

I. Choose the correct answer: (8×1=8)

- In water, Hydrogen and Oxygen are combined in the ratio of _____ of mass.
 - 1 : 8
 - 8 : 1
 - 2 : 3
 - 1 : 3
- Which of the following is true about oxygen?
 - Complete burning gas
 - Partially burning gas
 - Doesn't support burning
 - Supports burning
- Fuse is a _____.
 - Switch
 - Wire with low resistance
 - Wire with high resistance
 - Protective device for breaking an electric circuit
- Conduction is the heat transfer which takes place in a _____.
 - Solid
 - Liquid
 - Gas
 - All of them
- Heat is a form of _____.
 - Electrical energy
 - Gravitational energy
 - Thermal energy
 - None of these
- Carbon-di-oxide with water changes _____.
 - Blue litmus to red
 - Red litmus to blue
 - Blue litmus to yellow
 - Doesn't react with litmus
- Cathode rays are made up of _____.
 - Neutral particle
 - Positively charged particle
 - Negatively charged particle
 - None of the above
- Opposite charges _____ each other.
 - Fuse
 - Attract
 - Repel
 - None of the above

II. Fill in the blanks. (6×1=6)

- Three bulbs are connected end to end from the battery. This connection is called _____.
- _____ is negatively charged particle.
- _____ is the smallest particle of an elements.
- _____ is called as vital life.
- A calorimeter is a device used to measure the _____.
- Anode rays travel in _____.

III. State True or False. (6×1=6)

- Electroscope is a device used to charge a body by induction.
- In parallel circuit, current remains the same in all components.
- The process of converting a substance from solid to gas is called condensation.
- In a thermo flask the silvered walls reflect and radiate the heat to the outside.
- Water can conduct electricity.
- Oxygen is a poor conductor of heat and electricity.

IV. Match the following. (8×1=8)

- | | |
|---------------------------------|---------------------------------------|
| 21. Cathode rays | - Solid to gas |
| 22. Law of conservation of mass | - Positively charged particle |
| 23. Carbon-di-oxide | - Prevents a circuit from overheating |
| 24. Nitrogen | - Lavoisier |
| 25. Two dissimilar charges | - Fertilizer |
| 26. Fuse | - Sir William Crookes |
| 27. Sublimation | - Fire extinguisher |
| 28. Proton | - Attract each other |

V. Very short answer. (5×1=5)

29. Which device protects building from lightning strike?
30. Which is the negatively charged particle in an atom?
31. What does the aerated water contain?
32. Write the formula of carbon-di-oxide.
33. Write the subatomic particles in an atom.

VI. Write short answers. (Any 10) (10× 2=20)

(Question **No. 46** is compulsory)

34. Write the names of the following compounds.
a) CO b) N₂O c) NO₂ d) PCl₅
35. State the law of the conservation of mass.
36. Write the properties of anode rays.
37. What are the sources of oxygen?
38. What is Earthing?
39. How charges are produced by friction?
40. What is electroplating?
41. What are the effects of heat?
42. What is electric circuit?
43. Name three types of heat transfer.
44. What are the applications of conduction in our daily life? (Any 2 points)
45. Mention the physical properties of Oxygen.
46. State True or False.
a) Transfer of electron takes place by rubbing objects together.
b) A switch is used to control the circuit.
47. What are the three scales used to measure temperature?
48. Define the term ions or radicals.

VII. Answer in detail: (Any 5) (5× 5=25)

49. a) Find the valency of the element which is underlined in the following formula.
a) Nacl -
b) CO₂-
c) Al(PO₄)₃ -
d) Ba(NO₃)₂ -
e) Cacl₂ -

b) Write the chemical formula for the following compounds.

- a) Aluminium sulphate -
- b) Silver nitrate -
- c) Magnesium oxide -
- d) Barium chloride -

50. What are the effects of acid rain? How can we prevent them?
51. What happens when carbon-di-oxide is passed through lime water? Write the equation for this reaction.
52. Name the compounds produced when the following substances burn in oxygen.
a) Carbon -
b) Sulphur -
c) Phosphorous -
d) Magnesium -
e) Iron -
f) Sodium -
53. Explain series and parallel circuit with diagram.
54. What is Electroplating? Explain how it is done.
55. With the help of a neat diagram explain the working of a calorimeter.
56. Explain the working of thermoflask.
57. Write the preventive measures of Global warming.

VIII. Solve the Numerical problems: (Any 1) (1× 2=2)

58. The temperature of a metal ball is 30°C. When an energy of 3000J is supplied, its temperature raises by 40°C. Calculate its heat capacity.
59. An energy of 84000J is required to raise the temperature of 2kg of water from 60°C to 70°C calculate the specific heat capacity of water.