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DEPT OF SCHOOL EDUCATION,
MYSURU.

Office Of The Block Education Officer And Project Co Ordinator,
T.Narasipura Taluk, Mysuru District.

ABHYASA SPOORTHI

2023-24

The Booklet For 10th
Result Improvement



10th STANDARD
ENGLISH MEDIUM



ಮುನ್ನುಡಿ



ವಿದ್ಯಾರ್ಥಿಗಳ ಜೀವನದಲ್ಲಿ 10ನೇ ತರಗತಿಯು ಒಂದು ನಿರ್ದಿಷ್ಟ ಮತ್ತು ಪ್ರಮುಖ ಹಂತ. ಶಿಕ್ಷಕರೆಲ್ಲರೂ ಪೂರ್ವ ಸಿದ್ಧತೆಯೊಂದಿಗೆ ಉತ್ತಮ ಕಲಿಕಾ ವಿಧಾನಗಳನ್ನು ಬಳಸಿ ಗುಣಾತ್ಮಕ ಬೋಧನೆ ಮಾಡಿದಾಗ ಮಾತ್ರ ಗುಣಾತ್ಮಕ ಫಲಿತಾಂಶ ಪಡೆಯಲು ಸಾಧ್ಯವಾಗುವುದು.

ಉತ್ತಮ ಅಂಕಗಳೊಂದಿಗೆ ಅತ್ಯುತ್ತಮ ಫಲಿತಾಂಶದತ್ತ ಸರ್ವರ ಚಿತ್ತ ಹಾಗೂ ಗುಣಮಟ್ಟದ ಶಿಕ್ಷಣದೊಂದಿಗೆ "ಅನುತ್ತೀರ್ಣ ಮುಕ್ತ ವರ್ಷ" ವಾಗಿಸುವ ಪ್ರಯತ್ನ ನಮ್ಮದಾಗಿದೆ. ಎಸ್.ಎಸ್.ಎಲ್.ಸಿ. ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಉತ್ತಮ ಕಲಿಕಾ ಕಾರ್ಯಕ್ರಮಗಳನ್ನು ಯೋಜಿಸಿ, ಅನುಷ್ಠಾನಗೊಳಿಸುವ ಕರ್ತವ್ಯ ಮತ್ತು ಜವಾಬ್ದಾರಿ ನಮ್ಮೆಲ್ಲರದಾಗಿದೆ. ಈ ನಿಟ್ಟಿನಲ್ಲಿ ನಮ್ಮ ತಾಲ್ಲೂಕಿನ ಸಂಪನ್ಮೂಲ ಮುಖ್ಯ ಶಿಕ್ಷಕರು ಹಾಗೂ ಶಿಕ್ಷಕರ ತಂಡದವರು ಆರು ವಿಷಯಗಳಲ್ಲಿ ಹಾಗೂ ಕನ್ನಡ ಮತ್ತು ಆಂಗ್ಲ ಮಾಧ್ಯಮದಲ್ಲಿ "ಅಭ್ಯಾಸ ಸ್ಪೂರ್ತಿ" ಎಂಬ ಪುಸ್ತಿಕೆ ಸಿದ್ಧಪಡಿಸಿದ್ದು, ಶಿಕ್ಷಕರು ಹಾಗೂ ಎಲ್ಲಾ ವಿದ್ಯಾರ್ಥಿಗಳು ಇದರ ಸದುಪಯೋಗಪಡಿಸಿಕೊಳ್ಳಬೇಕೆಂದು ಆಶಿಸುತ್ತೇನೆ. ಮಾನ್ಯ ಉಪನಿರ್ದೇಶಕರ ಮಾರ್ಗದರ್ಶನದಂತೆ "ಅಭ್ಯಾಸ ಸ್ಪೂರ್ತಿ"ಯನ್ನು ಸಿದ್ಧಪಡಿಸಲಾಗಿದ್ದು, ಎಲ್ಲರ ಸಹಕಾರದೊಂದಿಗೆ ಶೇ. 100 ರಷ್ಟು ಫಲಿತಾಂಶದ ನಿರೀಕ್ಷೆಯಲ್ಲಿ.....

ಎಲ್ಲರಿಗೂ ಶುಭವಾಗಲಿ.....

ಕ್ಷೇತ್ರ ಶಿಕ್ಷಣಾಧಿಕಾರಿಗಳು
ಶಾಲಾ ಶಿಕ್ಷಣ ಇಲಾಖೆ

ತಿ.ನರಸೀಪುರ ತಾಲ್ಲೂಕು, ಮೈಸೂರು ಜಿಲ್ಲೆ.

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HONEY SHARES

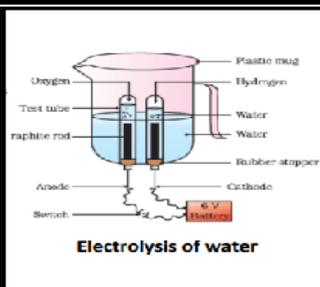
Dear Teachers And Students,

This question and answer series called '**Abhyasa Spoorthi**' is prepared under the guidance of active Block education officers of Tinarasipur taluk for improvement of 10th class results. This book is designed to help the 10th class student to score at least 50% marks in the annual examination. And it includes one mark questions, two marks questions, reasons, differences and possible Diagrams....

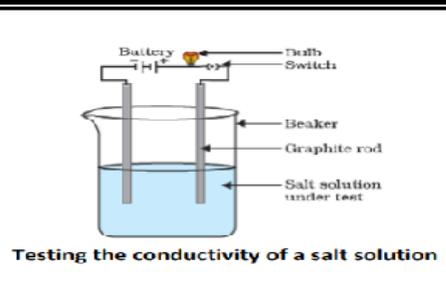
This '**Abhyasa Spoorthi**' book is created keeping in mind all students. We Hope teachers and students can make use of it and make it a '**FAIL FREE YEAR**' with quality education..

Good luck to all.....

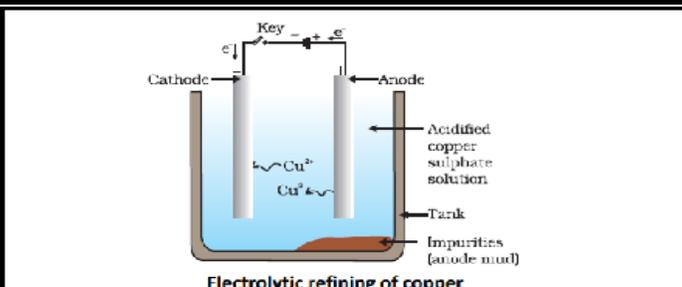
10th Standard: List of Diagrams for daily practice



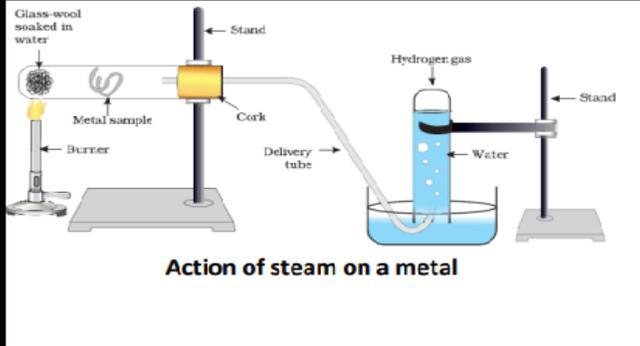
Electrolysis of water



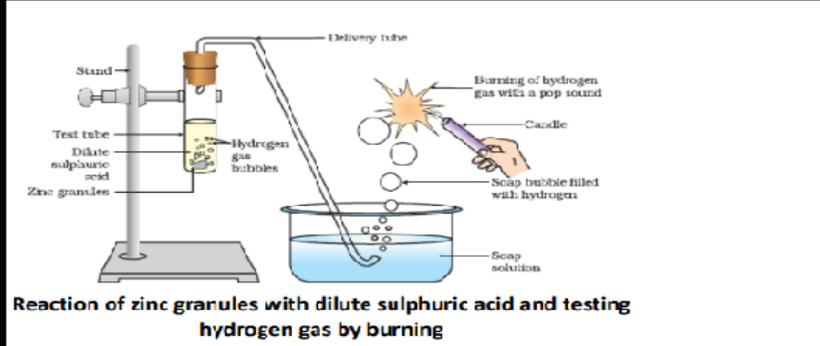
Testing the conductivity of a salt solution



