

Name

❖ Instructions:

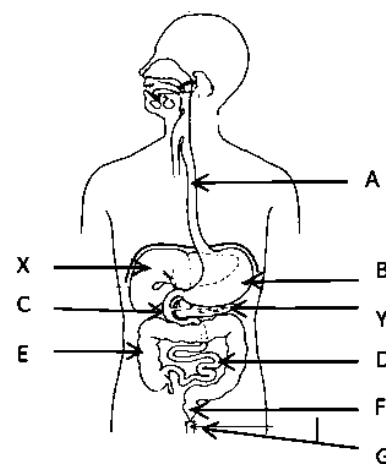
- This question paper contains part A and B .Answer all the questions in part A, in the space provided. Answer only 3 questions in part B. Attach the answer script of part B with part A and hand over.

Part A

01. Below given is the diagram of human digestive system.

1. Name the relevant parts of the human digestive system in the diagram.

A.....
 B.....
 C.....
 D.....
 E.....
 F.....
 G.....



2. Complete the below given digestive process occur in organ B

..... Pepsin

..... Renin

3. Write 02 digestive enzymes that secret by organ

.....

4. What is the acid secreted in organ B to provide acidic medium to the food?

.....

5. Write the range of numbers allocated for acid in PH scale and the relevant colour for strong acid.

Range in PH scale

Colour for strong acid

6. (a) Name suitable antacid that can be used to neutralize the acidity in the stomach.

.....

- (b) Complete the below given chemical reaction that occur in above neutralization.

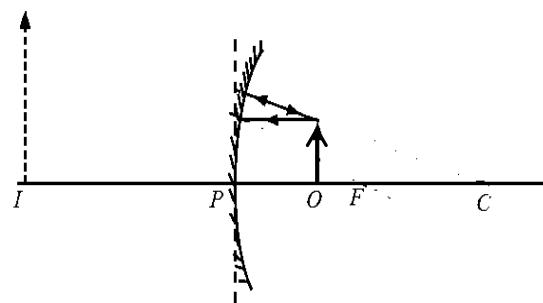


7. Below given is a ray diagram obtain from an optical equipment in the dental clinic.

- (a) Complete above ray diagram

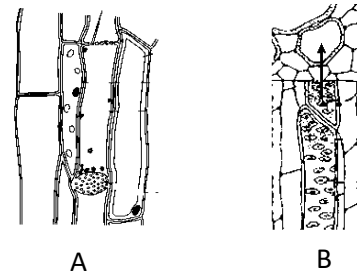
- (b) Write one feature of above

.....



02. Tissue is one of an organizational level of the multicellular organisms.

Two types of tissues are given in the diagram.



1. (A) with a that has been modified to perform a function.

(B) Above A and B figures are complex permanent tissues in the Plant stem. Name them

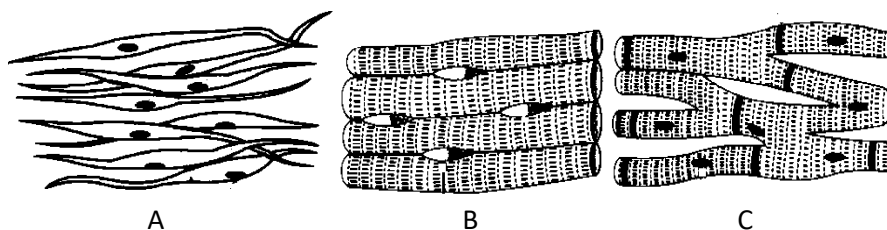
A

B

2. What is the building unit of nerve tissue of vertebrates?

3. What is the neuron transmit impulses from central nervous system to effector (muscles).
.....

4. Diagrams of muscle tissue in the human body are given below.



(a) Which tissue is controlled voluntarily and present striation?

(b) State a place that tissue "A" can be seen.

(c) State the letter of tissue that never become fatigue.....

(d) State structural similarity and difference between B and C tissues.

Similarity

Differences

5. Mitosis and meiosis are two types of cell division occurred in the body of organisms. State relevant instance for each type of cell division .

