TOP 100 Chemistry Questions for RRB JE/NTPC/RRC

1) What is the permissible concentration of residual chlorine present in drinking water in mg/L?
a) 0.05 – 1 mg/L
b) 0.5 – 0.25 mg/L
c) 0.02 – 0.05 mg/L
d) 0.2 – 2.0 mg/L
Answer: d)
Typical levels of free chlorine or residual chlorine present in drinking water are 0.2 - 2.0 mg/L though levels can be as high as 5 mg/L.

2) The two metal ions that cause hardness to water are……?
a) Calcium and Magnesium
b) Sodium and Magnesium
c) Magnesium and Sulphur
d) Sodium and Chlorine
Answer: a)
Hardness is defined as the concentrations of calcium and magnesium ions expressed in terms of calcium carbonate.The Hardness in water is caused by the presence of dissolved calcium (Ca 2+) and magnesium (Mg 2+) ions.

3) Which among the following is the lightest radioactive element in the Periodic Table?
a) Polonium
b) Uranium
c) Tritium
d) Deuterium
Answer: c)
The periodic table is the complete list of every element found in nature.The lightest radioactive element is tritium which is an isotope of hydrogen. It's hydrogen with its one proton, but it has two neutrons hanging around in its nucleus as well.

4) When diamond is heated at more than 1500 Degree Celsius in the absence of air, then it turns to……?
a) Coal
b) Carbondioxide
c) Fullerene
d) Graphite
Answer: d)
Diamond is a crystal modification of carbon. Heating diamond to about 900 degrees Celsius in the presence of air, diamond will burn into CO2 whereas heating it to 1500 degrees C in the absence of air, it turns into graphite.

5) Which of the following method can be employed to test the Hardness of Water?
a) Sublimation
b) Distillation
c) Formation of lather with soap
d) Saponification
Answer: c)
Hardness of water is due to calcium and magnesium ions. Sodium salts dissolve in water and hence lather is formed. When soap is added to hard water, calcium and magnesium ions replaces sodium (or potassium) ions in the soap and gets precipitated hence lather formation is hindered. Thus, this method can be employed to test the hardness of water.

6) Which of the following is used as a non-stick coating for the cooking utensils?
a) Teflon
b) Polystyrene
c) Perspex
d) Styrofoam
Answer: a)
Teflon is a waxy, opaque material employed as a coating on cooking utensils and in industrial applications to prevent sticking.

7) During the fermentation of sugar, the compound which is always formed is……?
a) Acetic acid
b) Ethylene
c) Ethyl Alcohol
d) Methyl Alcohol
Answer: c)
Fermentation is the transformation of a sugary solution into alcohol, through the action of yeasts. The yeast actually consumes the sugar and produces carbon dioxide, alcohol and heat as by-products. During the fermentation of sugar, ethyl alcohol is always formed as a by-product.

8) The process of removal of carbon particles from the air involves which of the following principle?
a) Sedimentation
b) Filtration
c) Sedimentation
d) Electrophoresis
Answer: d)
Electrophoresis is the motion of dispersed particles relative to a fluid under the influence of a spatially uniform electric field. The removal of carbon particles from the air is based on the principle of Electrophoresis.

9) Which one of the following is commonly used for pulp bleaching in the paper industry?
a) Glucose Isomerase
b) Hydrogen Peroxide
c) Mixture of Iodine and Water
d) Mild Sulphuric acid
Answer: b)
Hydrogen peroxide is extensively used as a bleaching and oxidizing agent in the paper and pulp industry. Use of hydrogen peroxide helps to achieve a grade of brightness that is suitable for high-grade magazine papers, board, and tissue products.

10) Diamond does not conduct electricity because of which of the following reason?
a) Because of its crystalline nature
b) Because of its compact structure
c) Because only carbon atoms are present in it
d) Due to absence of free electrons
Answer: d)
A Diamond does not conduct electricity as it forms four covalent bonds with other carbon atoms, meaning that all of its outer shell electrons are bonding. Thus,a diamond can't conduct electricity because it has no free electrons.

11) Which of the following process is involved in the manufacturing of iron from iron-ore?
a) Oxidation
b) Reduction
c) Electrolysis
d) Fractional Distillation
Answer: b)
Iron is produced by reduction of iron ore, which is often a mixture of oxides, using carbon, carbon monoxide, and hydrogen. While the blast furnace is the dominant reduction process other technologies are emerging, which operate on a smaller scale.