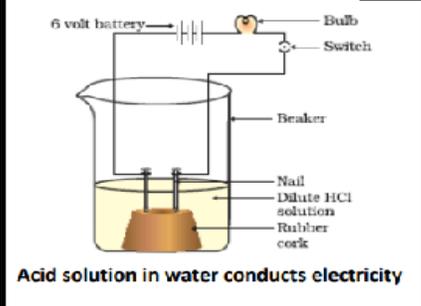
Electrolytic refining of copper



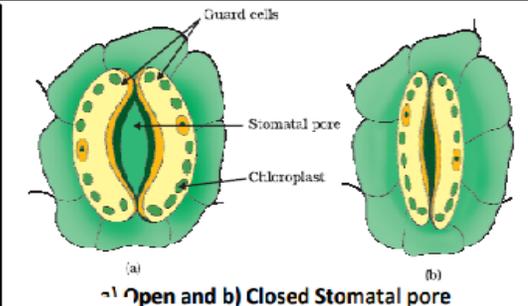
Action of steam on a metal



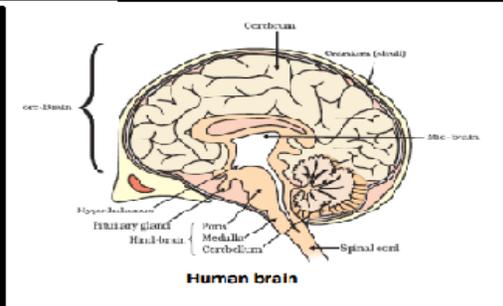
Reaction of zinc granules with dilute sulphuric acid and testing hydrogen gas by burning



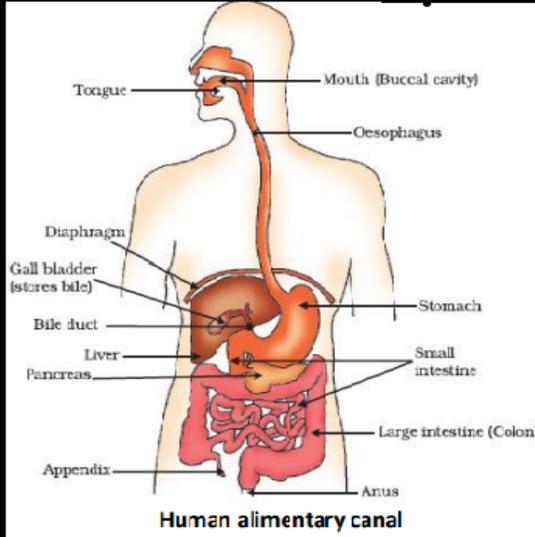
Acid solution in water conducts electricity



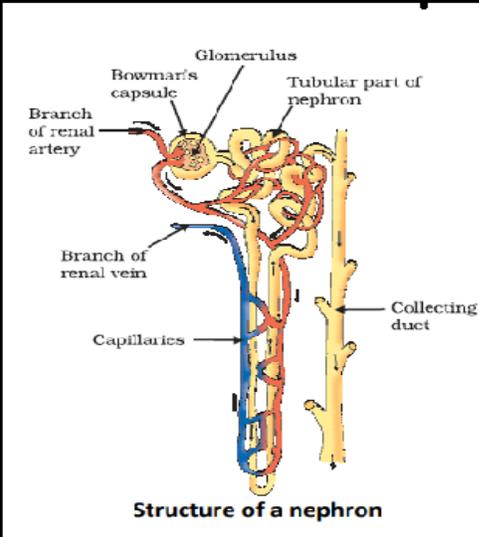
(a) Open and b) Closed Stomatal pore



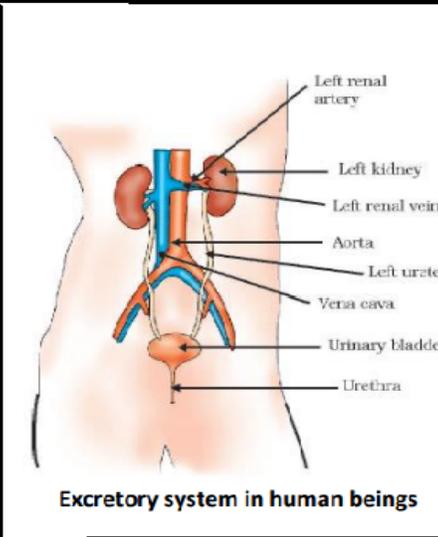
Human brain



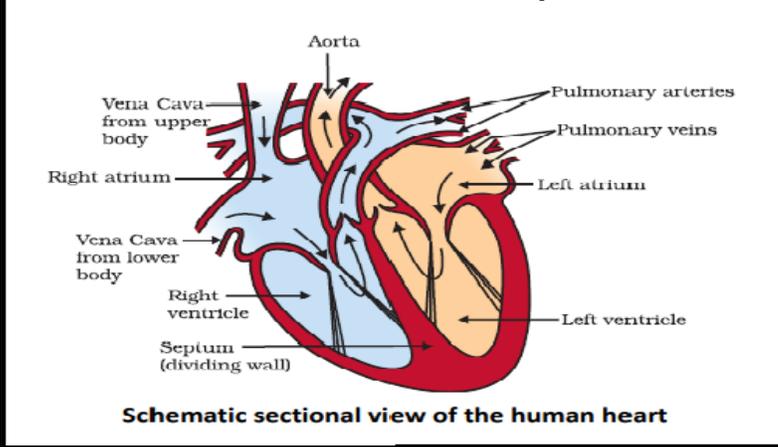
Human alimentary canal



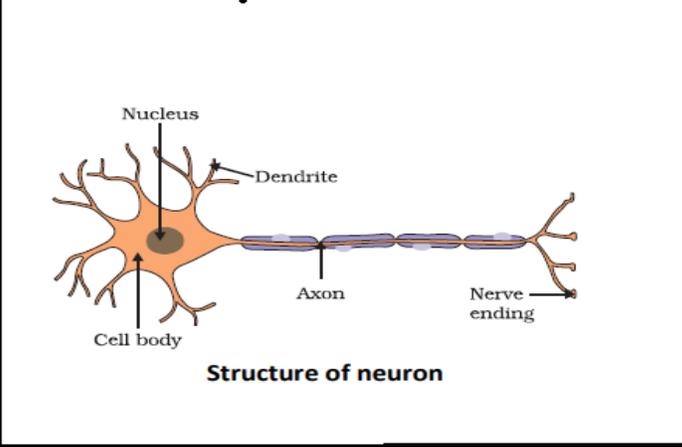
Structure of a nephron



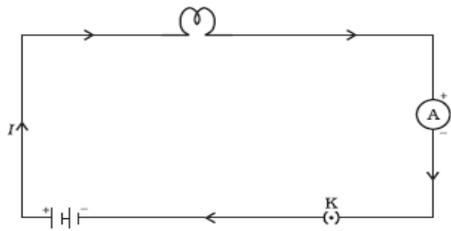
Excretory system in human beings



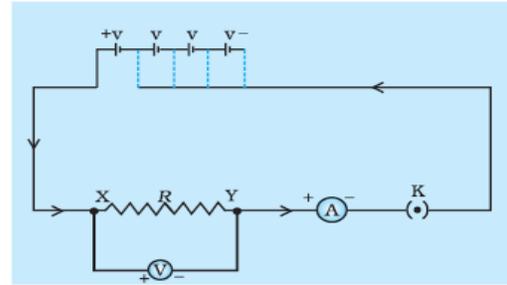
Schematic sectional view of the human heart



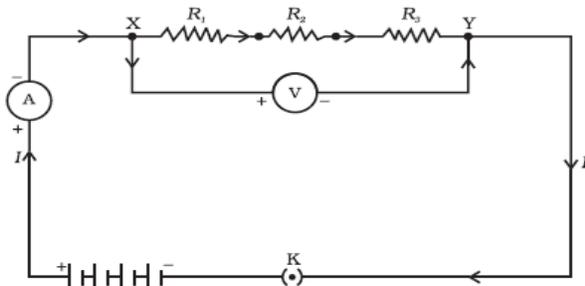
Structure of neuron



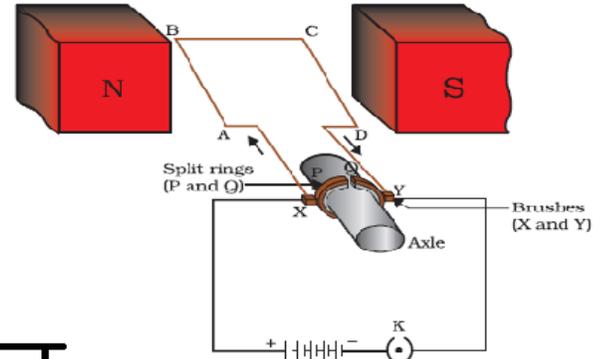
Schematic diagram of an electric circuit comprising – cell, electric bulb, ammeter and plug key



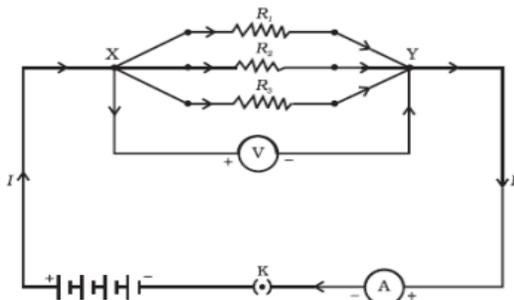
Electric circuit for studying Ohm's Law



Resistors in series



A simple electric motor (2D or 3D)