Meiosis

Mitosis

6. Below given are two diagram of organelles in a living cell.

What is the function of each organelle

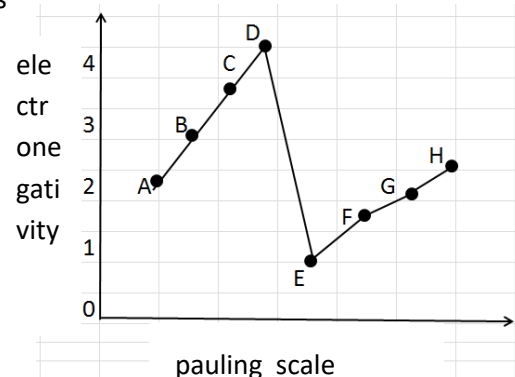
A.

B.



03. (A) variation of electronegativity of some consecutive elements

according to the pauling scale plotted in a graph against atomic number (The given letters in the graph are not actual symbols of elements. use only given letters in the graph) to write the answer.



1. (a) What is the relevant letter of element that having highest electronegativity?

.....

(b) What is the physical state of above element?

.....

(c) To which group above element is belong?.....

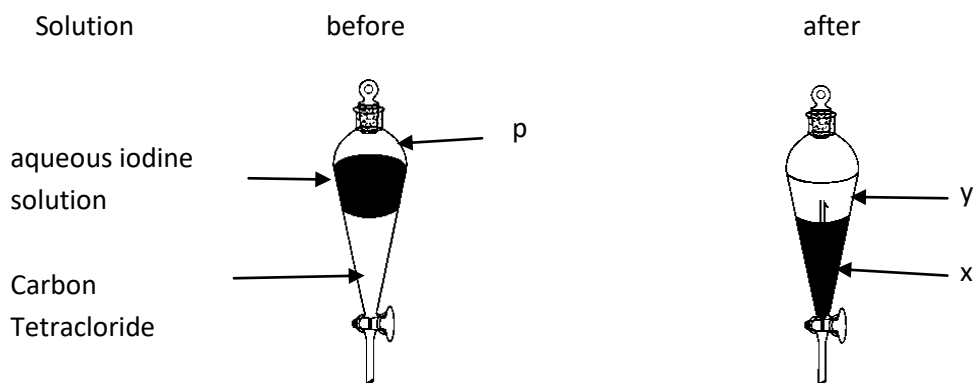
2. Write the electronic configuration of element A

3. (a) Build up the chemical formula of compound prepared by C and E

.....

(c) What is the nature of bonds of above compound?.....

(B) Below given two diagrams are relevant to the activity of separation of iodine from aqueous iodine



1. What is the laboratory equipment named as p ?

2. What is the colour of x layer after the activity?

3. Name the substance y.

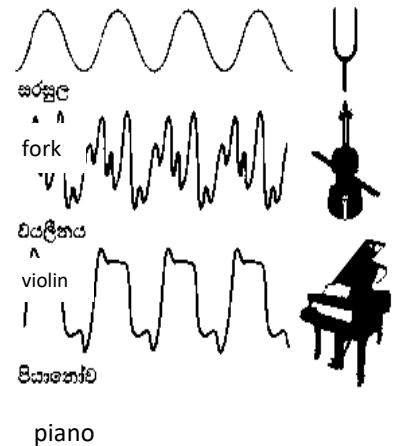
4. What is the name of above method of separation?.....

5. Draw Lewis dot and cross diagram of separation.

6. (a) Calculate the molar mass of CCl_4 . (c = 12 , Cl = 35.5)

(b) Calculate the number of moles in 77 g of above compound.

04. Shape of the waves for note C, obtained by the cathode ray oscilloscope for tuning fork, violin and piano are given in the diagram.



1. Which instrument belong to the category of string instrument?

2. Complete below given table by considering the shape of the waves
 For note C

Characteristics of sound	Equal / not equal
1. Pitch	
2. Loudness	
3. Quality of sound	

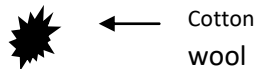
3. The frequency of note C is mentioned as 256 Hz. What does it mean?

