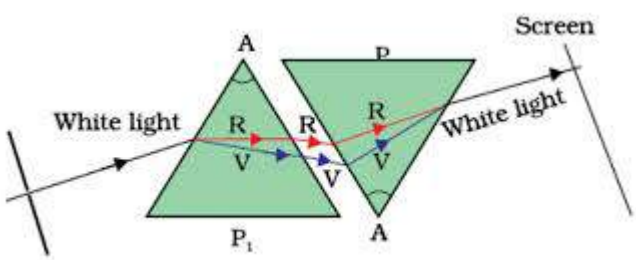
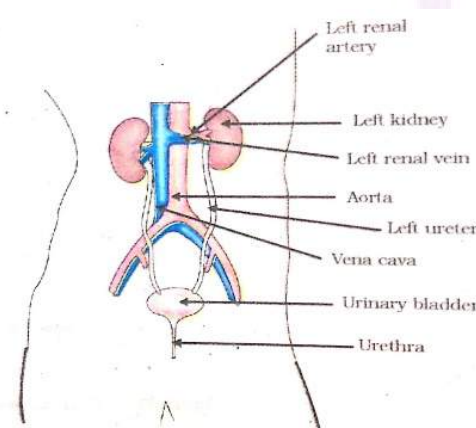
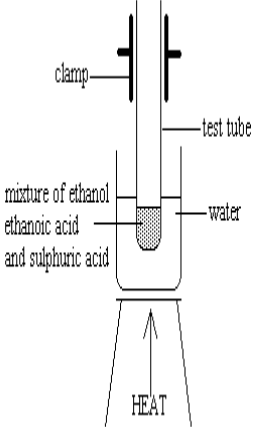
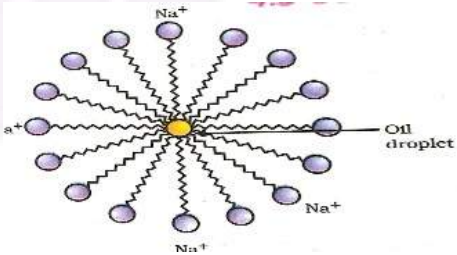
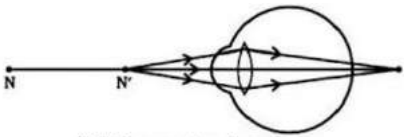
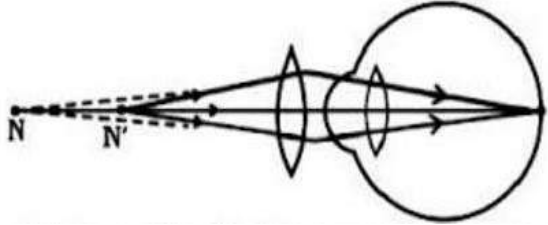
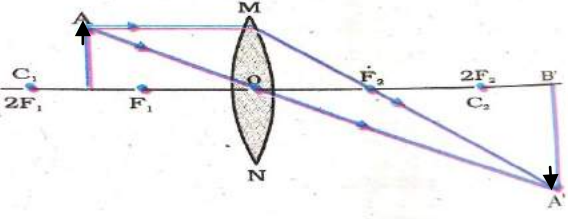