Resistors in parallel

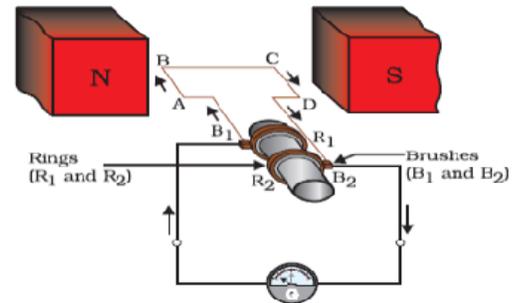
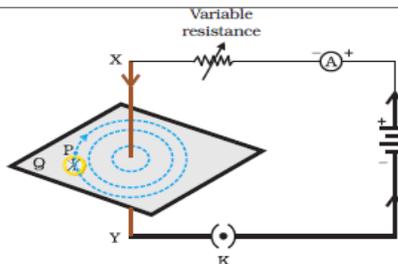
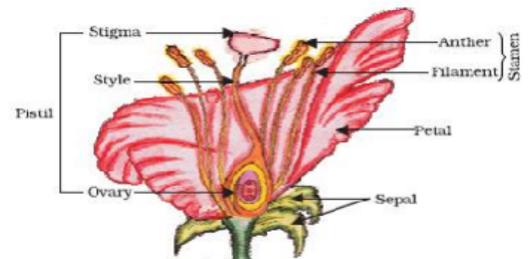


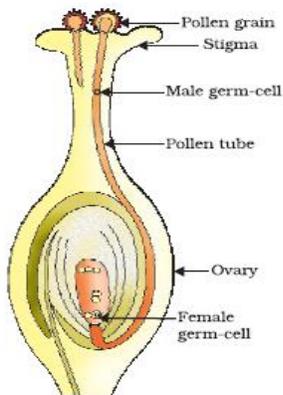
Illustration of the principle of electric generator (2D or 3D)



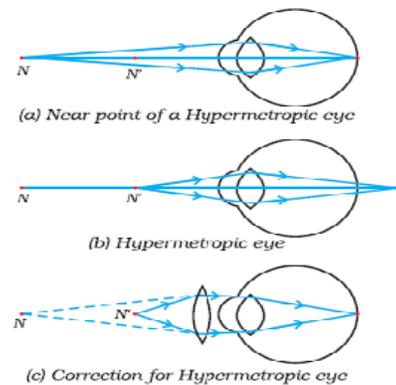
A pattern of concentric circles indicating the field lines of a magnetic field around a straight conducting wire



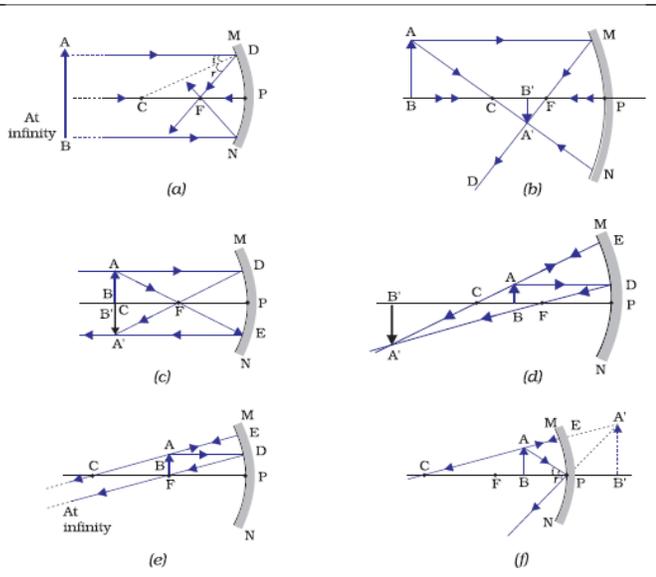
Longitudinal section of flower



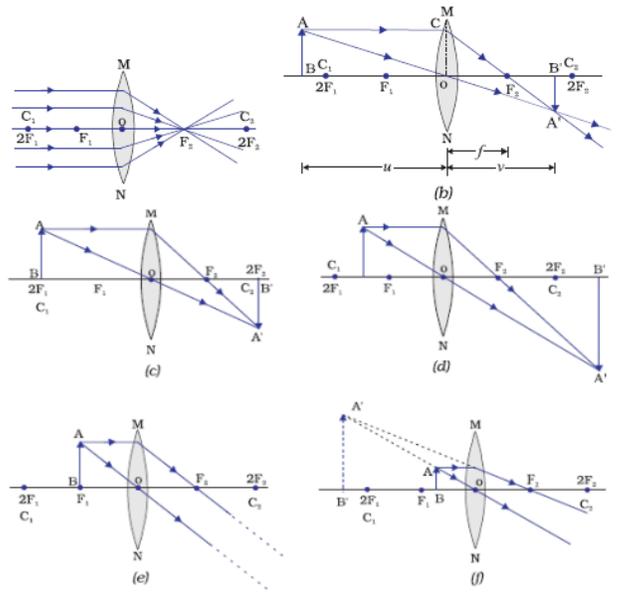
Germination of pollen on stigma



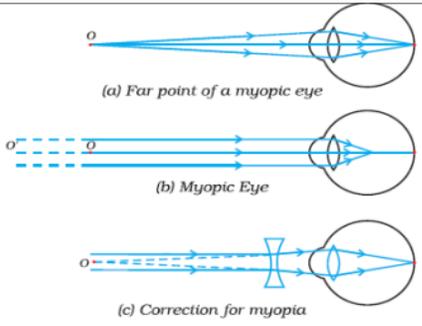
a) Near point of a Hypermetropic eye b) Hypermetropic eye c) Correction for Hypermetropic eye



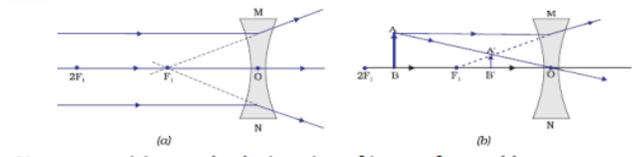
Ray diagrams for the image formation by a concave mirror



Position, size and nature of image formed by a convex lens



a) Far point of a myopic eye b) Myopic Eye c) Correction for myopia



Nature, position and relative size of image formed by a concave lens

1. CHEMICAL REACTIONS AND EQUATIONS

1. Give a situation for chemical reaction.

- Digestion of food
- Rusting of iron,
- Photosynthesis process,
- Respiration,
- Burning of fuel.

2. Mention the observation through which we can identify the chemical reaction.

- Change in state.
- Change in color
- Evolution of gas
- Change in temperature
- Formation of precipitate.

3. Name the law which is used to balance a chemical equation. State it.

Law of conservation of mass: "mass is neither created nor destroyed."

4. Give difference between chemical combination reaction and chemical decomposition reaction.

Chemical combination reaction	chemical decomposition reaction
Two or more reactants combine to form a single product.	A compound splits into two or more simple substances.
Ex: $C + O_2 \longrightarrow CO_2$	Ex: $2H_2O \longrightarrow 2H_2 + O_2$

5. Give difference between chemical displacement reaction and chemical double displacement reaction.

chemical displacement reaction	chemical double displacement reaction
More reactive element displaces less reactive element from its salt solution.	New compounds are formed by mutual exchange of ions between two compounds.
Ex: $Fe + CuSO_4 \longrightarrow FeSO_4 + Cu$	Ex: $Na_2SO_4 + BaCl_2 \longrightarrow BaSO_4 + 2NaCl$

6. Define Thermal Decomposition, Electrolytic decomposition and Photolytic decomposition reactions.

Thermal Decomposition: When decomposition is carried out by heating.

Electrolytic decomposition: When decomposition is carried out by passing electricity.

Photolytic decomposition: When decomposition is carried out in presence of sunlight.

7. Give difference between Endothermic and Exothermic chemical reactions.

Endothermic chemical reaction	Exothermic chemical reaction
Which require energy in the form of heat, light, or electricity to break reactants.	Reaction in which heat is released along with formation of products.
Ex: $CaCO_3 \longrightarrow CaO + CO_2$	Ex: $CaO + H_2O \longrightarrow Ca(OH)_2 + \text{Heat}$

8. What is oxidation and reduction?

Oxidation: Gaining oxygen during a reaction.

Reduction: losing oxygen during a reaction.

9. What is Redox reaction?

Reactions in which oxidation and reduction both take place simultaneously are redox reactions.

10. What is neutralization reaction?

The reaction in which acid reacts with base to form salt and water is called neutralization Reaction.

11. $MnO_2 + 4HCl \longrightarrow MnCl_2 + 2H_2O + Cl_2$ In this equation mention the oxidizing agent and substance oxidized & reducing agent and substance reduced?

- Oxidizing Agent : MnO_2
- Substance Oxidized : HCl
- Reducing Agent : HCl
- Substance Reduced : HCl

12. What is rancidity?

Slow oxidation of oil and fat present in the food materials resulting foul odor and taste in them.

13. Mention the methods of preventing rancidity.

- Packing of food materials in air tight containers.
- Refrigeration of cooked food at low temperature.
- Adding nitrogen gas to chips packets.

