**R.L. Institute CODE : A**

**Class : 10th**

**Max Time : 90 minutes Subject : Science Max Marks : 40**

**Marks Obtained : ………… September Exam Name : ……………………**

1. Barium sulphate is soluble in

|  |  |
| --- | --- |
| a) soluble in water | b) partially soluble in water |
| c) insoluble in water | d) a gas at room temperature |

1. The correct formula of rust is

|  |  |  |  |
| --- | --- | --- | --- |
| a) Fe2O3 | b) Fe3O4 | c) Fe2O3. xH2O | d) Fe3O4. xH2O |

1. The solid residue obtained on heating ferrous sulphate in a glass tube is

|  |  |  |  |
| --- | --- | --- | --- |
| a) ferrous sulphide | b) ferrous oxide | c) ferric oxide | d) ferrous sulphite |

1. Volume of air inspired or expired with each normal breath is called ……………. .

|  |  |  |  |
| --- | --- | --- | --- |
| a) tidal volume | b) inspiratory capacity | c) total lung capacity | d) residual volume |

1. The lungs are enclosed by double-layered membrane which is called

|  |  |  |  |
| --- | --- | --- | --- |
| a) pleura | b) bronchi | c) pericardium | d) none of these |

1. For which colour refractive index of glass is maximum ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Red | b) Violet | c) Green | d) Yellow |

1. A concave lens of focal length forms an image which is ‘n’ times the size of the object. The distance of the object from the lens is

|  |  |  |  |
| --- | --- | --- | --- |
| a) (1 – n) f | b) (1 + n) f | c) ( ) f | d) ( ) f |

1. A ray of light travelling in air is incident on the plane of a transparent medium. The angle of incident is 45˚ and that of refraction is 30˚, Find the refractive index of the medium.

|  |  |  |  |
| --- | --- | --- | --- |
| a) 2 | b) | c) 1 | d) |

1. Which of the following reactions evolves heat ?

|  |  |
| --- | --- |
| a) C + O2 → CO2 | b) C6H12O6 + 6O2 → 6CO2 + 6H2O |
| c) CaO + H­2O → Ca(OH)2 | d) All of these |

1. On diluting a solution of pH = 4, its pH will

|  |  |
| --- | --- |
| a) remain same | b) increase |
| c) decrease | d) undergo a chemical change |

1. The difference of water molecules in gypsum and plaster of Paris is

|  |  |  |  |
| --- | --- | --- | --- |
| a) 5/2 | b) 2 | c) 1/2 | d) 3/2 |

1. Which one of the following will turn red litmus blue ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Lactic acid | b) Human blood | c) Oxalic acid | d) Milk |

1. Aqueous solution of copper sulphate reacts with aqueous ammonium hydroxide solution to give

|  |  |  |  |
| --- | --- | --- | --- |
| a) brown ppt. | b) pale blue ppt. | c) white ppt. | d) green ppt. |

1. Gastric juice contains

|  |  |  |  |
| --- | --- | --- | --- |
| a) pepsin & trypsin | b) pepsin & HCl | c) trypsin & HCl | d) amylase & pepsin |

1. One of the following juices secreted in the body of man does not contain any enzyme.

|  |  |  |  |
| --- | --- | --- | --- |
| a) Gastric juice | b) Saliva | c) Bile juice | d) Pancreatic juice |

1. Bicuspid valve is present in the human heart in between which of the following ?

|  |  |
| --- | --- |
| a) Right atrium and right ventricle | b) Left atrium and left ventricle |
| c) Right and Left atrium | d) Left atrium and systemic aorta |

1. Which of the following products of light dependent phase are used during light independent phase of photosynthesis ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) RuBP and ATP | b) H2O and O2 | c) NADPH and ATP | d) ATP and O2 |

1. To prevent the entry of food into the trachea, the opening is guarded by

|  |  |  |  |
| --- | --- | --- | --- |
| a) epiglottis | b) glottis | c) hard palate | d) soft palate |

1. A tree is 18.0 m away and 2.0 m high from a concave lens. How high is the image formed by the given lens of focal length 6 m ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) 1.0 m | b) 1.5 m | c) 0.75 m | d) 0.50 m |

1. Which of the following forms virtual and erect image for all positions of the object ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Concave lens | b) Concave mirror | c) Convex mirror | d) Both (a) and (c) |

1. The \_\_\_\_\_\_ receives deoxygenated blood collected from different organs of the body via large vein called vena cava ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Left atrium | b) Right atrium | c) Right ventricle | d) Left ventricle |

1. What happen if diameter of artery is reduced ?

|  |  |
| --- | --- |
| a) Blood pressure will fall | b) Blood pressure will increase |
| c) Blood pressure will remain same | d) Blood will coagulate |

1. The intensity of scattered light is

|  |  |
| --- | --- |
| a) inversely proportional to (wavelength)2 | b) directly proportional to (wavelength)2 |
| c) inversely proportional to (wavelength)4 | d) directly proportional to (wavelength)4 |

1. The refractive index of glass is 3/2. Velocity of light in glass would be

|  |  |  |  |
| --- | --- | --- | --- |
| a) 3 x 108 m s – 1 | b) 2 x 108 m s – 1 | c) 108 m s – 1 | d) 1.33 x 108 m s – 1 |

1. Which of the following have same functions ?

|  |  |
| --- | --- |
| a) Stomata and Veins | b) Stomata and Lenticels |
| c) Lenticels and Parenchyma | d) Hydathodes and Sieve tubes |

