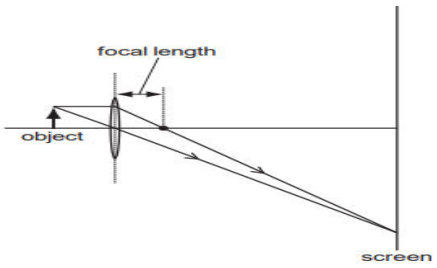
Sample Question Paper (TERM – I) 2021-22

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. $3Fe(s) + 4H_2O(g) \rightarrow Fe_3O_4(s) + 4H_2(g)$
5.	D. D
6.	A. Fe and Fe respectively.
7.	C. Combination reaction
8.	B | H_2CO_3 | $Ca(OH)_2$
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. 

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.	D. r < v
22.	B. The mirror has a focal length of -3 cm and will produce an image of magnification -1.
23.	B. 0°
24.	B. (ii)
Section - B	
25.	C. ✓ ✓
26.	A. 2002
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.	C. concave lens of focal length -25 cm $P = -4\ D$ $P = \frac{100}{f(cm)}$ $f(cm) = \frac{100}{p}$ $\frac{100}{-4} = -25$ cm. Negative focal length means concave lens. Concave lens of focal length -25cm.

40.	A. 30 cm in front of the mirror If rays converge at a point 15cm from the mirror, then, f = -15cm then, C = -30cm An object kept at C makes an image of the same size as object correct answer – (A) 30cm in front of mirror
41.	B. yeast, mushroom, bread mould
42.	D. Urine is more diluted.
43.	D. -80/3 cm m = -3 V = 80cm m = $\frac{v}{u}$ -3 = $\frac{80}{u}$ u = $\frac{80}{-3}$ = $\frac{-80}{3}$cm. Correct answer = (D) $\frac{-80}{3}$cm.
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.	B. 1.21 Refractive index of flint glass w.r.t alcohol = $\frac{R.I\ of\ flint\ \ glass}{R.I\ of\ \ alco\ hol}$ = $\frac{1.65}{1.36}$ = 1.21 Correct answer –(B)1.21
47.	C. 4 mm f = +10cm (Convex lens) h_1= 2mm = 0.2cm. u = -5cm. $\frac{1}{f} = \frac{1}{v} - \frac{1}{5}$ $\frac{1}{v} = \frac{1}{10} - \frac{1}{5}$ $\frac{1-2}{10} = \frac{-1}{10}$ V = -10cm. m= $\frac{v}{u}$ = $\frac{h_2}{h_1}$ m= $\frac{-10}{-5} = \frac{h_2}{0.2}$ ⇨ h_2 = 0.4cm. h_2 = 4mm

	Correct answer (C) 4mm
48.	B. X, Y, Z
Section - C	
49.	C. $CaCO_3$
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.	C. 30^0 Refractive index of medium = $\frac{\sin i}{\sin r}$ $1.5 = \frac{\sin 48.6°}{\sin r}$ $1.5 = \frac{0.75}{\sin r}$ $\sin r = \frac{0.75}{0.5}$ $\sin r = 0.5$ $r = \sin^{-1}(0.5)$ $r = 30°$ Correct answer (C) 30°
59.	D. III and V are correct.
60.	A. lateral shift of the rays would have been less.

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<table>
<tr><th colspan="2">Marking Scheme in lieu of diagram based questions for VI candidates</th></tr>
<tr><th colspan="2">Section - A</th></tr>
<tr><td>2.</td><td>B. Hydrogen</td></tr>
<tr><td>3.</td><td>D. Zinc</td></tr>
<tr><td>5.</td><td>B. Acidic</td></tr>
<tr><td>11</td><td>A. Alveoli: Thin-walled sac like structures for exchange of gases.</td></tr>
<tr><td>12</td><td><table><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></td></tr>
<tr><td>14</td><td>D. Vena cava - takes deoxygenated blood from body parts to right atrium</td></tr>
<tr><td>15.</td><td>B. Blood is transferred to lungs for oxygenation and is pumped into various organs simultaneously.</td></tr>
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<tr><td>18.</td><td>C. It is a convex lens and the object is placed between pole and focus.</td></tr>
<tr><td>22.</td><td>B. The mirror will produce an image of magnification -1.</td></tr>
<tr><td>23.</td><td>B. 0°</td></tr>
<tr><td>24.</td><td>B. Violet.</td></tr>
<tr><th colspan="2">Section - B</th></tr>
<tr><td>26.</td><td>B. Rain water consists of dissolved oxides of sulphur.</td></tr>
<tr><td>27.</td><td>B. Mg reacts with dil. HCL to produce H_2 gas which helps in floating.</td></tr>
<tr><td>30.</td><td>B. I and iv</td></tr>
<tr><td>44.</td><td>C. pass through the centre of curvature.</td></tr>
<tr><td>45.</td><td>D. glass is optically denser than water.</td></tr>
<tr><td>47.</td><td>C. 4 mm</td></tr>
<tr><th colspan="2">Section - C</th></tr>
<tr><td>53.</td><td>C. Carbon dioxide</td></tr>
<tr><td>54.</td><td>B. Carbon dioxide</td></tr>
<tr><td>55.</td><td>B. Blue - black colour would be obtained on the leaf of plant B</td></tr>
<tr><td>56.</td><td>C. i. and iii</td></tr>
<tr><td>57.</td><td>A. Dispersion</td></tr>
<tr><td>58.</td><td>B. Red colour is monochromatic.</td></tr>
<tr><td>59.</td><td>D. Different wavelengths travel at different speeds in the glass.</td></tr>
<tr><td>60.</td><td>C. Rainbow.</td></tr>
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