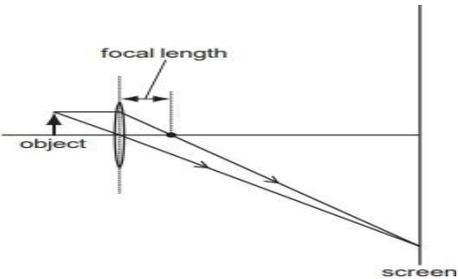


## Sample Question Paper (TERM – I) 2021-22

Class X  
Science (086)

Q.NO	ANSWERS			
	Section - A			
1.	B. Yellow precipitate is formed			
2.	B. Hydrogen			
3.	D. ii and iv			
4.	B. $3\text{Fe(s)} + 4\text{H}_2\text{O(g)} \rightarrow \text{Fe}_3\text{O}_4 \text{(s)} + 4\text{H}_2\text{(g)}$			
5.	D. D			
6.	A. Fe and Fe respectively.			
7.	C. Combination reaction			
8.	<table border="1" style="margin-left: auto; margin-right: auto;"><tr><td style="padding: 5px;">B</td><td style="padding: 5px;"><math>\text{H}_2\text{CO}_3</math></td><td style="padding: 5px;"><math>\text{Ca(OH)}_2</math></td></tr></table>	B	$\text{H}_2\text{CO}_3$	$\text{Ca(OH)}_2$
B	$\text{H}_2\text{CO}_3$	$\text{Ca(OH)}_2$		
9.	A. By adding acid to water with constant stirring.			
10.	C. To verify the Law of conservation of mass			
11.	C. (iii) Alveoli: Thin-walled sac like structures for exchange of gases.			
12.	B. (i) - amylase, (ii) - pepsin, (iii) - trypsin			
13.	D. water content in the guard cells			
14.	D. (iv) Vena cava takes blood from body parts to right auricle			
15.	B. Blood is transferred to lungs for oxygenation and is pumped into various organs simultaneously.			
16.	B. i.- b) ; ii - c) ; iii - d) ; iv- a)			
17.	C. Concave mirror			
18.	C.  <p>The diagram shows a concave mirror with its principal axis. An object is placed between the center of curvature and the focal point. Two rays are drawn: one parallel to the principal axis that reflects through the focal point, and one through the center of curvature that reflects back. These rays converge to form a real, inverted image on a screen placed between the center of curvature and the focal point. The distance from the mirror to the focal point is labeled 'focal length'.</p>			

19.	A. Concave mirror as well as convex lens
20.	C. The speed of light in air > the speed of light in water > the speed of light in glass.
21.	B. $r > v$
22.	B. The mirror has a focal length of -3 cm and will produce an image of magnification -1.
23.	B. $0^\circ$
24.	B. (ii)
<b>Section - B</b>	
25.	C. ✓ ✓
26.	A. 2008
27.	B. Mg reacts with dil. HCl to produce $H_2$ gas which helps in floating
28.	B. B, C
29.	B. ii and iii
30.	B. i and iv
31.	C. A is true but R is false
32.	D. A is False but R is true
33.	C. A is true but R is false.
34.	B. Both A and R are true and R is not the correct explanation of A.
35.	B. B and D
36.	D. Shark, dog fish, sting ray
37.	D. Thin walled capillaries richly supplied with blood.
38.	B. They selectively filter toxic substances through their leaves.
39.	<p>C. concave lens of focal length -25 cm</p> $P = -4 \text{ D}$ $P = \frac{100}{f(\text{cm})}$ $f(\text{cm}) = \frac{100}{p}$ $\frac{100}{-4} = -25 \text{ cm.}$ <p>Negative focal length means concave lens. Concave lens of focal length -25cm.</p>

