

	<b>B.C.M SCHOOL BASANT AVENUE DUGRI ROAD LUDHIANA</b> <b>Class- X</b> <b>Subject- Science</b> <b>Answerkey of July Assignment</b> <b>Chapters- Acids, Bases and Salts</b> <b>Light- Reflection and refraction</b>
	<b>MCQ</b>
1	d
2	d
	<b>Assertion Reason</b>
3	b
4	a
	Give answer
5	<p>(A) Yes, a convergent lens becomes divergent. When the refractive index of the medium is greater than the refractive index of material of lens.</p> <p>(B) use <math>m = -v/u</math></p> <p><math>m = -n = -v/u</math></p> <p><math>\Rightarrow n = v/u</math></p> <p><math>\Rightarrow</math> From mirror formula</p> <p><math>\Rightarrow 1/f = 1/v + 1/u</math></p> <p><math>\Rightarrow 1 + u/v = u/f</math></p> <p><math>\Rightarrow 1 + 1/n = u/f</math></p> <p><math>\Rightarrow u = (n+1)f/n</math></p>
6	<p><b>a) Substance:</b> Copper sulphate pentahydrate</p> <p><b>Formula:</b> <math>\text{CuSO}_4 \cdot 5\text{H}_2\text{O}</math></p>

	<p><i>Phenomenon:</i> Reversible change / dehydration and rehydration.</p> <p><b>(b)</b></p> <ul style="list-style-type: none"> <li>• <math>\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}</math> – Sodium carbonate decahydrate (Washing Soda)</li> <li>• <math>\text{CuSO}_4 \cdot 2\text{H}_2\text{O}</math> – Copper sulphate dihydrate</li> </ul>
7	<p>a) At Anode: Chlorine (<math>\text{Cl}_2</math>)</p> <ul style="list-style-type: none"> <li>• At Cathode: Hydrogen (<math>\text{H}_2</math>)</li> </ul> <p><b>(b) Process:</b> Electrolysis of brine (<math>\text{NaCl}</math> solution); called so as it breaks down using electricity.</p> <p><b>(c)</b> <math>2\text{NaCl}(\text{aq}) + 2\text{H}_2\text{O}(\text{l}) \rightarrow 2\text{NaOH}(\text{aq}) + \text{Cl}_2(\text{g}) + \text{H}_2(\text{g})</math></p>
8	<p>Use <b>turmeric indicator</b> – it turns <b>red</b> in base and <b>remains yellow</b> in acid. Or use <b>phenolphthalein</b> if available: colourless in acid, pink in base.</p>
9	<p><b>(A)</b> Give an antacid like baking soda solution or Eno.</p> <p><b>(B)</b> Apply mild alkaline paste like baking soda.</p> <p><b>(C)</b> Add basic substances like lime or wood ash to neutralize soil acidity.</p>
	<p><b>Case-Based Questions</b></p>
10	<p>1. Row d.</p> <p><math>U = -(50-26) = -24\text{cm}</math></p> <p><math>V = (90-50) = +40\text{cm}</math></p> <p>By using lens formula</p> <p><math>F = +15\text{cm}</math></p> <p>2. Since <math>f = +15\text{cm}</math></p> <p>So when candle is placed at <math>2f</math> or <math>30\text{cm}</math> in front of lens it will produce real inverted same size image .</p> <p>3. No image will be seen on screen, as image formed will be virtual, erect.</p>

	4. Because convex lens forms real inverted image, when object is placed between $f$ & $2f$ .
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