12) What is the term used for the addition of suitable impurities into the semiconductor for modulating its properties?
a) Forming
b) Diluting
c) Doping
d) Mixing
Answer: c)
Doping is the intentional introduction of impurities into an intrinsic semiconductor for the purpose of modulating its electrical, optical and structural properties. The doped material is referred to as an extrinsic semiconductor.

13) Which of the following instrument is used to measure the change in the volume of the gases?
a) Viscometer
b) Calorimeter
c) Tensiometer
d) Eudiometer
Answer: d)

Eudiometer is an instrument for measuring changes in volume during the combustion of gases, consisting of a graduated tube that is closed at one end and has two wires sealed into it, between which a spark may be passed.

14) Which of the following gas is used in the preparation of the bleaching powder?
a) Oxygen
b) Nitrogen
c) Chlorine
d) Hydrogen
Answer: c)
Bleaching powder is prepared on a large scale by passing the chlorine gas through a solution that contains calcium hydroxide. Bleaching powder is also sold on the basis of the available chlorine, which is liberated when it is treated with the dilute acid.

15) The Quantity of heat required to change unit mass of a solid into liquid at atmospheric pressure at its melting point is called……...?
a) Latent heat of fusion
b) Latent heat of sublimation
c) Latent heat of vaporisation
d) Latent heat of evaporation
Answer: a)
The latent heat of fusion of a substance isthe amount of heat required to convert a unit mass of the solid into liquid without change in temperature.

16) When a beam of light is passed through a colloidal solution then the light gets……?
a) Absorbed
b) Scattered
c) Reflected
d) Refracted
Answer: b)
When a beam of light is passed through a colloidal solution, then scattering of light is observed. This is known as the Tyndall effect. This scattering of light illuminates the path of the beam in the colloidal solution.

17) Nitric acid does not react with which of the following metal?
a) Iron
b) Copper
c) Gold
d) Zinc
Answer: c)
Since gold is present at the bottom of the reactivity series and least reactive among all metals so nitric acid even though being strong acid and oxidizing agent is not able to react with it, but the mixture of nitric acid and hydrochloric acid taken in the ratio of 1:3 reacts with gold to form itschloride. The mixture is called aquaregia.

18) Which one of the following calcium salts is used as a fertilizer?
a) Calcium Cyanide
b) Calcium Sulphate
c) Calcium Carbide
d) Calcium Carbonate
Answer: b)
Fertilizers are physical compounds given to plants to improve the health, productivity, and appearance.Calcium sulphate is a fertiliser and good for plants. So, it is used as fertilizer in the field of agriculture.

19) Which of the following metal has the maximum thermal conductivity?
a) Silver
b) Aluminium
c) Copper
d) Iron
Answer: a)
The thermal conductivity of a material is a measure of its ability to conduct heat. Silver has the best thermal conductivity followed by copper, gold and aluminium.

20) Which of the following non-metal gives hardness to the stainless steel?
a) Selenium
b) Phosphorous
c) Carbon

d) Sulphur

Answer: c)

Carbon is the non-metal that gives hardness to the stainless steel.Carbonhas a higher carbon content, which gives the steel a lower melting point, more malleability and durability, hardness and better heat distribution.

21) Activated charcoal is used to remove colouring matter from pure substances by which of the following process?

a) Oxidation
b) Reduction
c) Absorption
d) Adsorption

Answer: d)

Adsorption is the adhesion of atoms, ions or molecules from a gas, liquid or dissolved solid to a surface. This process creates a film of the adsorbate on the surface of the adsorbent. Thus, in order to remove colouring matter from pure substances through activated charcoal, process of Adsorption is followed.

22) Biogas which is used for cooking purpose is a mixture of which of the following two components?

a) Methane and Carbondioxide
b) Methane and Carbon monoxide
c) Isobutane and Propane
d) Carbondioxide and Oxygen

Answer: a)

Biogas is a mixture of methane (also known as marsh gas or natural gas) and carbon dioxide. It is a renewable fuel produced from waste treatment and used for the purpose of cooking.

