

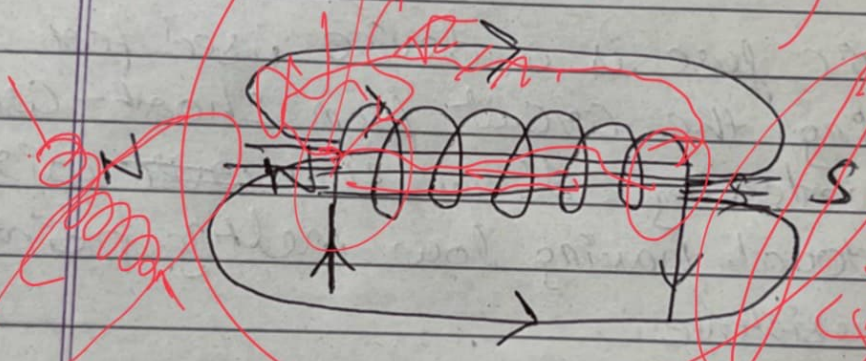
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4) Overloading & Short-circuiting

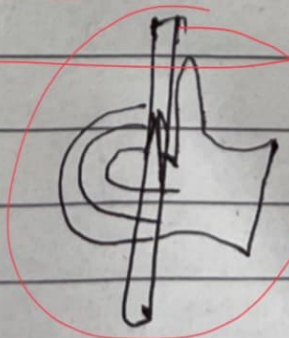
- Short circuit caused when live wire and neutral wire gets in contact
- Overloading → The overheating of wire in a circuit due to heavy flow of current this may cause a fire