14. What is corrosion?

Metals are attacked by air, water, and acid and getting corrodes.

15. How can we prevent rusting?

- The iron articles should be painted.
- The machine parts should be oiled and greased.
- Galvanization.
- Iron can be coated with chromium.

16. Write the balanced chemical equation when lead nitrate solution reacts with potassium iodide solution. Name the precipitate formed and mention its color.



Precipitate: PbI_2 (Potassium Iodide) color: yellow

17. Balance the following chemical equations:

- 1) $Al + HCl \longrightarrow AlCl_3 + H_2$
- 2) $N_2 + H_2 \longrightarrow NH_3$
- 1) $2Al + 6HCl \longrightarrow 2AlCl_3 + 3H_2$
- 2) $N_2 + 3H_2 \longrightarrow 2NH_3$

18. Name the gas filled in chips packets? And why?

Nitrogen gas to avoid oxidation.

19. Why do we store silver chloride in dark colored bottles?

Because white silver chloride turns into grey in sunlight to avoid it we store silver chloride in dark colored bottles.

CHAPTER – 2 ACIDS, SALTS AND BASES.

1. Write the difference between acid and bases.

Acids	Bases
1. Have a sour taste.	1. They have a bitter taste.
2. PH value is 1-7.	2. PH value is 7-14.
3. Turns blue litmus red.	3. Turns red litmus blue.
4. Contains hydrogen ions. (contain H ⁺ ions).	4. Contains hydroxide ions (contain OH ⁻ ions).

2. Some naturally occurring acids.

Natural source	Acid
1. Vinegar is	acetic acid
2. Orange	citric acid
3. Tamarind	tartaric acid
4. Tomato	oxalic acid
5. Yogurt /Curd	lactic acid
6. Lemon	citric acid
7. Ant Bite	methanoic acid
8. Itchy leaf pricking	methanoic acid

3. What is a strong acids?

Answer: The acids that produce more H⁺ ions are called stronger acids.

4. What is a weak acid?

Answer: Acids that produce fewer H⁺ ions are called weaker.

5. When diluting an acid, water should not be added to the acid, but the acid itself should be added to the water. Why?

Answer: (a) If water is added to acid the heat released may cause the mixture to explode. and burns may occur. (b). Overheating can also break the glass container.

6. What is neutralization reaction?

Answer: * Effect of acid. Bases neutralizes and acid neutralizes the effect of Bases.

* Neutralization reaction is the reaction of acid and base to form salt and water.

* Base + acid → salt + water.

7. What are antacids? An example for an antacid is; give it

Answer: In case of indigestion, the stomach produces more acid than it needs, causing pain and Chestburn. Antacids used to reduce this are called antacids.

eg; Magnesium hydroxide [Mg(OH)₂]

8. How does PH contribute to tooth decay? How can this be prevented?

Answer: Tooth decay begins when the pH value of the mouth falls below 5.5. This can be prevented by using an antibacterial toothpaste.

9. What is acid rain?

Answer: When the pH value of rain water is less than 5.6, it is called acid rain.

10. How is acid rain harmful to aquatic life?

Answer: Acid rain is harmful to aquatic life as it destroys the eggs of aquatic life.

11. Write the chemical name and molecular formula of Bleaching powder.

Answer; The chemical name of Bleaching Powder is Calcium Oxy Chloride.

Molecular formula: CaOCl_2

13. Write the use of Bleaching powder.

- (a), for bleaching of cotton and fiber in textile factories,
- (b). To beautify clothes in the laundry,
- (c). To disinfect drinking water,
- (d). It is used as an oxidizing agent in factories.

14. Write the chemical name and molecular formula of baking soda.

Answer; Chemical Name: Sodium Hydrogen Carbonate.

Molecular formula; NaHCO_3

15. Write the uses of baking soda. OR Write the use of sodium hydrogen carbonate.

- (a). Used in antacids.
- (b). Used in sodaacid type fire extinguisher
- (b). To beautify wood pulp in a paper mill,

16. Write the chemical name and molecular formula of washing soda

Answer; Chemical Name: Sodium Carbonate Decahydrate.

Molecular Formula; $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$.

17. Write the uses of washing soda.

- Answer: (a). Used to soften hard water.
- (b). Used as a cleaning agent.
 - (c). Used to make borax.
 - (d). Used in the manufacture of soap, paper and glass.

18. Write the chemical name and molecular formula of Plaster of Paris.

Answer: Chemical Name, Calcium Sulphate Hemihydrate.

Molecular formula : $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$

19. Why should Plaster of Paris be stored in a moisture proof container?

Plaster of Paris absorbs moisture and turns into a hard solid.

20. Write the use of Plaster of Paris.

- Answer: (a). To fix broken bones
- (b). To make toys
 - (c). Decorable things
 - (d) Used for making smooth surface.

21. Name the products of chlor-alkali process. Write the use of each.

Ans: Chlor – Alkali Process Products: * Hydrogen, * Chlorine, * NaOH (Sodium Hydroxide).

Uses of Hydrogen:	Uses of Chlorine:	Uses of NaOH:
* As fuel	* Water purification	* Degreasing of metals,
* Artificial butter	* As a cleaner for swimming pools	* In paper making,
* Ammonia for fertilizers	* In the manufacture of PVC and CFCs	* In the manufacture of soaps and detergents,
	* As disinfectant	* In manufacture of artificial yarns
	* As an insecticide	

3. Metals and non metals

1. Define malleability. Name a metal whose malleability is highest.

Ans: Metals can be beaten up and made into thin sheets this property is called malleability. silver and gold are the most malleable metal.

2. Define Ductility. Name highest ductile Metal.

Ans: Metals can be drawn into thin wires. This property is called ductility Gold is the most ductile metal.

3. what are amphoteric oxides? Give an examples.

Ans: some metals reacts with both acid and bases and produce salt and water. They are known as amphoteric oxides.

ex: zinc oxide, Aluminium oxide.

4. why sodium metal is kept in kerosene?

Ans : sodium react vigorously with oxygen. In order to avoid fire accident it is kept in kerosene.

5. The outermost layer of Magnesium and Aluminium are covered with their oxides why?

Ans: To prevent further oxidation of metals.

6. write in word equation. The reactivity of metal with water

Ans: Metal + water \rightarrow Metal oxide + Hydrogen .

Metal oxide + water \rightarrow Metal Hydroxide.

7. Write balanced equation for reaction of sodium with water.

$\text{Na} + \text{H}_2\text{O} \rightarrow \text{NaOH} + \text{H}_2 + \text{Energy}.$

$2\text{Na} + 2\text{H}_2\text{O} \rightarrow 2\text{NaOH} + \text{H}_2 + \text{Energy}.$

8. When calcium placed in water it floats, Why ?

Ans : the liberated hydrogen molecules, attaches themselves to metal surface , and make it float.

10. The metal 'x' doesn't react with cold or hot water . It reacts with steam .

a) name the metal 'x'

Ans : iron

b) mention the gas it liberates

Ans : Hydrogen

c) Write balanced equation for the above .

Ans : $3\text{Fe} + 4\text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + 4\text{H}_2$

11. Arrange the following metals in order of their increase in reactivity

a) Copper doesn't react with water .

b) Magnesium reacts with hot water .

c) Potassium reacts with cold water .

d) Aluminium reacts with steam .

Ans: $\text{K} > \text{Mg} > \text{Al} > \text{Cu}.$

12. Name an acid which is a oxidising agent .

Ans : Nitric acid.

13. List the properties of ionic compound.

Ans : * They exist in solid form

* They have high melting and boiling point.

* They are soluble in water.

*They conduct electricity in acqeous form.

14. Define roasting and calcination.

Ans : The sulphide ores are converted into oxide form in the presence of surplous oxygen is called as roasting.

The carbonate ores are converted into their oxide form in the absence of oxygen is called as Calcination.

15. Among Al and Cu which metal you opt for reducing agent and why?

Ans : Al has to be opted , as its reactivity is more.

16. List the preventary methods for corroding of metal.

Ans : Painting, oil smearing, greese smearing, galvanisation, chromium plating, anodization and alloys.

17. Define alloy.

Ans : A homogenous mixture of two or more metal or a metal and a non-metal is known as alloy.

18. What is thermite process?

Ans : The process in which metallic oxide is redused by using aluminium oxide as a redusing agent to obtain the metal is called themite process.

19. A non-metal X exhibit itself in M and N form . M is the hardest substance which occur in nature, N is a good conductor of electricity . Then name X , M and N.

Ans : X - Carbon

M - Diamond

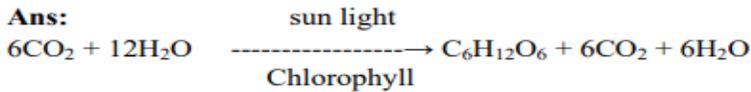
N - Graphite

20. Why the reactivity of inert gases are less?

Ans : Due to their completely filled outer most shells their valency is zero.

