

CLASS – XI CHEMISTRY STATES OF MATTER

- Q1. Why do we require knowledge of the State of matter while dealing with data of experiments?
- Q2. What determine the state of a substance?
- Q3. Why are aerated water bottles kept under water during summer /
- Q4. The size of weather balloon becomes larger and larger as it ascends up into higher altitudes. Why?
- Q5. What is the boiling point of water at (i) higher altitude (ii) in pressure cooker?
- Q6. What is moist air lighter than dry air?
- Q7. How are the three states of matter compared? Give points of difference.
- Q8. Explain (i) Dispersion forces (ii) Dipole – Dipole forces (iii) Dipole induced Dipole forces (iv) Hydrogen bond by giving example.
- Q9. Draw graph of Boyle's Law.
- Q10. Give most common application of Dalton's law.
- Q11. What names are given to the following Ideal gas relationships?
(a) Volume and moles at constant T and p.
(b) Press of non-reacting gases in mixture of constant T and V. (c) V & T in Kelvin at constant p and n?
- Q12. State charle's Law, what is Absolute Law
- Q13. What is isochors and isobar?
- Q14. What is Ideal Gas Equation? Why Gas constant is known as Universal Gas constant.
- Q15. Why Ideal Gas Equation is called equation of state.
- Q16. State and explain Dalton's Law of partial pressures. Prove that partial pressure of a gas is equal to the product of its mole fraction and total pressure in a gaseous mixture.
- Q17. A human adult breathes in approximately 0.50 L of air at 1 atm. with each breath if an air tank holds 10L of air at 200 atm, how many breaths the tank will supply.
- Q18. What will happen to volume of fixed amt. Of gas at a certain T & P if:-
(a) T is kept constant but press is decreased to $1/4^{\text{th}}$ of original value? (b) Press is halved and temp. in Kelvin is doubled ?
- Q19. Calculate the total press in a 10 L cylinder which contains 0.49 of He, 1.6g of Oxygen and 1.4g of N_2 at 27°C .
Also calculate the partial press of the gas in the cylinder. Assume ideal behaviour for gases.
- Q20. At what temp centigrade will the volume of gas at 0°C double itself, Pressure remaining constant?

- Q1. What do you mean by environmental pollution? Give e.g. of degradable & non-degradable pollutants.
- Q2. Explain tropospheric pollution.
- Q3. Name the different regions of the atmosphere along with their altitude.
- Q4. State reason why CO acts as a pollutant, although it is colorless & odorless gas?
- Q5. Although CO₂ is non-toxic, it is causing major environmental problem. Comment.
- Q6. Write a short notes on :- a) Global warming (b) Green House effect (c) Depletion of ozone layer.
- Q7. Why does rain water have normally a pH 5.6? When does it become acid rain?
- Q8. Write a note explaining acid rain?
- Q9. What are particulate pollutants? Explain the viable & non-viable particulates?
- Q10. What is smog? Explain the types of smog.
- Q11. Write down the reactions involved during the formation of photochemical smog?
- Q12. What are the harmful effects of photochemical smog & how can they can be controlled?
- Q13. What chemical reactions are occurring in the stratosphere? How are Freons creating a hole in the ozone layer?
- Q14. What do you understand by ozone hole? What does it occur mainly over Antarctica?
- Q15. Write the main effects of depletion of ozone layer?
- Q16. What is ground water pollution? How does it take place?
- Q17. What are oxygen demanding wastes? Define BOD. How is it determined?
- Q18. What are the harmful effects of the following, if they are present in drinking water;-
(a) Fluoride (b) Lead (c) Sulphate (d) Nitrate
- Q19. What are the different sources of soil pollution? Name the pollutants being added by them.
- Q20. What are the international standards for drinking water?
- Q21. What are industrial wastes? Explain them in terms of biodegradable & non-biodegradable wastes?
- Q22. Explain the strategy that has been adopted to control environmental pollution?
- Q23. How should the management of domestic waste be done?
- Q24. Comment on the statement – Green Chemistry is an alternative tool for reducing pollution?
- Q25. Give some examples of the achievements of green chemistry.