5) A Solenoid is a device of a coil wire



6) Corkscrew rule: If the direction of forward movement of screw shows the direction of the current, then the direction of rotation of screw shows the magnetic field

RHT



max well  
cork screw

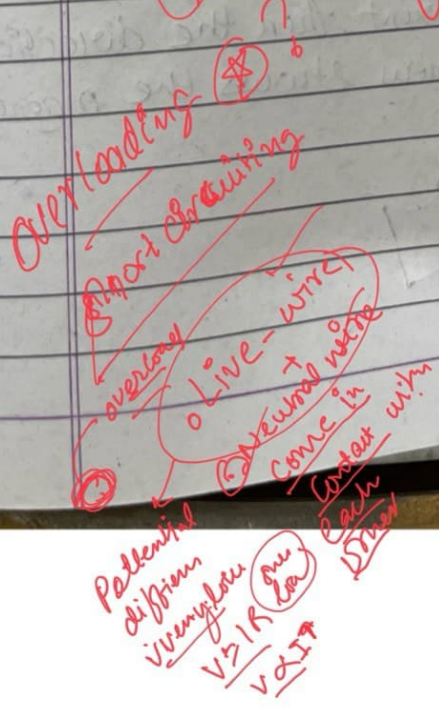
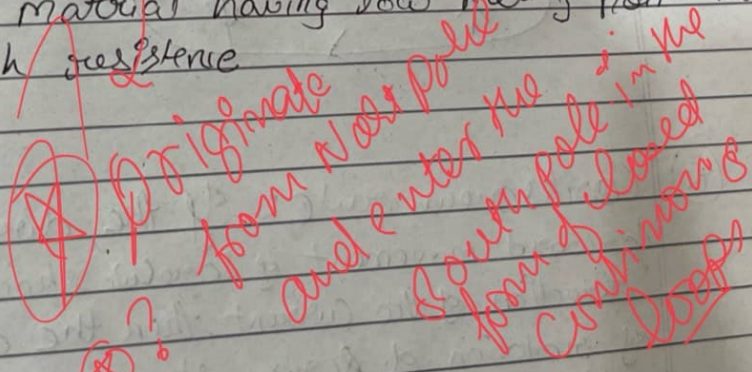
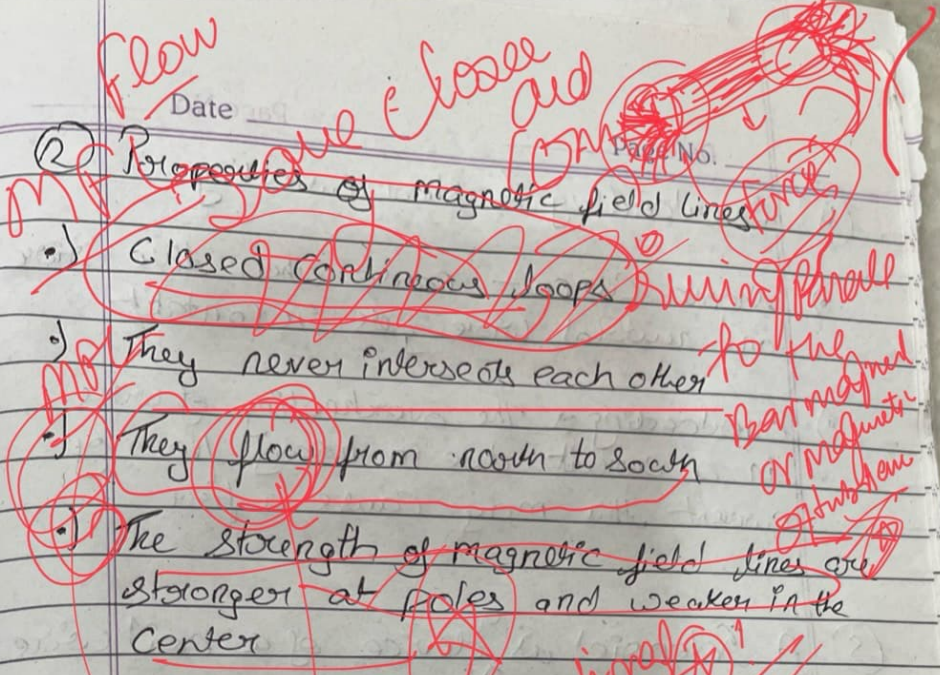
Flow