6. Life processes

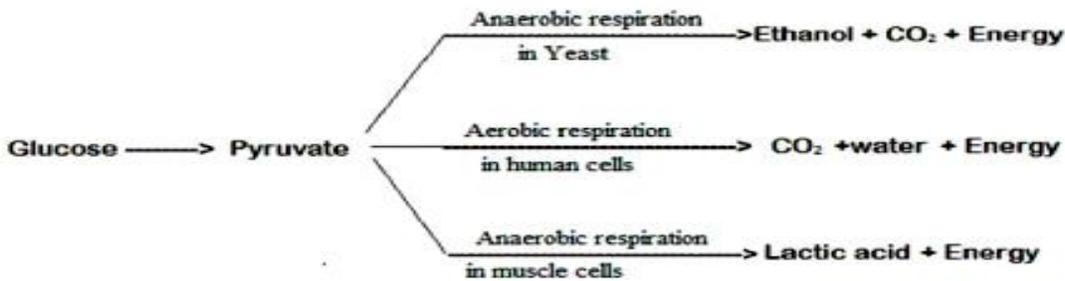
1. Write balanced equation for photosynthesis.



2. What are the events occurs during photosynthesis?

- Answer: (I) Absorption of light energy by chlorophyll.
 (II) Conversion of light energy into chemical energy.
 (III) Splitting of water molecules into hydrogen and oxygen.
 (IV) Reduction of carbon dioxide into carbohydrates.

3. Represent the breakdown of glucose by various pathways.



4. What is double circulation?

Answer: Blood pass through the heart twice during each cycle of circulation is called double circulation.

5. What is Translocation?

Answer: Transport of soluble products of photosynthesis is called translocation.

6. Diffenciate between Veins and Artery.

Artery	Viens
Transport blood from heart to different parts of the body.	It transpory blood from parts of body to the heart.
Flow of blood is fast.	Flow of blood is slow.
It transport oxygenated blood.	It transport deoxygenated blood.

7. What is Transpiration?

Answer: The process of elimination of excess of water from plant body.

8. How does plants excrete their waste?

- Answer: 1. Waste products may be stored on leaves that falls off.
 2. Waste products are stored as resins and gums.
 3. Excrete some waste substance into the soil around them.

7. Control and co-ordination

1. From the following , through which information travels as an electrical impulse ?

Ans : Dendrites , Cell body , Axon , Nerve ending

2. What is synapse ?

Ans : The gap between two neurons are called synapse.

3. What is the function of synapse ?

Ans : The information occurred at the end of the dendritic tip of a nerve cell sets off a chemical reaction that creates an electrical impulse. These chemicals cross the synapse and start a similar electrical impulse in a dendrite of the next neuron.

4. What is reflex action ?

Ans : Sudden action in response to something in the environment is called reflex action.

5. Which part of nerve system is responsible for reflex action ?

Ans : Spinal Cord.

6. What is reflex arc ?

Ans : The path way through which nerve impulse pass during reflex action is called reflex arc.

7. List out the plant hormones and it's functions.

Plant hormones	Functions
1. Auxin	1. Help the cell to grow longer
2. Gibberellins	2. Help in the growth of the stem
3. Cytokinins	3. Promotes cell division
4. Abscisic acid	4. Inhibits growth . It effects including wilting of leaves

8. Which are the tropism in response to other stimuli in plants ?

Tropism in plant	Movement of stem	Movement of root
* Phototropism	* Towards light	* Opposite to light
* Hydro tropism	* Towards opposite side of water	* Towards water
* Geo tropism	* opposite to gravitation	* Towards gravitation

9. State the hormones produced in humans and it's functions.

Gland	Hormone	Functions
* Pituitary gland	* Growth hormone	* Stimulates growth in all organs
* Thyroid gland	* Thyroxin	* Regulates metabolism for body growth
* Pancreatic gland	* Insulin	* Regulates blood sugar level
* Adrenal gland	* Adrenalin	* Triggers the body's fight or flight response
* Testicle	* Testosterone	* Puberty in males
* Uterus	* estrogen	* Puberty in females

12. Electricity

Symbols of some commonly used components in circuit diagram

S.N	Components	Symbols
1.	Electric cell	
2.	Battery	
3.	Plug key (switch open)	
4.	Plug key (switch closed)	
5.	A wire joint	
6.	Wires crossing without joining	
7.	Electric bulb	
8.	A resistor of resistance R	
9.	Variable resistance or rheostat	
10.	Ammeter	
11.	Voltmeter	
12.	Fuse	

Concept	Definition	Measuring device	Mathematical formula	Measuring unit
1. Electric flow	Rate of flow of electrons	Ammeter	$I = q/t$	ampere
2. Potential difference	Work done to move a unit charge from one point to other	Voltmeter	$V = w/q$	Volts
3. Electric resistance	Characteristic property of a conductor to oppose the flow of electric current		$R = v/i$	Ohm
4. The device used to change the resistance		Rheo-stat		

1. Define electric power?

A: The rate of electric energy consumed in a electric circuit is called electric power
Watt is the unit to measure the electric power

2. What is the commercial unit of electricity?

A: kilowatt /hour

3. State Joule's law of heating

A: The heat generated due to the flow of electric current in a resistor is directly proportional to the square of the current, resistance and the time for which current flows. i.e. $H = I^2 R t$

4. Define ohm's law

A: At constant temperature the potential difference across the ends of conductor is directly proportional to the current flowing through it

$$V \propto I \text{ or } V=I.R$$

5. On what factors does resistance of a conductor depends

A: The resistance 'R' of a conductor depends on

- i) Length of the conductor
- ii) Area of cross section of the conductor
- iii) Nature of the material of the conductor
- iv) The temperature of the conductor

6. Why tungsten is used in the filament of electric bulb

A: The melting point of tungsten is 3380°C and the resistance is more

7. What is the function of fuse wire

A: When voltage increases, the fuse wire melts and breaks the electric circuit

8. How ammeter and voltmeter are connected in an electric circuit? What are their functions?

A: Ammeter is connected in series in an electric circuit it is used to measure the electric current
Voltmeter is connected in parallel in a electric circuit it is used to measure the potential differences

9. How is series arrangement is differ from parallel arrangement in a electric circuit

Or

Write the differences between series and parallel connection in electric circuit

Series	Parallel
1.Total resistance increases 2.If one component fails then all the other components will not work. 3.It does not divides the electric current.	1. Total resistance decreases. 2.Even if one component is failed, the remaining units work . 3.It divides the electric current.

10. List the electric devices which produce heat during the flow of electric current?

- A: 1. Electric Iron box
 2. Electric stove
 3. Electric Heat.
 4. Electric fuse and electric kettle.

13. Magnetic Effect Of Electric Current

1. What are the properties of magnetic field lines ?

Ans : * They are imaginary lines.

* They form closed loops.

* They never intersect each other.

* The magnetic field lines are crowded near the poles.

* The magnetic field lines always move from south pole towards north pole inside the magnet.

2. State Fleming's left Hand Rule.

Thumb - Magnetic force

Four finger - Magnetic field

Middle finger - Current

3. State Fleming's Right Hand Rule

Thumb - Magnetic force

Fore finger - Magnetic field

Middle finger - Induced current

4. State Right Hand Thumb Rule.

Ans : It states that if a current carrying conductor is held in the right hand such that the thumb point in the direction of current , then the fingers wrapped around the conductors shows the direction of the magnetic field.

5. What is solenoid ? Mention it's functions?

Ans : * A solenoid is a circular coil of wire in the shape of a cylinder.

* Solenoid converts the electrical energy into mechanical work.

6. State the principal of electric motor.

Ans : Magnetic effect of electric current.

7. What is the principal of electric generator.

Ans : Electro Magnetic induction.

8. How over loading occurs ?

Ans : Over load causes due to increase in voltage or

Live wire and neutral wire come in contact or

Two many appliances are connected to a single socket.

9. How short circuit occurs ?

Ans : Short circuit occurs when the live wire and neutral wire comes in contact and suddenly the current increases in the circuit.

10. What is the function of earth wire ?

Ans : * Prevent live wire from overloading.

* It protects the sudden damage of electrical appliances or leakage of current.

11. Mention the colour of the wire.

Ans : Neutral wire - Black

Live wire - Red

Earth wire - Green

12. What is commutator ?

Ans : A device that reverses the direction of flow of current through a circuit is called commutator.

13. Mention the part of electric motor used for changing the direction.

Ans : Split rings.

14. What is electro magnetic induction ?

Ans : Process in which conductor produce electricity form the magnetic field.

15. Name the device which detects the presence of electric current in a circuit.

Ans : Galvanometer.

16. Give difference between electric motor and electric generator.

Electric motor	Electric generator
* Motor converts electrical energy into mechanical energy.	* Generator converts mechanical energy to electrical energy
* Works on the principle of Flemming's Left Hand Rule	* Works on the principle of Flemming's Right Hand Rule

15. Our Environment

1. Which are the two components of ecosystem ?

Ans : a) Biotic components : animals , plants , microorganism.
b) Abiotic components air , rain , soil , minerals.

2. Give example for man made ecosystem.

Ans : Garden , crop field , aquarium.

