

Question bank

Chapter-1 Matter and its Composition

Q-1 Very short answer type questions

- (1) What is mass?
- (2) What is volume?
- (3) What is matter?
- (4) What is condensation?
- (5) Why do gases exert pressure?

Q-2 Short answer type questions

- (1) Out of these, select natural and man-made matter : coal, wood , silk, soap, cotton, nylon, cellulose, water, medicine, plastic.
- (2) Write the characteristics of matter
- (3) Write the two differences between boiling and evaporation.
- (4) A gas exerts pressure on the walls of the container. Why?
- (5) Give reasons for the following observations: (i) Naphthalene balls disappear with time without leaving any solid. (ii) We can get the smell of perfume sitting several metres away.

Q-3 Long answer type questions

- (3) Write the four properties of gas.
- (1) Write the four properties of solid.
- (2) Write the four properties of liquid
- (4) Write the definitions of the following: (i) Sublimation (ii) Boiling point (iii) Condensation point

Q-4 Fill in the blanks

- (a) Air is a
- (b) The molecules are made up of

- (c) A book is a matter.
- (d) Solid is very difficult to
- (e) have no definite shape.
- (f) Gases diffuse very
- (g) Boiling point of water is

Q-5

Q-6 State True or False

- (a) LPG means liquefied petroleum gas.
- (b) Liquid changing to gas is called fusion.
- (c) When a solid is heated, its atoms vibrate about their fixed position.
- (d) In gaseous state, the interparticle spaces are very large
- (e) Matter can change from one form to another form on changing temperature and pressure.

Q-7 Match the column

Column A	Column B
1. Plastic	(a) Solid
2. Generally possess high densities	(b) No definite shape, takes the shape and volume of shape and volume of the container
3. Gas	(c) Cohesive force
4. The force of attraction between	(d) In the change of state of a liquid, the particles change into vapour state.
5. Boiling	(e) Man-made matter

Multiple Choice Questions

(a) What is anything that takes up space and has mass?

- (i) Mass
- (ii) Volume
- (iii) Melting
- (iv) Matter

(b) What happens to particles when their temperature increases?

- (i) The particles move slower
- (ii) The particles move faster

(iii) The particles lose mass

(iv) The particles gain mass

(c) When a substance changes from a solid state to a liquid, it is called-

(i) melting

(ii) evaporation

(iii) freezing

(iv) condensation

(d) depends on gravity

(i) Conduction

(ii) Convection

(iii) Radiation

(iv) None of these

(e) The temperature at which a liquid change into gas-

(i) boiling point

(ii) melting point

(iii) freezing point

(iv) latent point

Chapter-2 Metals and Non-Metals

Q-1 State True or False

(1) Sodium is a non-metal.

(2) Copper displaces zinc from zinc sulphate solution.

(3) Coal can be drawn into wire.

(4) Potassium can be cut with a knife.

(5)) Air and moisture are the essential conditions for corrosion.

Q-2 Match the Columns:

Column A	Column B
1. Argon	(a) Metalloids
2. Germanium	(b) Non-metal
3. Mercury	(c) Noble metal
4. Neon	(d) Liquid metal
5. Chlorine	(e) Noble gas
6. Gold	(f) Advertising signboard

Q-3 Very short answer type questions

- (1) What are metalloids?
- (2) Write two conditions for corrosion.
- (3) . What is an element?
- (4) What is a compound?
- (5) Name the metal used as a thermometric liquid.

Q-4 Short answer type questions

- (1) What are noble gases? Write the names of the noble gases.
- (2) Write the uses of helium gas.
- (3) Explain the term corrosion.
- (4) What is a metal? Give some examples.
- (5) Explain the occurrence of non-metals.

Q-5 Long answer type questions

- (1) Write two uses of each of the following: (i) Silicon (ii) Germanium (iii) Antimony
- (2) Explain electroplating. Write the application of electroplating.
- (3) Why are gold, silver and platinum considered as noble metals?

Q-6 Fill in the Blanks:

- (1) Phosphorus is a very non-metal.
- (2) The most ductile metal is
- (c) A metal which is stored in kerosene oil is
- (d) Iron is reactive than copper.
- (e) A non-metal which is used to purify water is
- (f) Metals react with acid to produce gas.

(g) Chemical formula of rusting of iron

Multiple Choice Questions

(a) The property of metals by which they can be beaten into thin sheets is called

- (i) Malleability
- (ii) Ductility
- (iii) Conduction
- (iv) Expansion

(b) Which one of the following is a metal?

- (i) C
- (ii) N
- (iii) Na
- (iv) O

(c) The noble gas which is used in respiration by sea divers is-

- (i) Helium
- (ii) Neon
- (iii) Argon
- (iv) Krypton

(d) Which one of the following is a good conductor of electricity?