4. State a similarity and dissimilarity between sound wave produced by a violin and radio wave.

(a) similarity (b) dissimilarity

5. Which phenomenon of light is used when optical fibers are using in communication activity?

6. Complete the ray diagram for the instance of burning cotton wool by using convex lens



7. Write the relevant type of electromagnetic wave that suitable for below given

Tasks. (Micro waves / light waves / x ray / infrared waves / radio waves)

(a) To identify the fracture in the bone

(b) To destroy cancer cell

(c) To send signals from remote controller to television

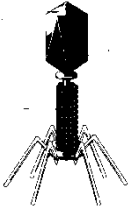
.....

(d) For communication in radar systems and mobile phone communication

System

Part – B

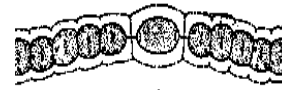
05.(A) Below given are some microorganisms belongs to different groups.



X



Y



Z

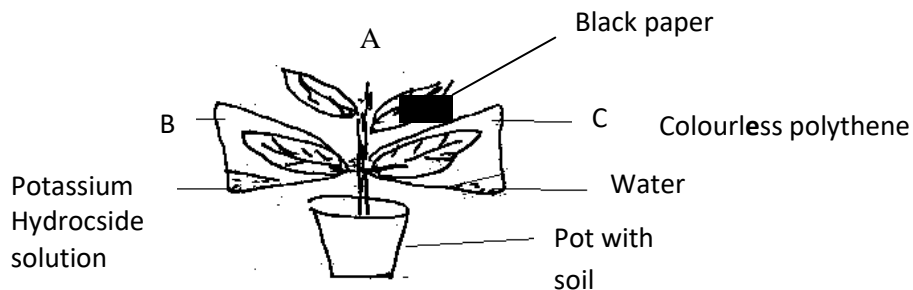
1. Define the microorganisms.
2. (a) which letter represents the autotrophic organisms in above figure?
(b) State a useful product that is produced by using organisms belong to the domain of the organism named in above Question "a".
3. In above given organism shows both living and non living characteristics.
 - a) State the living characteristics showing by them.
 - b) What is the disease that cause by an organism which belong to the group of above organism and spread by mosquitoes?
4. Name the disease that causes by the type of organism of "y" in above figure and state which organ system is infected by the disease.

(B) Answer below questions by using only below given words.

(Cycas plant, coconut plant, papaw plant, star fish, tortoise, penguin)

1. (a) State a flowering and non flowering plant out of above given plant.
(b) Classify above given plants by using a dichotomous key.
2. (a) Name homoiothermic animal out of above organisms.
3. (b) State another specific feature of above group of animal.

(C) Below given apparatus is prepared to test the factors need for photosynthesis.



1. Which factors needed for photosynthesis are tested by A and B respectively?
2. What is the reason for usage of water bath to boil the leaf in alcohol, before it tested for starch?
3. Write the balanced equation for photosynthesis?

(D) Below given is a diagram of alveoli

1. Write a substance that deffuse from alveoli to blood capillaries.
2. State an adaptation of wall of alveoli for efficient gas exchange.



3. What is the disease cause by abnormal cell growth due to epithelial cells of trachea exposure to cigarette smoke.
4. Define the anaerobic respiration and state the anaerobic respiration reaction by word formula that takes place in plants.

06.(A) An apparatus that prepared to produce some gas in given below.

1. What is the gas that can be produced by using this apparatus?
2. What are the A and B chemicals that can be used to produce above mentioned gas respiratory?
3. What can you say about the solubility of the gas in water that you mentioned above?
4. State 2 instances that above mentioned gas are used.

(B) Part of activity series is given below

1. Which factor is based when preparing this activity series?
2. Name the relevant metals for the places named as 1,2 and 3.
3. Which metal out of 1,2 and 3 is react rapidly with cold water?
4. Write the balanced chemical equation for the reaction of above metal with water.

K
(1)
Ca
Mg
(2)
Zn
(3)
Sn
Pb

(C) During the test of identification of different mixtures, the carbon dioxide gas was sent in to the cool water in a vessel and it was sealed.

1. Which type of mixture is the above mixture?
2. State an instance that above prepared mixture is used.
3. Write a physical property of carbon dioxide gas.

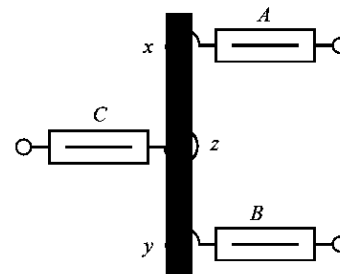
(D) 1. Write 02 instruments that should be used when prepare a standard solution in the laboratory.