Date \_\_\_\_\_ Page No. \_\_\_\_\_

(2) Properties of magnetic field lines

- 1) Closed continuous loops
- 2) They never intersect each other
- 3) They flow from north to south
- 4) The strength of magnetic field lines are stronger at poles and weaker in the center

(3) Electric fuse is a device used for protecting the circuit from short-circuiting and overloading. It is thin wire of material having low melting point and high resistance.



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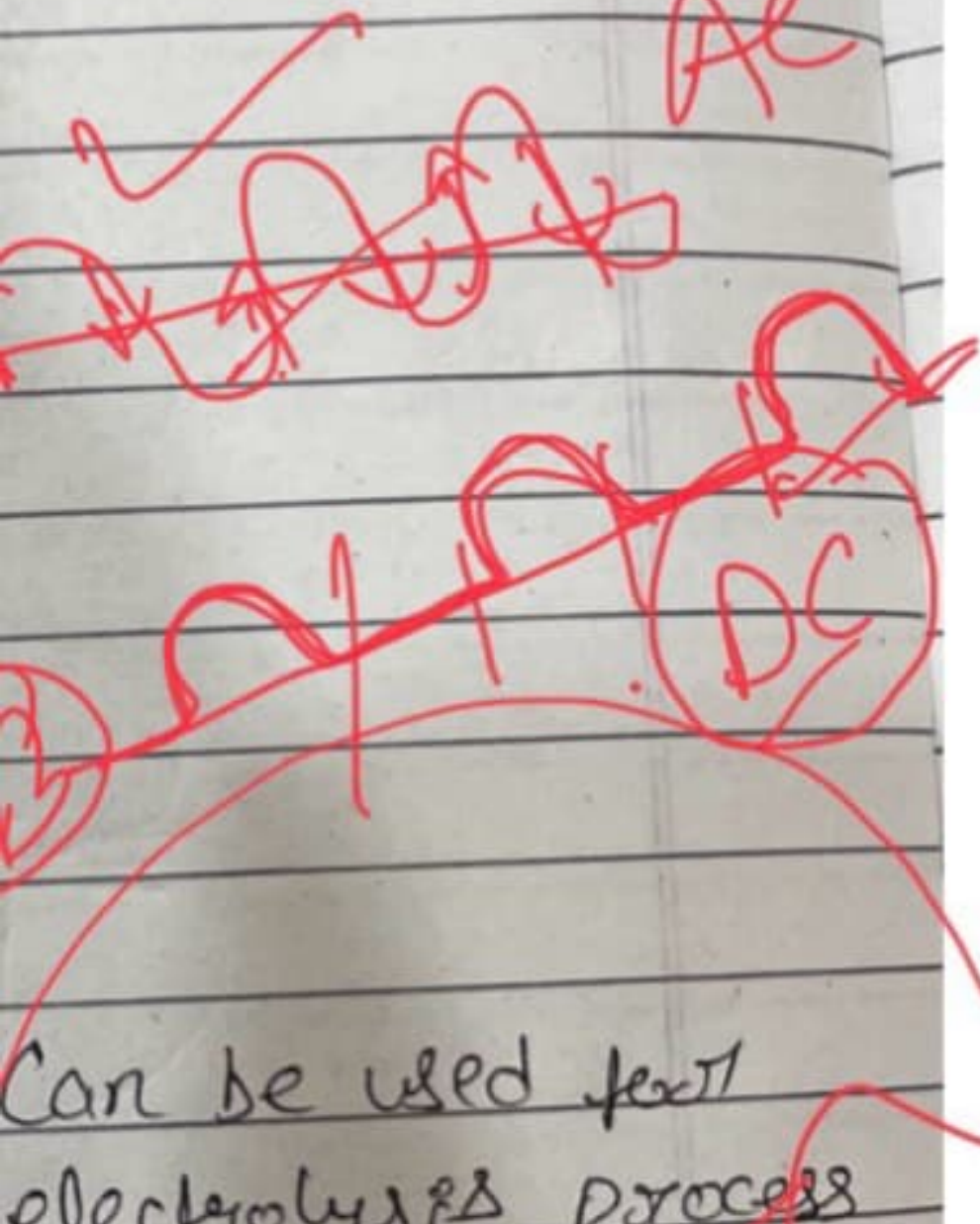
POLES

H.C. oversted  
experiment?

.C

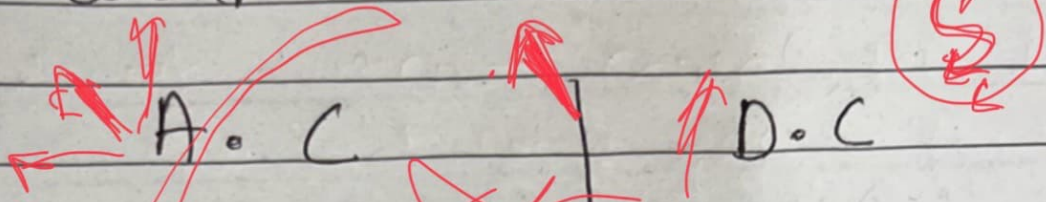
ent that flow in one  
ection only

AC



Can be used for  
electrolysis process

# Difference Between Alternating Current & Direct Current



- |  |  |
|--|--|
| 1) A current in which direction is changed periodically  | current that flows in one direction only                         |
| 2) Can be transmitted over long distances without much loss of energy                                  |  |
| 3) Cannot be used for the electrolysis process or showing electromagnetism as it reverses its polarity | Can be used for electrolysis process or showing electromagnetism |
- Review Notes

② Brine is another name of sodium chloride  
 $2\text{NaCl} + 2\text{H}_2\text{O} \rightarrow 2\text{NaOH} + \text{Cl}_2 + \text{H}_2$

Comode?