3. What is food chain ?

Ans : The flow of nutrients and energy from one organism to another at different trophic levels forms a food chain.

4. Construct a simple food chain or Show the food chain system in forest ecosystem or

Construct 3 staged food chain

Ans : Grass -----> Deer -----> Tiger.

5. Give the representation of food chain in pond ecosystem.

Ans : Grass -----> Insects(Scorpions , Crab) -----> Fish -----> Crane.

6. Construct the food chain in grassland ecosystem.

Ans : Grass -----> grasshopper -----> frog -----> snake -----> eagle.

7. Create a food chain for decomposers.

Ans : Dried leaves -----> earthworms -----> Birds.

8. Generally food chains have three or four steps why ?

Ans : Because little energy is available for the next level of consumers , hence food chains generally consists of only three or four steps.

9. Flow of energy is unidirectional why ?

Ans : Because energy captured by autotroph does not revert back to the Solar Input and it passes to different trophic levels.

10. What are trophic level ?

Ans : Every step in food chain are called trophic level. OR

Flow of energy from one step to another step in an food chain.

11. What is food web ?

Ans : Inter-relationship between different food chains are called Food web , here each organism is generally eaten by two or more kinds of organisms.

12. What are decomposers ? what is the role of decomposer in ecosystem ?

Ans : Microorganisms like bacteria and fungus are said to be decomposer.

ROLE : * Microbes helps to break down the complex organic substance to simple substance and enrich the soil fertility.

* Cleans the environment.

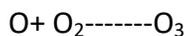
13. What is biomagnification/Biological magnification ?

Ans : The concentration of harmful chemical increases with every next trophic level in a food chain is called Biological magnification.

14. What is ozone Ozone at the higher levels of the atmosphere is a product of UV radiations acting on O₂ molecule. OR Ozone is 3 molecules of oxygen atom.

15. How Ozone is formed ?

Ans : Ozone at the higher levels of atmosphere is a product of UV radiations acting on O₂ molecules.



16. What is the function of ozone ?

Ans : It Shields the surface of the earth from ultraviolet (UV) radiation from the Sun.

17. CFC free refrigerators are eco friendly why ? OR

Now it is mandatory for all companies to make CFC free refrigerators give reasons.

Ans : CFCs are depleting the Ozone in the atmosphere hence it is mandatory for all companies to make CFCs free - refrigerators.

18. Write the harmful effects of ozone depletion.

- Ans : * It cause skin cancer , cataract in human beings.
- * It may cause genetic disorder.
- * UV rays directly impact on development of plant and animals.

19. Give any two ways in which biodegradable substances would affect the environment.

- Ans : 1. Seaves of the plants decay and reduces soil fertility.
- 2. Bio-degradable substance have carbon when this is burnt CO₂ and CO are produced and causes air pollution
- 3. It becomes the reproduction site for, pests and rodents.
- 4. It causes number of diseases like Cholera, Malaria etc.

20. How non biodegradable substances would affect the environment ?

- Ans : * It will stay as Long in environment and causes land pollution and water pollution.
- * It increases the acidic condition in soil it decreases the soil fertility.
- * Pollutants like DDT , Mercury , cadmium will take part in Food Chain and results in Biological magnification which enters human body.

21. Differentiate between biodegradable and non biodegradable.

Bio-degradable	Non-bio-degradable
1. Decomposed by bacteria , fungus etc	It will not decompose
2. This substance will not be in it's original form of condition	The substance will stay longer in its original form
3. These are temporary pollutants	These substance causes pollution for long time

4. Carbon and its compounds

1. What are the characters of covalent nature of compounds?

Ans: i) Covalent compounds have low melting and boiling point.
ii) Covalent compounds are bad conductor of electricity.

2. What are the specific properties of Carbon ? or what is the versatile nature of Carbon?

Ans : Catenation , tetravalency , allotropy , isomerism.

3. What is catenation?

Ans : The carbon atom forms bonds with other carbon atoms giving rise to a large molecule this property is called catenation .

4 . what is isomerism?

Ans : The compounds having the same molecular formula but different structural arrangement are called isomers this process is known as isomerism.

5. what is a homologous series?

Ans : Homologous series is a series of carbon compounds which differ by $-CH_2$ unit.

6. what is hydrogenation? or what is hydrogenation of oils?

Ans : Hydrogenation is a process in which hydrogen is added to other compounds in presence of Nickel or Palladium as catalyst.

or

Hydrogenation of oils is a process in which hydrogen is added to vegetable oil to prepare vegetable ghee.

7. What is a functional group?

Ans : A group of atoms which give us specific property to the carbon compounds is called a functional group.

8. What is a substitution reaction?

Ans: The displacement of hydrogen from saturated hydrocarbons by chlorine in presence of Sunlight is called a substitution reaction.

9. what are the properties of ethanol?

Ans : 1) Ethanol is a good solvent.
2) It does not freeze in winter.

10. what are the properties of ethanoic acid?

Ans : 1) 5 - 8% of acetic acid in water is called vinegar. (Ethanoic acid is also called acetic acid)
2) Ethanoic acid freezes in winter.
3) The melting point is $290^{\circ} K$.

11. What is the action of soap in cleaning the clothes?

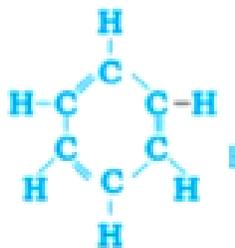
Ans : The hydrocarbon end of the soap attract with the dirt of clothes and the ionic end attracts the water many hydrocarbon end form a micelle around the dirt by this the dirt remove from the clothes.

12. What is combustion ?

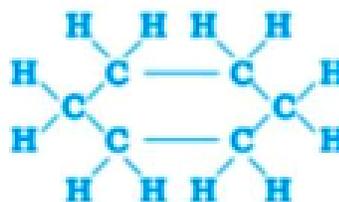
Ans : The allotropic forms of carbon burns in oxygen to form heat, light and carbon dioxide. This is called combustion.

13. write the structure of benzene and cyclohexane.

Ans:



Structure of benzene

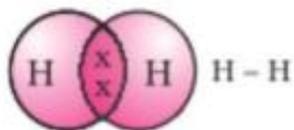


Structure of cyclohexane

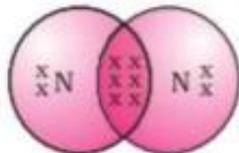
14. Write the electron dot formula of the following.

- (1) Hydrogen molecule (2) Nitrogen molecule (3) Oxygen and molecule
(4) Ethene (5) Methane molecule (6) Ethane

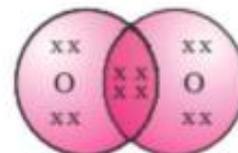
Ans:



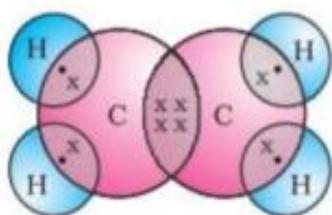
Structure of Hydrogen Molecule



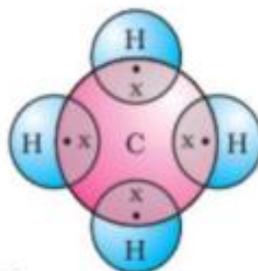
Structure of Nitrogen Molecule



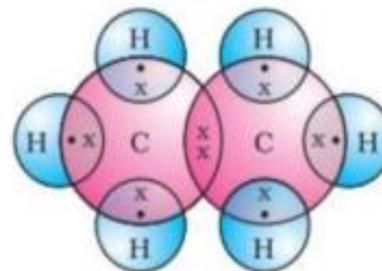
Structure of Oxygen Molecule



Electron dot structure For Ethene



Electron dot structure For methane



Electron dot structure For Ethane

5. Periodic classification of elements

1. State Dobereiner's triads.

Ans : the atomic mass of the middle element is approximately equal to the average of atomic masses of the other two elements.

2. What are the limitations of Dobereiner's triads ?

Ans : * Only three triplets could be identified.

*All the elements known then could not be classified into triplets.

3. State the role of Newland's law of octaves.

Ans : when elements are arranged in ascending order of atomic masses every 8 element resembles the first element.

4. What are the limitations of Newland's octaves.

* This rule was applicable only up to calcium.

* There was only 56 elements in this table it was assumed that only 56 elements exists in nature and more elements will not be discovered.

* Nickel and Cobalt were placed in the same position.

5. State Mendeleev's periodic table.

Ans : the properties of elements are the inverse repeats of their atomic masses.

6. Write the achievements of Mendeleev's periodic table.

Ans : * All the elements known then were classified.

* Helped to discover new elements.

* It helped to correct the error of atomic masses of some elements.

7. What are the limitations of Mendeleev's periodic table ?

Ans : * Hydrogen could not be assigned the correct position.

* After a long time all elements (isotopes) were discovered.

* Atomic masses are not found in regular ascending order from one elements to another.

8. State modern periodic law [mosaley rule]

Ans : Properties of elements are periodic repetitions of atomic number.

9. How many horizontal Rows are there in the modern periodic table ? what they are called ?

Ans : In the periodic table there are total 7 horizontal rows called periods.