2. Calculate the mole fraction of urea in a solution prepared by mixing 90 g of water (H_2O) with 18 g of urea ($CO(NH_2)_2$). (H=1, C=12, N=14, O=16)

4. Define the term Solubility
5. Write a factor that effects on solubility other than temperature.

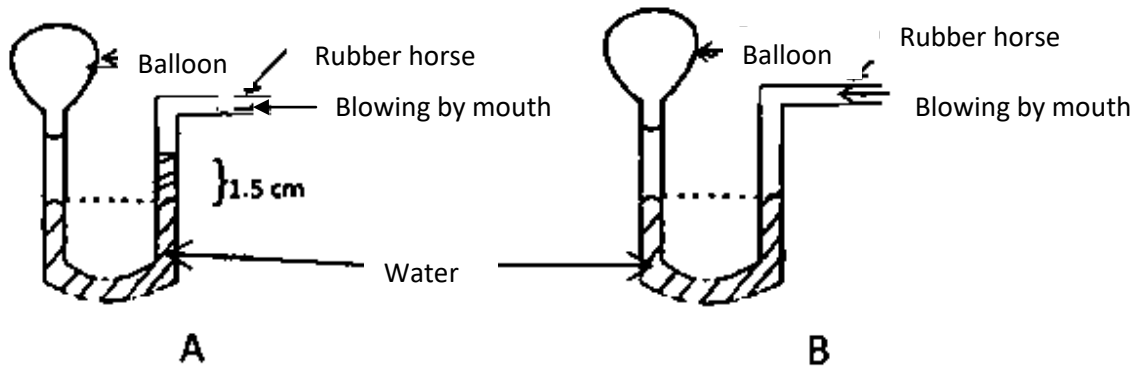
07.(A) A diagram of a activity done in the laboratory is given below

1. What is the mean by resultant force?
2. Which type of resultant force is tested by the above activity?
3. It is required to apply equal force on Newton balance named as A and B, what is the reason for that?
4. What is the force should apply on Newton balance named as C to keep the system at equilibrium when applying 20 N force per each Newton balance A and B



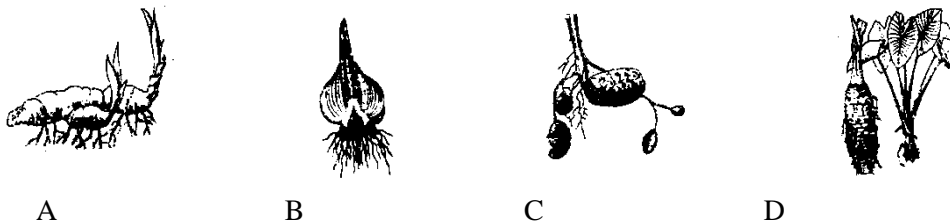
- Write 2 instances that couple of forces is acting on
- Explain the reason for the absence of linear displacement which is subjected to the couple of forces.

(B) The diagram shows the two instances of connecting some amount of air filled balloon to a halfly water filled “U” tubes. Some pressure is applied in both instances by blowing through the rubber hose. (density of water = 1000 Kg m^{-3} , $g = 10 \text{ ms}^{-2}$)

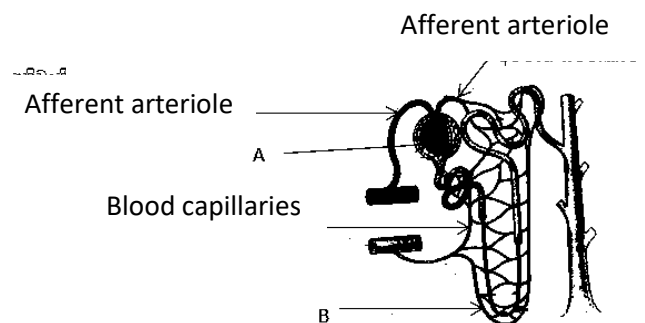


- In which balloon has highest pressure out of balloons of A and B diagrams?
- Do air pressures at both ends of the “U” tube different or similar?
- Find out the air pressure of balloon in “A” diagram, by considering that the air pressure of balloon is equal to the pressure of water at point “T”
- Name two equipments use to measure atmospheric pressure.
- Name two instances that apply atmospheric pressure usefully.