When electric current passes through it decomposes to form sodium hydroxide, chlorine gas and hydrogen gas.

$\text{Cl}_2 \rightarrow$  Cathode,  $\text{H}_2 \rightarrow$  anode

$\text{HCl} \Rightarrow$

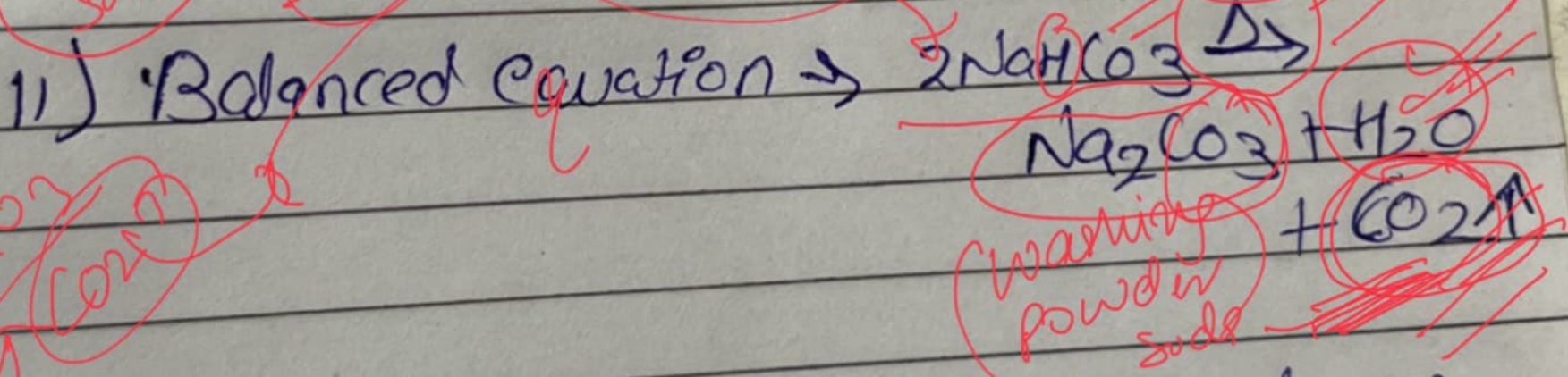
③ 1) The compound which decomposes on strong heating is sodium bicarbonate  
 $\text{NaHCO}_3$

11) Balanced equation  $\rightarrow 2\text{NaHCO}_3 \xrightarrow{\Delta} \text{Na}_2\text{CO}_3 + \text{H}_2\text{O} + \text{CO}_2$

$Cl \rightarrow$  cathode,  $H_2 \rightarrow$  anode

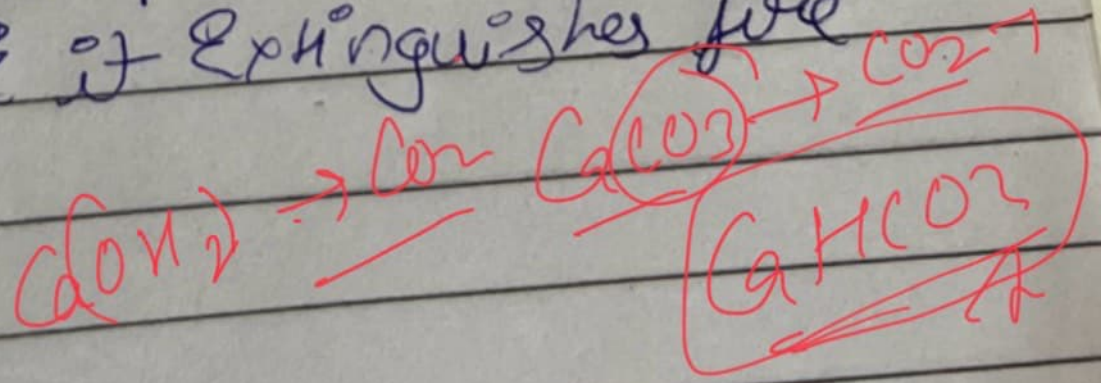
3) i) The compound which decomposes on strong heating is sodium bicarbonate