	<p>free oxygen atoms . These atoms then combine with molecular oxygen to form ozone..</p> $O_2 \xrightarrow{UV} O+O$ $O_2+ O \longrightarrow O_3$ <ul style="list-style-type: none"> • It prevents harmful UV radiation to reach the earth. • CFC/chlorofluoro carbon/aerosol • Skin cancer/reduction in immune system/cataract/damages eyes. 	<p>1 ½ ½ ½ ½</p>	<p>3</p>
<p>8</p>	<ul style="list-style-type: none"> • Right hand thumb rule: If we hold a current carrying straight conductor in our right hand , such that the thumb gives the direction of electric current then the curled fingers give the direction of the magnetic field. • The magnetic field will be directed perpendicular into the plane of table inside the circular loop. • The magnetic field will be directed perpendicular outside plane of table for a point outside the circular loop. / Diagram: <p style="text-align: center;">(diagram is not necessary)</p>	<p>1 1 1</p>	<p>3</p>
<p>9</p>	<ul style="list-style-type: none"> • Cause of dispersion: <p>(i) Shape of prism (ii) Different colours bend with different angles (different colour has different refractive index or different speed)</p> <p>diagram</p> <p>Arrow& labelling</p>  <p style="text-align: center;">OR</p> <p>Scattering of light means to throw light in all possible direction when light intract with particles of medium.</p> <p>(i)The Sun appears reddish at sun-rise : the Sun rays have to travel through a large atmospheric distance near the horizon .As the wave length of red light is maximum in the visible range , hence the scattering is least . The blue light and shorter wavelengths are scattered away by the particles .This gives rise to the reddish appearance of the sun./diagrammatic answers may be given fig:11.12</p> <p>(ii)The sky appears blue: Blue colour has shorted wavelength than red. When sunlight passes through the atmosphere, the fine particles in the air scatter the blue light more strongly than red. Hence the clear sky spears blue.</p>	<p>1 1 1 1 1</p>	<p>3</p>
<p>10</p>	<ul style="list-style-type: none"> • X=Al , Y = Al₂O₃ • Al₂O₃ + 6HCl → 2AlCl₃ + 3H₂O 	<p>½ + ½ 1</p>	

	<ul style="list-style-type: none"> $\text{Al}_2\text{O}_3 + 2\text{NaOH} \rightarrow 2\text{NaAlO}_2 + \text{H}_2\text{O}$ 	1	3
11	<p>a) Plaster of Paris $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ (Calcium sulphate hemihydrate)</p> <p>b) Heating calcium sulphate dihydrate, or gypsum, to 373°K. $\text{CaSO}_4 \cdot 2\text{H}_2\text{O} \xrightarrow{373\text{ K}} \text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O} + 1\frac{1}{2}\text{H}_2\text{O}$</p> <p>(c) on addition of water it sets into hard mass. $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O} + 1\frac{1}{2}\text{H}_2\text{O} \rightarrow \text{CaSO}_4 \cdot 2\text{H}_2\text{O}$</p> <p>d) Making sculptures/statues / Decorative items/POP walls</p>	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ 1 $\frac{1}{2}$	3
12	<p>a) i) double displacement reaction ii) combination reaction iii) decomposition reaction iv) displacement reaction</p> <p>b) $3\text{BaCl}_2 + \text{Al}_2(\text{SO}_4)_3 \rightarrow 2\text{AlCl}_3 + 3\text{BaSO}_4$ OR</p> <p>a) Yellow, lead iodide b) $2\text{KI} + \text{Pb}(\text{NO}_3)_2 \rightarrow \text{PbI}_2 + 2\text{KNO}_3$ c) Double displacement, precipitation reaction</p>	$\frac{1}{2} \times 4$ 1 $\frac{1}{2} + \frac{1}{2}$ 1 $\frac{1}{2} \times 2$	3
13	<p>Diagram of the Human Excretory System</p>  <p>Diagram</p> <p>Labelling</p>	$1\frac{1}{2}$ $\frac{1}{2} \times 3$	3
14	<p>(a) The plant will immediately change the shape by changing the amount of water in them (swelling or shrinking) thus bringing movement.</p> <p>(b) (i) Gibberellin/Auxin (ii) Cytokinin</p>	1 1 1	3
15	<ul style="list-style-type: none"> Fossils are dead remains or traces of preserved plants and animals buried under the earth's crust. Relative Dating: Digging the earth shows that the fossils closer to the earth surface are more recent than those in the deeper layers. 	$\frac{1}{2} + \frac{1}{2}$ 1	

	because they have been inherited from a common ancestor.	1	5
18	<p>(a) $C_2H_5OH + CH_3COOH \rightarrow CH_3COO C_2H_5 + H_2O$(esterification) Alcohol Acid Ester Water</p> <p>$CH_3COOC_2H_5 + NaOH \rightarrow C_2H_5OH + CH_3COONa$ (saponification) Ester Base Alcohol Salt</p> <p>b) Diagram for esterification</p>  <p>Description 1mL ethanol, 1mL glacial acetic acid and a few drops of conc. H_2SO_4 ↓ Warmed in a water bath ↓ Water is poured into the beaker ↓ Fruity smell is produced</p> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • Soaps are sodium salts of fatty acids. • Detergents are sodium salts of sulphonic acids. Soaps do not act in hard water due to formation of scum while detergents do. • Cleansing action of soaps: In soaps carbon chain dissolves in oil and the ionic end dissolves in water to form micelle  <ul style="list-style-type: none"> • Hard water contains Ca^{2+} / Mg^{2+} ions that react with soap and form precipitates called scum. • By using detergents in hard water / boiling hard water 	<p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>1+1</p> <p>$\frac{1}{2} \times 4$</p> <p>$\frac{1}{2}$</p> <p>2</p> <p>1</p>	5

