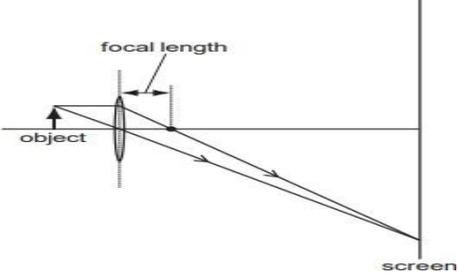


Sample Question Paper (TERM – I) 2021-22

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="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 5px;">B</td> <td style="padding: 5px;">H_2CO_3</td> <td style="padding: 5px;">Ca(OH)_2</td> </tr> </table> | B | H_2CO_3 | Ca(OH)_2 |
| 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. <div style="text-align: center; margin-top: 20px;">  <p style="font-size: small; margin: 0;">focal length</p> <p style="font-size: small; margin: 0;">object</p> <p style="font-size: small; margin: 0;">screen</p> </div> | | | |

| | |
|--------------------|--|
| 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° |
| 24. | B. (ii) |
| Section - 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> |

| | |
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| 40. | <p>A. 30 cm in front of the mirror</p> <p>If rays converge at a point 15cm from the mirror, then, $f = -15\text{cm}$ then, $C = -30\text{cm}$</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. $-\frac{80}{3}$ 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) $-\frac{80}{3}\text{cm.}$</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 = $\frac{\text{R.I of flint glass}}{\text{R.I of alcohol}}$</p> $= \frac{1.65}{1.36} = 1.21$ <p>Correct answer -(B)1.21</p> |
| 47. | <p>C. 4 mm</p> $f = +10\text{cm (Convex lens)}$ $u_1 = 2\text{mm} = 0.2\text{cm.}$ $u = -5\text{cm.}$ $\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$ $\frac{1}{10} = \frac{1}{v} - \frac{1}{-5}$ $\frac{1-2}{10} = \frac{-1}{v}$ $V = -10\text{cm.}$ $m = \frac{v}{u} = \frac{-10}{-5}$ $m = \frac{-10}{-5} = \frac{2}{1}$ $\Rightarrow v_2 = 0.4\text{cm.}$ $v_2 = 4\text{mm}$ |

| | |
|--------------------|--|
| | 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. | <p>C. 30°</p> <p>Refractive index of medium = $\frac{\sin i}{\sin r}$</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 ₂ 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. |