10. How many columns are there in the modern periodic table ? what are they called ?

Ans : There are total 18 vertical columns. They are called groups.

11. f : block elements are kept separate why ?

Ans : The properties of elements are more transverse similarities than longitudinal similarity.

12. How do the trends of 12 elements change in periodic table ?

Ans :

SL.no.	Periodic properties	As we move from left to right in the periodic table.(Period)	As we move from top to bottom in the periodic table (column/ groups).
1	Atomic size	Decreases	Increases
2	Ionization energy	Increases	Decreases
3	Metallic quality	Decreases	Increases
4	Electro positivity	Decreases	Increases
5	Electro negavitivy	Increases	Decreases

13. Atomic radious or size decreases as we move from left to right in the periodic table . Why?

Ans : The reason is that the increased nuclear charge attracts the electron closer to the nucleus.

14. Atomic size increases as you go down the Group.Why?

- Ans :
- * Because new shells are added as one goes down.
 - * It increases the distance between the outer most electron and the nucleus.
 - * Due to this the atomic size increases even though the charge of the nucleus increases.

15. The metallicity of an element increases as it moves down in the Group in modern periodic table.Why?

Ans : Metals from positive ions as elements move down a Group in the modern periodic table. They easily lose electrons and become positive ions.

16. Define the following.

a) Valency b) Atomic size / Radius

Ans : a) Valency : Valence electrons present in the outer most shell of its atom or The bonding ability of an atom is called its valency.

b) Atomic size / Radius : Atomic size is the distance from the center of the nucleus to the outer most shell of an atom.

17. The elements of groups 17 in the modern periodic table are fluorine , chlorine and iodine respectively, Which element has the highest tendency to gain electrons ? Why ?

Ans : Since electron withdrawing tendency is higher in fluorine element , electeon withdrawing tendency decreases as one goes down the group.

8. How do organisms Reproduce?

1. In which organisms we can see binary fission?

Ans: Amoeba and Leishmania

2. Name the type of reproduction seen in plasmodium.

Ans: Multiple Fission

3. In which organisms we see budding?

Ans: Hydra

4. Give difference between self- pollination and cross- pollination.

Ans

Self- pollination	Cross - pollination
1. It is transfer of pollen to stigma of the same flower	It is the transfer of pollen to stigma of another same plant or another plant of same kind.
2. It occurs only in bisexual flowers.	It takes place both in unisexual and bisexual flowers
3. It does not lead to genetic diversity.	It leads to genetic diversity.

5. Give any one difference between pollination and Fertilization.

Pollination	Fertilization
1. Transfer of pollen grains from Anther to stigma	It is fusion of Male and Female gametes
2. It is physical process	It is biological process.

6. List the contraceptive methods in humans

Ans: * Tubectomy, Vasectomy

* Oral pills, * Cooper- T. * Condoms..etc..

7. What is the function of prostate gland?

Ans: Produce the fluid that nourish and transports sperms.

8. What is the function of vas deference.?

Ans: It passes sperms from testies upto urethra.

9. What is the function of testies?

Ans: * production of sperms.

* producing of Testosterone hormone.

10. Why scrotum is located outside of body?

Ans: Temperature of testicles needs to be cooler than the inside of the body.

11. What is function of the placenta?

Ans: * It provides oxygen and nutrients to a growing baby.

* It removes waste products from the growing baby.

12 How an egg/ ova transfers from ovary to uterus.

Ans: Through oviduct or Fallopian tube.

13.Name the sexually transmitting disease

Ans: AIDS, Gonorrhoea, syphilis, warts.

14.What is the function of vagina?

Ans: provides a passageway for blood and mucosal tissue from the uterus during a woman's period.

15.what is fission?

Ans: The parent cell divides into daughter cells.

16.What is multiple fission?

Ans: Many cells are formed from parent cell.

17.What is budding?

Ans: A bud is formed which develops into tiny individual.

18.What is regeneration?

Ans: If organism is somehow cut or broken into many pieces, each piece grows into complete organism.

19.What is Menstruation?

Menstruation is the breakdown of the uterus endometrial lining and blood vessels, resulting in a liquid that is expelled through the vaginal canal.

When egg is fertilized:- When an egg is fused with sperm it gets fertilized.

- * The fertilized egg called zygote is planted in uterus and develops into an embryo.
- * The embryo gets nutrition from the mother's blood with the help of placenta.
- * The gestation period is 9 months.

When egg is not fertilized:- When an egg is not fused with sperm then it does not get fertilized.

- * The uterus prepares itself every month to receive a fertilized egg.
- * The lining of uterus becomes thick and spongy, required to support an embryo.
- * This lining breaks down and comes out through the vagina as blood and mucus.
- * The cycle takes around 28 days every month and is called menstruation.

20. What is placenta?

Ans: The organ that develops in the uterus during pregnancy.

9. Heridity And Evolution

1. Define heredity?

Transfer of characteristics from one generation to another generation is called heredity

2. Define Monohybridisaton?

Monohybridisation is the crossing of two plants for a trait.

3. Define Dihybridisation?

Dihybridization is the crossing of two plants for two traits.

4. What is the ratio of Mendel's monohybrid cross?

3:1

5. What is the genotypic ratio of monohybrid cross?

1:2:1

6. What are fossils?

Fossils are preserved traces of living organisms.

7. What factors leads to the emergence of new species

*Genetic drift

*Geographical separation

*natural selection.

8. Who decide the gender of Baby?

Father

9. Which plant did the Mendel select for his experiment? And why?

Pea plant

Reasons:

*Pea plants produce large number of seeds

*They can be grown easily

*They have short growth period and short lifecycle

*They bear self-pollinating flower which could be cross pollinated artificially.

10. What are Homologous organs?give example?

The organs which have same structural design and development of origin but they perform different functions

Ex: Human hand and bird wing.

11. What are analogous organs ? give example.

Analogous organs are those organs which have different basic structural design and development of origin but perform similar functions.

Ex:wings of bird and bat.

12. Explain the two method used to determine the age of fossils.

The age of the fossils can be estimated by the following 2 methods

*it can be assumed while digging the earth the fossils found closer to the surface are more recent than those found in the deeper layer of the earth

*Carbon dating:By using radio-carbon($C-12$)can be determine the age of fossils.

13. Why are the characteristics acquired by an organism during its life time is not inherited?
 Change in non reproductive tissues cannot be passed on to the DNA of the germ cell.

14. Define evolution? Explain the cause of evolution.

Evolution is a slow change in inherited characters of a population over a long period of time

*Homologous organs

*analogous organs

*Fossils

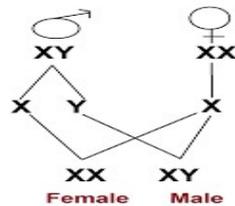
15. Write the checker board for F1 generation.

	T	t
T	Tt	Tt
t	Tt	tt

16 Write the difference between acquired traits and inherited traits.

Acquired traits	Inherited traits
a) These are characters which are developed during the life time of an organism.	a) These are the characters which are transmitted from parents to the offspring.
b) Acquired traits are not passed onto the next generation.	b) These traits are passed from one generation to next generation.
c) Cannot undergo direct evolution.	c) Can undergo direct evolution.
Ex: less body weight due to starvation.	Ex: color of hair and eye.

17. Explain the process of sex determination in human beings



18. Write the checker board for Dihybrid crosses.

Cross of F₁ Generation

round, yellow 

round, yellow 

	RY	Ry	rY	ry
RY	RRYY 	RRYy 	RrYY 	RrYy 
Ry	RRYy 	RRyy 	RrYy 	Rryy 
rY	RrYY 	RrYy 	rrYY 	rrYy 
ry	RrYy 	Rryy 	rrYy 	rryy 

10. Light Reflection And Refraction

1. What is reflection of light?

A: Light falling on a smooth surface and returning to the medium is called reflection of light.

2. State the laws of reflection of light?

A: **First law:** the angle of incidence is equal to the angle of reflection

Second Law: The incident ray, the reflected ray and the perpendicular drawn at the point of incidence are in the same plane

3. What are the characteristics of reflection in a plane mirror?

A: * The image formed in a plane mirror is always Virtual and erect.

* The size of the image is equal to the size of the object

* The further the object is in front of the mirror the further behind the mirror is the image.

4. What are the spherical mirrors? State its type?

A: Mirrors which have a curved surface are spherical mirrors. If the reflecting surface is curved outward, it is called a convex mirror, and if the reflecting surface is curved inward, it is called a concave mirror.

5. List the uses of spherical mirrors?

A: * powerful parallel beam of light in torches, search lights, vehicle lights.

* used to get a magnified image

* The doctor will use an endoscope to check the cavities in the teeth, used to get a larger image of the face in a barber shop

* solar furnaces use large mirrors to focus the sun's rays

6. Name the mirror used to obtain an erect and large image of an object

A: Concave mirror

7. What is refraction of light?

A: When light propagates from a denser medium to a rarer medium and from a rarer medium to a denser medium, it changes its direction slightly. This is called refraction of light.