23) The Boiling Point of a liquid varies with the variation in……...?

a) Density
b) Pressure
c) Volume
d) Temperature

Answer: b)

The Boiling point of a substance is the temperature at which the vapour pressure of a liquid equals the pressure surrounding the liquid and the liquid changes into a vapour. The boiling point of a liquid varies depending upon the surrounding environmental pressure.

24) Which type of glass is used for making chemical apparatus like beakers, flasks etc.?

a) Pyrex glass
b) Optical glass
c) Hard glass
d) Photo-chromatic glass

Answer: c)

Hard glass is a potash-lime glass with a high silica content, used for making brilliant glassware.This type of glass is ideal for telescope mirrors, laboratory chemical equipment and other places where it is imperative for the glass objects to retain their shape.

25) Which of the following instrument is used for measuring low temperatures?

a) Cryometer
b) Chromatoptometer
c) Cymometer
d) Diagometer

Answer: a)

A cryometer is a thermometer used to measure very low temperatures of objects.It is usually filled with alcohol, for measuring lower temperatures than a mercury thermometer will register.

26) Rutherford's Alpha-particle scattering experiment was responsible for the discovery of……?

a) Proton
b) Neutron
c) Atomic Nucleus
d) Electron

Answer: c)

Rutherford scattering is the elastic scattering of charged particles by the Coulomb interaction. It is a physical phenomenon explained by Ernest Rutherford in 1911 that led to the discovery of nucleus.

27) Which of the following acid can decolourise purple coloured Potassium Permanganate solution?

a) Citric acid
b) Sulphuric acid
c) Carboxylic acid
d) Hydrochloric acid

Answer: a)

Citric acid turns potassium permanganate from purple to colourless because it is a reducing agent. KMnO4 will oxidize citric acid to CO2 and H2O and itself will turn into almost colourless Mn (2+) (in acidic environment), or, into brown MnO2 precipitate.

28) Which of the following two chemical reactions are involved in the corrosion of the iron metal?

a) Oxidation and Displacement
b) Reduction and combination
c) Oxidation-reduction and combination
d) Reduction and Displacement

Answer: c)

Corrosion is defined as the chemical or electrochemical degradation of metals due to their reaction with the environment. The corrosion of ironknown as rusting, is an oxidation-reduction process that destroys iron objects left out in open, moist air. When iron metal is exposed to oxygen and water, a familiar result is observed-rust.Combining the oxidation and reduction half-reactions gives the balanced chemical equation for the overall reaction of iron, oxygen, and water.

29) Which of the following indicator produces a pink colour in an alkaline solution?

a) Turmeric paper
b) Methyl Orange
c) litmus paper
d) Phenolphthalein

Answer: d)

Phenolphthalein turns pink when exposed to substances above a pH of 8.2. This colour change is a result of ionization, which alters the shape and charge of phenolphthalein molecules. This causes it to block the blue light spectrum when exposed to alkaline substances, producing a pink to purple hue.

30) Plaster of Paris is prepared by heating which of the following at a temperature of 100 Degree Celsius?

a) CaCl2.2H2O
b) CaSO4.2H2O
c) Ca (OH)2
d) CaCO3.2H2O

Answer: b)

Plaster of Paris is formed by heating gypsum at 100-degree Celsius.Gypsum is a soft sulphate mineral composed of calcium sulphate dihydrate, with the chemical formula CaSO4.2H2O. At this temperature Gypsum looses 3/4 of its water of crystallization forming Plaster of Paris.

31) Which of the following is treated with chlorine to obtain bleaching powder?

a) Ca (OH)2
b) Mg (OH)2
c) CaSO4
d) CaCl2

Answer: a)

When calcium hydroxideCa (OH)2 is treated with chlorine gas it yields bleaching powder.Bleaching powder is a yellowish white powder with a strong smell of chlorine.It is widely used for water treatment and as a bleaching agent.

32) Which property of iron metal is utilised in producing iron sheets required for making buckets?

a) Ductility
b) Malleability
c) High Density
d) Metallic Lustre

Answer: b)

Malleability is a physical property of metals that defines the ability to be hammered, pressed or rolled into thin sheets without breaking. Thus, iron utilises the property of malleability in producing iron sheets for making buckets.