19	<p>(a)</p> <ul style="list-style-type: none"> Increasing Atomic mass. Similar properties in a group. The physical and chemical properties of an element are periodic function of their atomic mass. No fixed position to Hydrogen because it resembles both alkali metals / group 1, as well as halogen /group 17 <p>(b) (i) Atomic size of elements decrease as we move from left to right across a period as effective Nuclear charge increases</p> <p>(ii) Increases down a group as number of shells increases.</p>	<p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	5
20	<p>(a) Hypermetropia / farsightedness</p> <p>Causes:</p> <ol style="list-style-type: none"> Shortening of eyeball Curvature of eye lens decreases / focal length of eye lens increases. <p>b)</p>  <p>(b) Hypermetropic eye</p> <p>(c) Convex lens</p> $\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$ $= \frac{1}{(-50\text{cm})} - \frac{1}{(-25\text{cm})}$ $= \frac{1}{50\text{cm}}$ <p>Hence, $f = 50\text{ cm} = 0.5\text{m}$</p> <p>Therefore power = $(1/0.5)\text{D} = 2\text{D}$</p> <p>(d) Correction of Hypermetropia</p> 	<p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>1</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2} + \frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p>	5
21	<p>(a) It is the rate at which electrical energy is dissipated or consumed in an electrical circuit is called electric power .</p> <p>We know</p> $V = W/Q$ $W = VQ$ $W/t = VQ/t$ $P = VI$ $P = IR.I$	<p>1</p> <p>2</p>	

24	<ul style="list-style-type: none"> No Change In solid form (powder no reaction will take place because H^+/H_3O^+ (ions) are not available. $Na_2SO_4 + BaCl_2 \rightarrow NaCl + BaSO_4(\text{white ppt})$ <p style="text-align: center;">OR</p> <p>$Cu < Fe < Zn < Al$</p> <p>i) Deposition of brown colour on iron. ii) Blue Colour change is to green.</p>	<p style="text-align: center;">1 $\frac{1}{2} + \frac{1}{2}$</p> <p style="text-align: center;">1 $\frac{1}{2}$ $\frac{1}{2}$</p>	2
25	<p>(i) X- acidic, pH of X is < 7 (ii) Y- basic, pH of Y is > 7</p>	<p style="text-align: center;">1 1</p>	2
26	<p>Mistakes : F_1 and F_2 are not equidistant from the optical center of the lens. $OF_1 \neq OF_2$; $2OF_1 \neq 2OF_2$ Image should form beyond $2F_2$ Image should be magnified</p> <p style="text-align: right;">(any two)</p> <div style="text-align: center;">  </div> <p style="text-align: center;">OR</p> <p>(i) Prism should be within the boundary all through the experiment . (ii) Pins should be fixed vertically and the feet of the pins should be observed. (iii) Protractor should be used correctly . (iv) Angle should be taken between 30° and 60° to observe the refraction clearly. (v) Separation between the pins should be kept at least 5cm .</p> <p style="text-align: right;">(any four)</p>	<p style="text-align: center;">$\frac{1}{2} \times 2$</p> <p style="text-align: center;">1</p> <p style="text-align: center;">$\frac{1}{2} \times 4$</p>	2
27	<ul style="list-style-type: none"> Set up A is correct. Ammeter should be connected in series whereas voltmeter should be connected in parallel to the resistor across which potential difference is to be measured. Positive of voltmeter and ammeter should be connected to the positive of supply voltage. 	<p style="text-align: center;">$\frac{1}{2}$ $\frac{1}{2} + \frac{1}{2}$</p> <p style="text-align: center;">$\frac{1}{2}$</p>	2