- (i) Iron
- (ii) Plastic
- (iii) Wood
- (iv) Glass

(e) A metal which is neither ductile nor malleable is-

- (i) Copper

(ii) Silver

(iii) Zinc

(iv) Aluminium

Chapter-3 Physical and Chemical Changes

Q-1 Match Columns:

Column A	Column B
1. Irreversible change	(a) Natural change
2. Reversible change	(b) No new substance is formed
3. Germination of a seed	(c) Chemical change
4. Formation of sugar	(d) Natural change
5. Change of season	(e) Physical change
6. Evaporation of water	(f) Periodic change
7. Earthquake	(g) Non-periodic

Q-2 Very short answer type questions

(a) What are physical changes?

(b) What are chemical changes?

(c) What are slow changes?

(d) Name a chemical change which takes place in the presence of (i) heat (ii) light

(e) What is freezing point?

Q-3 Short answer type questions

(1) Mention a change which is always: (i) periodic change (ii) undesirable change

(2) Write three examples each for physical and chemical changes.

(3) Explain that the burning of LPG shows both physical and chemical change

(4) Write short notes on: (i) evaporation (ii) boiling

(5) . How would you say that setting of curd is a chemical change?

Q-4 Long answer type questions

(1) Write any five changes which occur in everyday life

(2) Classify the changes involved in the following processes as physical and chemical changes. (i) Photosynthesis (ii) Dissolving sugar in water (iii) Burning of coal (iv) Melting wax (v) Beating aluminium to make aluminium foil (vi) Digestion of food

(3) Write any four importances of chemical changes.

Q-5 Fill in the blanks

- (a) Changes that bring formation of new substances are called _____.
- (b) Burning of wood is a _____ change.
- (c) Revolution of the Earth around the Sun is a _____ change
- (d) As Small plant converting into a tree is a _____ .
- (e) Melting of candle wax is a _____ change.
- (f) Conversion of liquid to vapour by heating is called _____.
- (g) The changes which are controlled by man are called _____.

Q-6 State True or False:

- (a) Cooking of rice is a physical change
- (b) Breaking of a china dish is a chemical change
- (c) Rusting of iron is an irreversible change.
- (d) Eruption of a volcano is an reversible change
- (e) Conversion of solid to liquid by heating is called fusion.

Multiple Choice Questions

(a) Which of the following changes can be reversed?

- (i) Raw egg to boiled egg
- (ii) Wet clothes to dry clothes
- (iii) Bud to flower
- (iv) Cow dung to biogas

(b) Which of the following changes cannot be reversed?

- (i) Milk to paneer
- (ii) Cold milk to hot milk
- (iii) Yarn to knitted sweater
- (iv) Wet clothes to dry clothes

(c) A substance which cannot sublime is

- (i) iodine
- (ii) camphor
- (iii) sodium chloride
- (iv) dry ice

(d) Which one of the steps while burning a candle is not reversible?

- (i) Melting of solid wax
- (ii) Liquid wax changes to vapours
- (iii) Wax vapour burns into flame
- (iv) All of these

(e) Rusting of iron is a _____.

- (i) Periodic process
- (ii) Fast process
- (iii) Natural process
- (iv) Reversible process

Chapter-4 Elements, Compounds and Mixtures

Q-1 Long answer type questions

- (1) Write any four characteristics of compounds.
- (2) Name the property of the component used for separating the following: (i) Salt and camphor (ii) Wheat and husk (iii) Iron filings and sulphur
- (3) Explain the fractional distillation with an example.
- (4) What is chromatography? Write two advantages of chromatography.

Q-2 Fill in the blanks

- (c) Sugarcane juice is a mixture of....., water and many other substances.
- (a) Components retain their properties in a

- (b) Compounds have..... melting points.
- (d) Separation of components is done to obtain a..... substance.
- (e) Boiling point of pure water is..... than that of impure water.

Q-3 State True or False

- (a) A pure substance has a fixed melting and boiling point.
- (b) Elements are pure substances.
- (c) Separation of components of a mixture is a useful process.
- (d) The process by which two miscible liquids are separated by filtration.
- (e) Chromatography is used to separate pigments from natural colours.

Q-4 Match Columns:

Column A	Column B
1. Handpicking	(a) Conversion of water vapour into liquids
2. Winnowing	(b) Separating bran from flour
3. Sieving	(c) Separating larger size impurities
4. Evaporation	(d) Conversion of water into its vapours
5. Condensation	(e) Separation by wind or by blowing air

Q-5 Very short answer type questions

- (1) What is a symbol?
- (2) What is a compound?
- (3) What is centrifugation method?
- (4) What is a mixture?
- (5) Name the method used to separate husk from wheat.