33) The rechargeable battery used in mobile-phone handset is usually…….?

a) Sodium ion battery

b) Lead ion battery
c) Lithium ion battery
d) Hydrogen ion battery
Answer: c)
A lithium-ion battery or Li-ion battery is a type of rechargeable battery in which lithium ions move from the negative electrode to the positive electrode during discharge and back when charging.Such batteries are widely used for electric tools, medical equipment and in mobile-phones.

34) Which of the following metal can be extracted from the bauxite ore?
a) Manganese
b) Cobalt
c) Nickel
d) Aluminium
Answer: d)
An ore is a naturally occurring solid material from which a metal or valuable mineral can be extracted profitably. Bauxite is the primary ore from which aluminium metal is extracted.

35) A sulphide ore is converted into metal oxide by which of the following process?
a) Roasting
b) Anodising
c) Calcination
d) Carbonation
Answer: a)
Roasting is a process of heating of sulphide ore to a high temperature in presence of air. It is a step of the processing of certain ores. More specifically, roasting is a metallurgical process involving gas–solid reactions at elevated temperatures with the goal of purifying the metal components.

36) The property of the self-combination of the atoms of the same element to form long-chains is called……?
a) Carbonation
b) Catenation
c) Protonation
d) Coronation
Answer: b)
Catenation is the chemical linkage into chains of atoms of the same element, occurring only among the atoms of an element that has a valence of at least two and that forms relatively strong bonds with itself. The property is predominant among carbon atoms.

37) Buckminsterfullerene is an allotropic form of which of the following element?
a) Carbon
b) Sulphur
c) Fluorine
d) Phosphorous
Answer: a)
Buckminsterfullerene is a type of fullerene with the formula C60. It is an allotropic form of carbon. It has a cage-like fused-ring structurethat resembles a football, made of twenty hexagons and twelve pentagons, with a carbon atom at each vertex of each polygon and a bond along each polygon edge.

38) Which of the following hydrocarbon has alternate single and double bonds arranged in the form of a ring?
a) Hexene
b) Propene
c) Butene
d) Benzene
Answer: d)
Benzene is one of the most important organic compounds with the chemical formula C6H6. It is the simplest organic, aromatic hydrocarbon. The structure of benzene has been of interest since its discovery. It is a cyclic hydrocarbon with alternate single and double bonds in the form of a ring.

39) Which of the following substance produces brisk effervescence when treated with baking-soda solution?
a) Vegetable oil
b) Vinegar
c) Ethanol
d) Chloroform
Answer: b)

Baking soda and vinegar react chemically because one is a base and the other is an acid. Baking soda is a basic compound called sodium bicarbonate. Vinegar is a diluted solution that contains acetic acid. When both of them react with each other, brisk-effervescence is produced.

40) According to Mendeleev's Periodic law, the elements were arranged in the periodic table in the order of……...?
a) Increasing atomic numbers
b) Decreasing atomic numbers
c) Increasing atomic masses
d) Decreasing atomic masses
Answer: c)
The Mendeleev's periodic law is an arrangement of elements in increasing order of their atomic masses as Mendeleev's periodic law states that, the physical and chemical properties of elements are a periodic function of their atomic masses.

41) Atoms of the elements having same atomic number, but different mass numbers are known as……...?
a) Isobars
b) Isotopes
c) Isotones
d) Isoelectronic
Answer: b)
Isotopesare atoms with the same number of protons but differing numbers of neutrons. In other words, they have different atomic weights. Isotopes are different forms of a single element.

42) When spectral lines obtained from the atomic spectra is placed in magnetic field, they split into number of fine lines. This effect is known as……...?
a) Stark's effect
b) Tyndall effect
c) Magnetic effect
d) Zeeman's effect
Answer: d)
Zeeman effect is the splitting of a spectral line into two or more components of slightly different frequency when the light source is placed in a magnetic field. It was first observed in 1896 by the Dutch physicist Pieter Zeeman.

43) Who among the following classified the elements into metals and non-metals?
a) Mendeleev
b) Lavoisier
c) Moseley
d) John Dalton
Answer: b)
Lavoisier was a French chemist who classified the elements into metals and non-metals.

44) Which of the following bond is formed by the linear overlapping of the atomic orbitals?
a) Co-ordinate bond
b) Ionic bond
c) Covalent bond
d) Sigma bond
Answer: d)
Sigma bonds (σ bonds) are the strongest type of covalent chemical bond. They are formed by head-on overlapping between atomic orbitals.