8. What is a lens?

A lens is a transparent object with a curved surface.

There are two types of lenses

1. A convex lens is a lens with a curved surface. It converges light rays.

2. A concave lens is a lens with a concave surface. It diverges light rays.

9. What is refractive index?

The amount by which the direction of light changes when it travels from one medium to another medium is called refractive index.

10. Define 1 diopter of lens.

A diopter is an international unit of lens power.

1 diopter means that the lens has a focal length of 1 meter.

11. How to determine the power of a lens?

The power of a lens is inversely proportional to its focal length. $P = 1/f$.

12. Introduce the following symbols for mirror or lens.

Symbols	Names	Meaning
P	Pole of the mirror	Reflecting surface of curvature
C	Centre of curvature	Centre of the mirror
R	Radius of curvature	The part which has radius of curvature of the reflecting surface of the spherical mirror .
F	Focal Point	The point on which the reflected rays falls on the principle axis
f	Focal length	The distance between the focal point and the pole of the spherical mirror
MN	Aperture	The radius of the reflected surface of the spherical mirror
	Principle axis	The ray passes through centre of curvature and the pole

13. The position, size and nature of the reflection in Concave mirror when the object is at different distances.

Position of the object	Position of the image	Size of the image	Nature of the image
At infinity	At the focus F	Highly diminished point sized	Real and inverted
Beyond C	Between F and C	Diminished	Real and inverted
At C	At C	Same size	Real and inverted
Between C and F	Beyond C	Enlarged	Real and inverted
At F	At infinity	Highly enlarged	Real and inverted
Between P and F	Behind the mirror	Enlarged	Virtual and erect

14. Position, size and nature of reflection in convex vision when objects are at different distances.

Position of the object	Position of the image	Size of the image	Nature of the image
At infinity	At the focus F, behind the mirror	Highly diminished, point sized	Virtual and erect
Between infinity and the pole P of the mirror	Between P and F, behind the mirror	Diminished	Virtual and erect

11. The Human Eye And The Colourful World

1. The reflective area of the eye

Ans: Retina

2. The lens in the eye

Ans: Convex lens

3. What is eye alignment?

Ans: The ability to adjust the converging distance of the lens of the eye.

4. What is the nearest point of the eye?

Ans: 25cm

5. What is the maximum point of the eye?

Ans: Infinity

6. What is nearsightedness?

Ans: Near objects will visible, distance objects are not visible. clearly

7. Near vision correction lens .

Ans: Concave lens

8. What is farsightedness? what is the reason.

Ans: Distant object are visible but near by objects are not visible clearly
The reason is that the eye ball is a small.

9. What is the lens used to correct farsightedness?

Ans: Convex lens.

10. What is Dispersion of light?

Ans: White light is split into seven colours.

11. Who was the scientist who discovered the Dispersion of light?

Ans: Newton

12. Which is the highest bending colour in the spectrum of light?

Ans: Violet

13. Which is the lowest bending colour in the spectrum of light?

Ans: Red

14. What causes Rainbow?

Ans: Total internal reflection.

15. What causes stars to Twinkle?

Ans: Refraction of light.

16 . What causes early sunrise and late sunset ?

Ans: Refraction of light.

17. What is tyndall effect?

Ans: The phenomenon by which the colloidal particles scatter light is called tyndall effect.

18. The colour of clear sky is blue why?

Ans: Scattering of light.

19. What causes the sun to appear red at sunrise and sunset and red near the horizon.

Ans: Scattering of light.

20. What causes the sky to appear dark to an astronaut.

Ans: Dispersion in height is not seen.

21. Why hazard lights are red in colour. What is the reason.

Ans: The red colour is less scattered.

22. What causes the sun to appear white at noon?

Ans: Because the light is less scattered.

23.What is Presbyopia?

Ans: Eyes ability to Adapt decrease with age. Near and far objects are not seen properly. Reason:The lens loses it's flexibility.

Correction: Using both convex and concave lens.

14. Sources Of Energy

1) What are Solar Cells?

A:- A Solar cell is a device which Convert Solar energy into electrical energy

2) Expand CNG.

A:- Compressed Natural Gas

3) What are fossil fuels?

A:- The fuels which are formed from the dead bodies of plants and animals over millions of years, are called fossil fuels.

4) Name the element used for making solar cell ?

A:- Silicon

5) List the qualities of an ideal Source of energy? Or What are the characteristics of a good fuel?

A:- The qualities of an ideal source of energy are

- i) It should be easily available.
- ii) It should be easy to transport.
- iii) It Should Consume less and give more energy
- iv) It should be free of pollution

6) What are the applications of Solar cells?

A:- i) Solar Cells are used is signal lights. ii) Artificial Satellites
iii) T.V or Radio relay stations. iv) Calculators and toys.

7) Name the main Component of Bio-gas. Explain its advantage?

A:- Methane is the main component of bio-gas

Advantage:- It burns without Smoke. It produce more heat.
It does not produce residue. It is renewable source of fuel.
It is eco-friendly.

8. Give reason:-

A) why the inner surface of Solar Cooker is painted with black Colour

A:- Black Colour absorbs more heat

B) Why Solar Cookers have a glass lid.

A:- Glass lid prevent the out flow of heat from the cooker.

C) Why mirror is used in Solar Cooker.

A:- Mirror reflect the heat radiation on to the glass sheet

9. What are the disadvantages of Nuclear energy?

A:- The disadvantages of nuclear energy are:

- 1) It is difficult to dispose nuclear waste.
- 2) It Causes environmental pollution
- 3) Accidental leakage of nuclear radiations Causes health hazards.
- 4) There is a high cost for the installation of nuclear power plant.

10: What are the advantages of nuclear energy ?

A:- i) It release more amount of energy ii) It can be installed any where.

11) what are the advantages and disadvantages of using the Solar Cookers?

Advantage : 1) It is of low cost. 2) It is Eco-friendly. 3) It save fuel.

Disadvantage : 1) It consume more time to cook the food.
2) It is difficult to cook the food is cloudy days.
3) It is not possible to cook the food is large quantity.

16. Sustainable Management Of Natural Resources

1. What are 5 R's that we have to follow to protect the environment ?

Ans: Refuse : Rejecting the unwanted things.

Reduce : Use in small quantity.

Re-use : Using the things again and again instead of throwing.

Repurpose : The material when it is not possible to use for main purpose it should be used for other purpose.

Recycle : Utilised plastics , metals , paper glass , materials etc are collected and it recycle to prepare essential things.

2. Who are the people comes under forest protection ?

or

which are the main stake holders that protect the forest and wild life ?

Ans : 1) People living in the forest and its surrounding depends on forest products.

2) The owners of paper industries depends on forest product.

3) The people who love nature and wild life try to protect the nature (forest)

3. List out the advantages of construction of dams

1)The canals come out of dams supply large quantity of water to far off places.

2)Dams are also helpful in production of hydroelectricity.

3)For example Indira Gandhi Canal in Rajasthan makes a greenary to a large area of land.

4. Write any three problems arises by the construction of dams.

Ans : i) **Social problems** : large number of people will not get adequate compensation or rehabilitation.

ii) **Economical problem** : Construction of dams swallow up huge amount of public money without proper benefits.

iii)**Environment problems** : It destroy the large area of forest and wild life.

5. What is rainwater harvesting ? what are the different methods applied for rainwater harvesting ?

Ans : The collection of rainwater and its Preservation and used in future is called rainwater harvesting.

- Construction of small check dams.
- Construction of bunds and pits.
- Installation of roof water harvesting units.
- Improvement of small lakes.

6. what were the ancient methods of water harvesting and water supply ?

Ans : Rajasthan : Khadins , Tanks and Nadis

Maharashtra : Bandharas and Tals

Madhya Pradesh and Uttar Pradesh : Bundhis

Himachalpradesh : Kulhs

Kerala : Surangams

7. Give suggestions to conserve underground water.

- Ans : • Rainwater harvesting.
• Constructing check dams using mud.

8. Write the importance of " Amrita Devi Bishnoi National Award "

Ans : The Government of India has recently instituted an Amrita Devi Bishnoi National Award for wildlife conservation in the memory of Amrita Devi Bishnoi who is 1731 sacrificed her life along with 363 others for the protection of the 'khejri' trees in Khejrli village near Jodhpur in Rajasthan.

9. Name some of the rallies related to protection of forests.

- Ans : i) Chipko Movement
ii) Appiko movement

10. There is a need of management of natural resources , why ?

- Ans : 1) To provide natural resources to future generation.
2) Equal distribution of resources to all.
3) Resources are limited and population is more.

11. List the disadvantages of using fossil fuels ?

- 1) It causes air pollution.
- 2) It causes greenhouse effect.
- 3) It increases global warming.
- 4) It is an exhaustible resource.
- 5) The smoke liberated by burning of fossil fuels contain oxide of Nitrogen which causes acid rains.

12. What are the main aims of Ganga Action project ?

- Ans : • To prevent water pollution.
• Recycling of Ganga water (Treatment of water)