Q-6 Short answer type questions

- (a) Write the common names of the following: (i) Calcium oxide (ii) Sodium carbonate (iii) Sodium bicarbonate
- (b) Write the symbols of the following elements: (i) Boron (ii) Silicon (iii) Neon.
- (c) Write the chemical formulae of the following: (i) Sodium hydrogen carbonate (ii) Magnesium sulphate
- (d) Write the two differences between element and compound.
- (e) Describe the method to obtain pure salt from rock salt.

Multiple Choice Questions

(a) Sand from water is separated by-

- (i) sieving
- (ii) evaporation
- (iii) filtration
- (iv) sedimentation and decantation

(b) Filtration is a method to separate the components of a-

- (i) solution
- (ii) mixture of a liquid and an insoluble substance-
- (iii) both (a) and (b)
- (iv) pure substance

(c) In chromatography, the filter paper is-

- (i) Stationary phase
- (ii) mobile phase
- (iii) mixture
- (iv) none of the above

(d) Which method is used to separate pebbles and stones from sand?

- (i) Hand-picking
- (ii) Winnowing
- (iii) Sieving
- (iv) Any of these

(e) The components of a solution (say sugar in water) can be separated by-

- (i) filtration
- (ii) Evaporation
- (iii) sedimentation

(iv) decantation

Chapter-5 Atomic Structure

Q-1 Fill in the blanks

(d) Ca is the symbol of _____.

(e) Symbol of gold is _____.

(a) Physical state of Bromine is _____.

(b) Physical state of Bromine is _____.

(c) Proton is a _____ charged particle.

Q-2 State True or False

(a) In a compound, constituents are present in definite proportion by mass

(b) Helium is an example of noble gas.

(c) Molecules are never monoatomic

(d) Atoms are the building blocks of all matter.

(e) An ion carries positive or negative charge.

Q-3 Match the following:

Column A	Column B
1. Magnesium oxide	(a) Oxygen gas
2. Diatomic Element	(b) Charge particle
3. Noble gases	(c) Pluto
4. Ions	(d) Metal oxide
5. Plutonium	(e) Non-reactive

Q-4 Very short answer type questions

(a) . What is an atom?

(b) What is a molecule?

(c) What is a chemical formula?

(d) What do you mean by valency?

(e) what is atomicity?

Q-5 Short answer type questions

(a) Write two examples of diatomic molecules

- (b) Write two differences between elements and compounds.
- (c) Write two examples of metallic oxide
- (d) Write the postulates of Dalton's atomic theory.
- (e) Write the characteristics of a molecule.

Q-6 Long answer type questions

- (1) Write the formula of: (i) Ammonia (ii) Glucose (iii) Methane
- (2) Write the names of the following: (i) NaOH (ii) NH_4OH (iii) LiCO_3
- (3) Write definitions of the following: (i) Electron (ii) Proton (iii) Neutron
- (4) Write the cation and anion present in the following compounds. (i) CH_3COONa (ii) NaCl (iii) K_2SO_4

Multiple Choice Questions

(a) Chalk consists of-

- (i) calcium
- (ii) carbon dioxide
- (iii) oxygen
- (iv) all of them

(b) Charge of electron is _____

- (i) $+1.602 \times 10^{-19}\text{C}$
- (ii) $-1.602 \times 10^{-19}\text{C}$
- (iii) $2.6 \times 10^{-20}\text{C}$
- (iv) Zero

(c) Carbon, hydrogen and oxygen combine together to make-

- (i) sugar
- (ii) polythene
- (iii) chalk

(iv) common salt

(d) Cu is symbol of

(i) copper

(ii) cobalt

(iii) curium

(iv) carbon

(e) Two or more than two different elements that are bounded together is called

(i) a element

(ii) compound

(iii) mixture

(iv) solution

(f) Common name of sodium bicarbonate is_____

(i) baking soda

(ii) washing soda

(iii) caustic soda

(iv) lime soda

Chapter-6 Language of Chemistry

Q-1 Short answer type questions

(1) Write the characteristics of a chemical equation.

(2) Balance the following chemical equation: (i) $\text{H}_2 + \text{N}_2 \rightarrow \text{NH}_3$ (ii) $\text{MnO}_2 + \text{HCl} \rightarrow \text{MnCl}_2 + \text{Cl}_2 + \text{H}_2\text{O}$

(3) List some characteristics of chemical changes

(4) What happens when an iron nail is dipped into the copper sulphate solution?

Q-2 Long answer type questions

- (1) Explain the following with examples: (i) Combination reaction (ii) Decomposition reaction (iii) Simple displacement reaction
- (2) Write the word equations for the following skeletal equations. (i) $\text{Zn} + \text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$ (ii) $\text{CO} + \text{O}_2 \rightarrow \text{CO}_2$ (iii) $\text{AgBr} \rightarrow \text{Ag} + \text{Br}$
- (3) Write your observation for the following chemical reactions and name the products obtained: (i) Dilute acetic acid is poured on baking soda (ii) Sodium carbonate reacts with hydrochloric acid (iii) Calcium carbonate is heated.