45) A reaction in which oxidation and reduction takes place simultaneously is……...?
a) Oxidation Reaction
b) Reduction Reaction
c) Displacement Reaction
d) Redox Reaction
Answer: d)
Redox reaction is a chemical reaction in which the oxidation states of atoms are changed. Such reaction involves both a reduction process and a complementary oxidation process, two key concepts involved with electron transfer processes.The chemical species from which the electron is stripped is said to have been oxidized, while the chemical species to which the electron is added is said to have been reduced.

46) What is the name of the reaction in which acid reacts with base to form salt and water?
a) Substitution reaction
b) Decomposition reaction
c) Combination reaction
d) Neutralisation reaction
Answer: d)
A neutralisation reaction occurs when an acid and a base react to form water and a salt and involves the combination of H+ ions and OH- ions to generate water.

47) Which of the following acid is found both in tomato and wood sorrel?
a) Tartaric acid
b) Maleic acid
c) Oxalic acid
d) Stearic acid
Answer: c)
Tomato contains oxalic acid. As it ripens the amount of Vitamin C decreases and the amount of oxalic acid increases. A plant such as wood sorrel also contains oxalic acid. Oxalate content is high in its fresh leaves and roots. Once absorbed, the oxalic acid reacts with calcium in plasma and insoluble calcium oxalate that results may precipitate in the kidneys, blood vessels, heart, lungs, and liver.

48) Which of the following acid proves to be useful for the purification of gold and silver?
a) Sulphuric acid
b) Hydrochloric acid
c) Carboxylic acid
d) Nitric acid
Answer: d)
Nitric acid is used for purification of various precious metals, including gold, silver, and platinum. In metallurgy, it is used in combination with alcohol for etching designs on metals like brass, copper, bronze, etc.

49) Which of the following salt is used as a dehydrating agent for removing the moisture from the gases?
a) Calcium Chloride
b) Potassium Nitrate
c) Sodium Benzoate
d) Sodium Carbonate
Answer: a)
Calcium chloride (CaCl2) is used for removing moisture from gases because it is a hygroscopic solid, which means that the solid absorbs water from the gases without dissolving in it. Since it absorbs moisture and yet remains a solid, it is used for removing moisture from gases.

50) Which of the following law validates the statement that at constant volume, the pressure of given mass of a substance is directly proportional to the temperature (K)?
a) Boyle's law
b) Charle's law
c) Avogadro's law
d) Gay-Lussac's law
Answer: d)
Gay-Lussac's law was given by French chemist Joseph Louis Gay-Lussac. Gay-Lussac's law states that at constant volume, the pressure of an ideal gas is directly proportional to its absolute temperature.

51) What is the value of the specific-gravity of diamond?
a) 3.53
b) 3.45
c) 3.52
d) 3.33
Answer: c)
Specific gravity is relative to the weight of an object in air and its weight in water. It is an important property, not only for the purpose of identification, but because of its effect on the relative size per carat of gems. The value of the specific gravity of diamond is 3.52.

52) Which substance is used for making the electrodes of the electric furnaces?
a) Carbon
b) Zinc
c) Iron
d) Graphite

Answer: d)
Graphite electrodes are widely used in electric arc furnaces for smelting of steel, alloy steel, various alloys and non-metals. Graphite electrodes always met the requirements of customers with their excellent qualities. Graphite electrodes are used in electric arc furnace and ladle furnace for steel making.

53) Which polymer is obtained from phenol and formaldehyde in the presence of either an acid or a base catalyst?
a) Rubber
b) Bakelite
c) Teflon
d) Polystyrene
Answer: b)
Bakelite is obtained by the condensation reaction of phenol with formaldehyde in the presence of either an acid or a base catalyst. The initial product could be a linear product – Novolac which is used in paints.

54) Liquified Petroleum gas (LPG) is a mixture of which of the following two components?
a) Butane and Propane
b) Methane and Propane
c) Isobutane and Propane
d) Methane and Isobutane
Answer: a)
Liquefied petroleum gas also referred to as simply propane or butane, are flammable mixtures of hydrocarbon gases used as fuel in heating appliances, cooking equipment, and vehicles. Thus, LPG is basically formed of propane and butane as the constituents.