Baking soda  $\rightarrow$   ~~$NaHCO_3$~~   $Na_2CO_3$   $\rightarrow$  washing  $\rightarrow$  heat



~~$Na_2CO_3$  (cont)~~

iii) One use of compound besides an antacid is it extinguishes fire



KENDRIYA VIDYALAYA A.F.S, TUGHLAKABAD

TIME - 90 MIN

CLASS - X

SUBJECT - SCIENCE

MIM - 40

Q1. A student prepared solutions of (i) an acid and (ii) a base in two separate beakers but forgot to label the solutions and litmus paper is not available in the laboratory. Since both the solutions are colourless, how will he distinguish between the two using (a) phenolphthalein and (b) methyl orange?

Q2. "Nervous and hormonal systems together perform the function of control and coordination in human beings." Justify the statement.

Q3. A student is performing an experiment to study the properties of acetic acid. Answer the following questions:

(i) Name the substance he must add to acetic acid to produce carbon dioxide.

(ii) Give the relevant chemical equation for the reaction.

(iii) How would he test CO2 gas in the laboratory?

Q4. What is a neutralization reaction? Give two examples.

Q5. What do understand by chlor-alkali process. Explain in detail.

Q6. Explain about HUMAN BRAIN in detail.

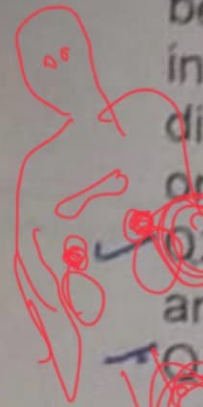
Q7. (a) Draw the Endocrine glands in male human being.

(b) Give name of hormone and its function released by Pituitary Gland.

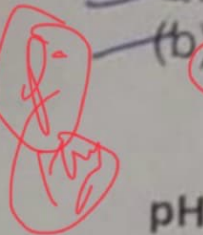
CCT 1 (4X4)

pH CHANGE AS THE CAUSE OF TOOTH DECAY

Tooth decay starts when the pH of the mouth is lower than 5.5. Tooth enamel, made up of calcium hydroxide crystalline form of calcium phosphate...



Handwritten notes: 'PH', 'Release', 'Inhibitor'.



Extensive handwritten notes in red ink. Includes 'endocrine', 'Red', 'yellow', 'New', 'D', '3', '1', '2', 'CO2', 'Baking soda', 'NaHCO3', 'milk', 'Smart', 'Wax', '5', '5', 'CO2?', 'CCT 1 (4X4)', 'pH CHANGE AS THE CAUSE OF TOOTH DECAY'.

- Q1. How toothpaste prevent tooth decay ?
- Q2. What diseases can occur by too acidic condition in our body
- Q3. What is the role of parathyroid hormone ?
- Q4. The hardest substance in the body has \_\_\_\_\_ and \_\_\_\_\_ elements as the m components.

## CCT 2

### Plaster of Paris

On heating gypsum at 373 K, it loses water molecules and becomes calcium sulphate hemihydrate ( $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$ ). This is called Plaster of Paris. Plaster of Paris is a white powder and on mixing with water, it changes to gypsum once again giving a hard solid mass.

Water of crystallization is the fixed number of water molecules present in one formula unit. For example, five water molecules are present in one formula unit of copper sulphate. Chemical formula for hydrated copper sulphate is  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ . Now you would be able to answer the question whether the molecular formula for  $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$  is wet.

- Q1. What is the molecular formula of gypsum?
- Q2. Write the equation of formation of plaster of Paris by heating gypsum?
- Q3. What are the uses of Plaster of Paris?
- Q4. What does this 2 denotes in  $\text{CaSO}_4 \cdot 2 \text{H}_2\text{O}$ ?