 20 marks)