1. Which product formed when aluminium oxide react with NaOH ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) NaAlO3 | b) Na2O | c) NaAlO | d) NaAlO2 |

1. When metal Z is added to dilute HCl solution, there is no evolution of gas . Metal Z is

|  |  |  |  |
| --- | --- | --- | --- |
| a) K | b) Na | c) Ag | d) Zn |

1. When lead nitrate reacts with potassium iodide, yellow precipitate of \_\_\_\_\_\_\_\_ is formed ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) PbI2 | b) KNO3 | c) Pb(NO3)2 | d) PbIO3 |

1. Combustion is an \_\_\_\_\_\_\_\_\_\_ process .

|  |  |  |  |
| --- | --- | --- | --- |
| a) exothermic | b) endothermic | c) both (a) and (b) | d) none of these |

1. Consider the following reaction : p Mg3N2 + q H2O → r Mg(OH)2­ + s NH­3 ,

When the equation is balanced, the coefficients p , q , r , s respectively are :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 1, 3, 3, 2 | b) 1, 6, 3, 2 | c) 1, 2, 3, 2 | d) 2, 3, 6, 2 |

**CASE STUDY TYPE**

Read the passage given below and answer the following questions from 31 to 35 .

A compound, X of sodium is a white powder. It is a constituent of baking powder and is used in some antacids. When heated it gives a compound, Y which is anhydrous and absorbs water to become a hydrated salt. When this salt is kept in open air , it loses water molecules in a process called efflorescence. When dissolved in water it forms a strong base and a weak acid, Z

1. What is the compound, X ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) NaHCO3 | b) Na2CO3 | c) NaOH | d) NaCl |

1. The compound, Y is

|  |  |  |  |
| --- | --- | --- | --- |
| a) NaHCO3 | b) Na2CO3 | c) Na2CO3 .10 H2O | d) NaCl |

1. What is the nature of the solution formed by dissolving Y in water ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Alkaline | b) Acidic | c) Neutral | d) It remains insoluble |

1. Identify the compound, Z .

|  |  |  |  |
| --- | --- | --- | --- |
| a) CO2 | b) H2CO3 | c) NaOH | d) H2O |

1. Sodium carbonate is a basic compound because it is a salt of a

|  |  |
| --- | --- |
| a) strong acid and strong base | b) weak acid and weak base |
| c) strong acid and weak base | d) weak acid and strong base |

**Assertion-Reason Based MCQs**

**DIRECTIONS :** In each of the following questions, a statement of Assertion (A) is followed by a statement of Reason (R) . Choose the correct answer out of the following choices :

1. Both assertion and reason are true, and reason is correct explanation of the assertion.
2. Both assertion and reason are true, but reason is not the correct explanation of the assertion.
3. Assertion is true, but reason is false.
4. Assertion is false, but reason is true.
5. **Assertion:** Magnesium wire burns in presence of O2 .

**Reason:** Magnesium acts as a reducing agent.

1. **Assertion:** Sodium carbonate pentahydrate is also known as washing soda.

**Reason:** Chief raw materials for the manufacture of washing soda are NH3 , NaCl and CaCO3 .

1. **Assertion:** Heart of fish contains only deoxygenated blood.

**Reason:** Oxygenated blood does not return back to the heart in fishes.

1. **Assertion:** Higher the refractive index of the prism material, lower is the angle of deviation.

**Reason:** The angle of deviation is directly proportional to the angle of prism.

1. **Assertion:** Convex lens is a converging lens.

**Reason:** Convex lens converges the rays of light falling on it.

**R.L. Institute CODE : B**

**Class : 10th**

**Max Time : 90 minutes Subject : Science Max Marks : 40**

**Marks Obtained : ………… September Exam Name : ……………………**

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| --- | --- | --- | --- |
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1. What is the nature of the solution formed by dissolving Y in water ?

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**Reason:** Chief raw materials for the manufacture of washing soda are NH3 , NaCl and CaCO3 .

**Answers September Exam Term-1 [CLASS = 10th ]**

|  |  |
| --- | --- |
| **CODE : A** | **CODE : B** |
| 1. c | 1. a |
| 2. c | 2. b |
| 3. c | 3. d |
| 4. a | 4. c |
| 5. a | 5. c |
| 6. b | 6. c |
| 7. d | 7. b |
| 8. d | 8. c |
| 9. d | 9. b |
| 10. b | 10. c |
| 11. d | 11. c |
| 12. b | 12. b |
| 13. b | 13. d |
| 14. b | 14. b |
| 15. c | 15. d |
| 16. b | 16. b |
| 17. c | 17. a |
| 18. a | 18. a |
| 19. d | 19. d |
| 20. d | 20. b |
| 21. b | 21. a |
| 22. b | 22. c |
| 23. c | 23. d |
| 24. b | 24. b |
| 25. b | 25. d |
| 26. d | 26. d |
| 27. c | 27. b |
| 28. a | 28. b |
| 29. a | 29. a |
| 30. b | 30. b |
| 31. a | 31. b |
| 32. b | 32. a |
| 33. a | 33. a |
| 34. b | 34. d |
| 35. d | 35. b |
| 36. b | 36. d |
| 37. d | 37. b |
| 38. a | 38. a |
| 39. d | 39. a |
| 40. a | 40. d |