Q-3 Fill in the blanks

- (a) On heating, magnesium ribbon burns in air with the formation of a white powder called
- (b) The substances which undergo chemical change are called
- (c) $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \dots\dots\dots$.
- (d) Decomposition of potassium chlorate on heating in the presence of manganese dioxide gives
- (e) Unbalanced reaction is also known as
- (f) Reaction in which energy is absorbed is known as reaction.

Q-4 State True or False

- (a) The number of atoms of each element is conserved in any chemical reaction.
- (b) Hydrogen sulphide has a smell that of a rotten egg
- (c) The reaction between hydrogen and chlorine is an example of combination reaction
- (d) The reaction between hydrogen and chlorine is an example of combination reaction.
- (e) A black residue is formed when sugar is heated.
- (f) Action of heat on ferrous sulphate is an example of decomposition reaction.

Q-5 Very short answer type questions

- (1) What is a chemical reaction ?

- (2) What is a chemical equation?
- (3) Give an example of exothermic reaction
- (4) What is rust?
- (5) What is Law of Conservation of Mass?

Multiple Choice Questions

(a) The chemical formula of magnesium oxide is

- (i) MgO
- (ii) MgO₂
- (iii) Mg₂ O
- (iv) Mg(OH)₂

(b) Balancing of a chemical equation is based on-

- (i) law of conservation of mass
- (ii) mass of reactant and product
- (iii) number of atoms
- (iv) symbols and formulae

(c) Which of the following is an example of a chemical reaction

- (i) grapes get fermented
- (ii) breakdown of food
- (iii) formation of curd
- (iv) all of the above

(d) Which colour is obtained when copper carbonate is heated?

- (i) red
- (ii) green
- (iii) black
- (iv) yellow

(e) What happens when lead nitrate reacts with potassium iodide?

- (i) No reaction
- (ii) Hydrogen gas released
- (iii) Yellow ppt of lead iodide formed
- (iv) Evolution of gas will occur

Chapter-7 Air and Atmosphere

Q-1 Fill in the blanks:

- (1) Nitrogen gas is present in air for nearly _____
- (2) _____ is the most abundant inert gas present in air.
- (3) Calcium cyanamide is used as _____.
- (4) Oxide of sulphur and nitrogen are _____.
- (5) The fixation of nitrogen by bacteria and algae is called _____.

Q-2 State True or False

- (1) Solar energy is connected into chemical energy during photosynthesis.
- (2) Oxygen is colourless gas and neutral to litmus.
- (3) . Air pollutants do not affect the growth and yield of crops.
- (4) By galvanisation, rusting can be prevented
- (5) MnO_2 acts as catalyst when potassium chlorate is heated at 420 K.

Q-3 Very short answer type questions

- (1) Write the percentage composition of air.
- (2) What is fuel?
- (3) Name three greenhouse gases
- (4) Name two air pollutants which affect our health.
- (5). What is acid rain?

Q-4 Short answer type questions

- (1) What are fertilizers? Write the application of fertilizers
- (2) Write the definitions of the following: (i) Nitrogen cycle (ii) Nitrogen fixation
- (3) What happen when nitric acid reacts with calcium nitrate?
- (4) Why is carbon dioxide known as a greenhouse gas?
- (5) Explain ozone depletion.

Q-5 Long answer type questions

- (1) How can we control air pollution?
- (2) Write four physical properties of oxygen gas
- (3) What happens when oxygen reacts with each of the following: (i) Mg (ii) Ca (iii) H₂ (iv) S
- (4) Write the difference between photosynthesis and respiration
- (5) Explain the oxygen cycle.

Multiple Choice Questions

(a) Which two gases make up the bulk of the atmosphere?

- (i) Carbon dioxide and oxygen
- (ii) Carbon dioxide and hydrogen
- (iii) Nitrogen and oxygen
- (iv) Nitrogen and hydrogen

(b) Which of two following industries play a major role in polluting air and increasing air pollution?

- (i) Brick manufacturing
- (ii) Manufacture of gases
- (iii) Electrical appliances
- (iv) All of these

(c) Which of the following is not the layer of atmosphere?

- (i) Mesosphere
- (ii) Stratosphere
- (iii) Troposphere
- (iv) Hydrosphere

(d) What is the total percentage of nitrogen gas in air?

- (i) 12%
- (ii) 21%
- (iii) 78%
- (iv) 87%

(e) Which of the following agents is responsible for turning the Taj Mahal yellow?

- (i) Sulphur
- (ii) Chlorine
- (iii) Sulphur dioxide
- (iv) Nitrogen dioxide