08.(A) Below shown are 4 types of underground stems of plant



- State relevant letters of underground stems that belong to the ginger and potato.
- Name the types of underground stems of B and D
- State another function of underground stem in A except vegetative propagation.
- A diagram of nephron is shown below
 - Name A and B in the diagram.
 - State a compound which can be included in A of a healthy person but can't be included in B.
 - State the structural change shown by afferent arteriole and efferent arteriole for efficient functioning.

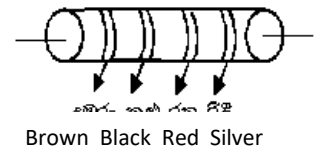
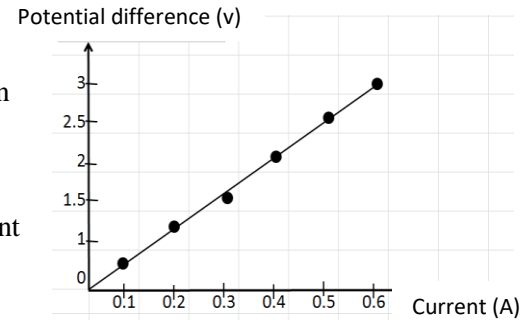


- What is the disease occur in kidney or bladder due to crystallization of calcium oxalate?

e) State a good behavior that we should follow to avoid from above disease condition.

(B) The readings for potential difference (v) were plotted against the current (I) in a graph by a group of students during the experiment conducted relate to the ohm's law. The graph is shown below.

1. What is the value of potential difference according to the graph when current is 0.6 A?
2. What is the relationship between potential difference and current according to the graph?
3. On reading of this experiment had a fault. What is the value of current relevant the fault reading.
4. Calculate the resistance according to the graph.
5. What are the factors effect for resistance of conductor?
6. Colour code of the fixed value resistor is given below. Find out the value of the resistance of the resistor. (Black = 0 ,Brown = 1 ,Red = 2 ,Silver = 10%)

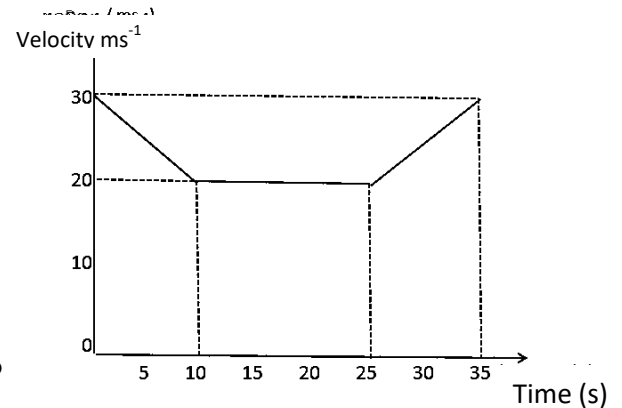


09. (A) Substances use in day to day activities are grouped as acid, base and salts.

1. Define the term strong base?
2. PH scale is used to identify acid and base. what is the rang of PH scale for base?
3. What is the difference between strong acid and weak acid?
4. How dilute acid is prepared by concentrated acid?
5. Write the balanced chemical equation of reaction between aques NaOH and dilute HCl.
6. Write the ion equation for common reaction between acid and base mentioned above.
7. Write the common term of above reaction.

(B) The velocity time graph for the motion of a vehicle is shown below.

1. What is the initial velocity of the vehicle?
2. What is the deceleration of the vehicle?
3. What is the nature of the motion between the 10th second and 25th second?
4. Find out the dynamic friction, if 150N of force is applied for the motion occur between 10th and 25th second.
5. Find out the displacement of the vehicle during the 25 S to 35 S



(C) Two instances of measuring weight of the same object in air and water is given below. The mass

of wooden block is 1.8 Kg.(g = 10ms⁻¹)

1. What is the value of weight of the wooden block mentioned as x in figure?
2. What is the apparent weight loss of wooden block?
3. Find out the upthrust created by Water on the wooden block.