40.	<p>A. 30 cm in front of the mirror</p> <p>If rays converge at a point 15cm from the mirror, then,  <math>f = -15\text{cm}</math>  then, <math>C = -30\text{cm}</math></p> <p>An object kept at C makes an image of the same size as object correct answer -  (A) 30cm in front of mirror</p>
41.	B. yeast, mushroom, bread mould
42.	D. Urine is more diluted.
43.	<p>D. <math>-\frac{80}{3}</math> cm</p> $m = -3$ $V = 80\text{cm}$ $m = \frac{v}{u}$ $-3 = \frac{80}{u}$ $u = \frac{80}{-3} = -\frac{80}{3}\text{cm.}$ <p>Correct answer = (D) <math>-\frac{80}{3}\text{cm.}</math></p>
44.	C. ii, iii and iv
45.	D. Medium 1 and 3 are essentially the same medium, but medium 2 is denser than 1 and 3
46.	<p>B. 1.21</p> <p>Refractive index of flint glass w.r.t alcohol = <math>\frac{\text{R.I of flint glass}}{\text{R.I of alcohol}}</math></p> $= \frac{1.65}{1.36} = 1.21$ <p>Correct answer -(B)1.21</p>
47.	<p>C. 4 mm</p> $f = +10\text{cm (Convex lens)}$ $u_1 = 2\text{mm} = 0.2\text{cm.}$ $u = -5\text{cm.}$ $\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$ $\frac{1}{10} = \frac{1}{v} - \frac{1}{-5}$ $\frac{1-2}{10} = \frac{-1}{v}$ $V = -10\text{cm.}$ $m = \frac{v}{u} = \frac{-10}{-5}$ $m = \frac{-10}{-5} = \frac{2}{0.2}$ $\Rightarrow v_2 = 0.4\text{cm.}$ $v_2 = 4\text{mm}$

	Correct answer (C) 4mm
48.	B. X, Y, Z
<b>Section - C</b>	
49.	C. CaCO <sub>3</sub>
50.	C. 18 g
51.	A. Brine
52.	A. Between 1 to 3
53.	C. Carbon dioxide
54.	B. Carbon dioxide
55.	B. Blue - black colour would be obtained on the leaf of plant Y and no change in colour on leaf of plant X.
56.	C. i. and iii
57.	B. a parallel-sided glass block
58.	<p>C. 30°</p> <p>Refractive index of medium = <math>\frac{\sin i}{\sin r}</math></p> $1.5 = \frac{\sin 48.6^\circ}{\sin r}$ $1.5 = \frac{0.75}{\sin r}$ $\sin r = \frac{0.75}{1.5}$ $\sin r = 0.5$ $r = \sin^{-1}(0.5)$ $r = 30^\circ$ <p>Correct answer (C) 30°</p>
59.	D. III and V are correct.
60.	A. lateral shift of the rays would have been less.

\*\*\*

**Marking Scheme in lieu of diagram based questions for VI candidates**

**Section - A**

2.	B. Hydrogen								
3.	D. Zinc								
5.	B. Acidic								
11	A. Alveoli: Thin-walled sac like structures for exchange of gases.								
12	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td>L</td> <td>M</td> <td>N</td> </tr> <tr> <td>B</td> <td>amylase</td> <td>pepsin</td> <td>trypsin</td> </tr> </table>		L	M	N	B	amylase	pepsin	trypsin
	L	M	N						
B	amylase	pepsin	trypsin						
14	D. Vena cava - takes deoxygenated blood from body parts to right atrium								
15.	B. Blood is transferred to lungs for oxygenation and is pumped into various organs simultaneously.								
16.	B. i.- b) ; ii - c) ; iii - d) ; iv- a)								
18.	C. It is a convex lens and the object is placed between pole and focus.								
22.	B. The mirror will produce an image of magnification -1.								
23.	B. 0°								
24.	B. Violet.								

**Section - B**

26.	B. Rain water consists of dissolved oxides of sulphur.
27.	B. Mg reacts with dil. HCL to produce H <sub>2</sub> gas which helps in floating.
30.	B. I and iv
44.	C. pass through the centre of curvature.
45.	D. glass is optically denser than water.
47.	C. 4 mm

**Section - C**

53.	C. Carbon dioxide
54.	B. Carbon dioxide
55.	B. Blue - black colour would be obtained on the leaf of plant B
56.	C. i. and iii
57.	A. Dispersion
58.	B. Red colour is monochromatic.
59.	D. Different wavelengths travel at different speeds in the glass.
60.	C. Rainbow.