55) The earthy impurities like sand, rocks and limestone present in an ore is called……...?
a) Gangue
b) Flux
c) Slag
d) Both a and b
Answer: a)
Concentration of ore Unwanted rocks, sand and grit from the mineral ore are called gangue or matrix. These have to be removed so that the mineral ore is concentrated with higher percentage of metal.

56) Rod of which of the following metal is used in nuclear reactors to slow down the speed of the neutrons?
a) Scandium
b) Chromium
c) Cadmium
d) Vanadium
Answer: c)
Control rods are rods, plates, or tubes containing a neutron absorbing materialsuch as boron, hafnium, cadmium, etc., used to control the power of a nuclear reactor.Control rods are used in a reactor to maintain the multiplication factor of the neutrons so as to ensure a safe operation of the reactor.

57) Which of the following isotope of hydrogen is radioactive in nature?
a) Protium
b) Tritium
c) Deuterium
d) All of the above
Answer: b)
Hydrogen is the only element whose isotopes have different names that are in common use today. These are Protium, Deuterium and Tritium. Out of these three isotopes of hydrogen, only tritium is radioactive in nature.

58) Which catalyst is used for the synthesis of H_2SO_4 by Lead-Chamber process?
a) Platinum
b) Nickel
c) Aluminium oxide
d) Nitrogen oxide
Answer: d)
Lead-chamber Process is the method of producing sulfuric acid by oxidizing sulfur dioxide with moist air, using gaseous nitrogen oxides as catalysts, the reaction

taking place primarily in a series of large, boxlike chambers of sheet lead.

59) Glycol is used to manufacture which of the following?
a) Natural rubber
b) Nylon
c) Artificial silk
d) Terylene
Answer: d)
Terylene is the first polyester fabric ever produced. Terylene is a synthetic polyester fibre produced by polymerizing ethylene glycol and terephthalic acid which is obtained from petroleum.

60) Which of the following is the least preferred technique in the disposal of the Municipal Solid waste?
a) Composting
b) Landfilling
c) Incineration
d) Bricketting
Answer: d)
Bricketting that involves the solidification of pre-processed municipal solid waste into fuel-pellets or briquettes is the least preferred technique in the disposal of municipal solid waste.

61) Which one of the following metals pollutes the air of the city having large number of automobiles?
a) Iron
b) Cadmium
c) Lead
d) Nickel
Answer: c)
Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment pollutes the air and can result in decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

62) Which harmful gas is emitted by the automobile vehicles and causes air-pollution?
a) Methane
b) Carbondioxide
c) Carbon monoxide
d) Ozone gas
Answer: b)
Carobondioxide is emitted by the automobile vehicles and causes air-pollution.Carbon dioxide is the greenhouse gas most scientists consider the main air pollutant of the Earth's atmosphere.

63) Galvanised iron is made by coating iron with which of the following metal?
a) Nickel
b) Zirconium
c) Zinc
d) Manganese
Answer: c)
Galvanization or galvanizing is the process of applying a protective zinc coating to steel or iron, to prevent rusting. The most common method is hot-dip galvanizing, in which the parts are submerged in a bath of molten zinc.

64) The Polymerisation of which of the following is used in the manufacturing of polythene in industry?
a) Acetylene
b) Vinyl Chloride
c) Styrene
d) Ethylene
Answer: d)
Polyethylene is a light, versatile synthetic resin made from the polymerization of ethylene. Polyethylene is a member of the important family of polyolefin resins. It is the most widely used plastic in the world, being made into products ranging from clear food wrap and shopping bags to detergent bottles and fuel tanks.

65) The anode of the lead-storage battery is made up of which of the following metal?
a) Lead
b) Iron
c) Cobalt

d) Copper

Answer: a)

Lead storage battery is a secondary cell used in automobiles and invertors. The anode is made up of lead and undergoes oxidation during discharging and cathode is made up of lead oxide and acts as cathode during discharging.

66) Sour Taste of Coca-Cola is due to the presence of which of the following acid?

a) Acetic acid
b) Formic acid
c) Tartaric acid
d) Phosphoric acid

Answer: d)

Phosphoric acid is the acid that is present in all Colas, but the percentage of phosphoric acid may vary. Coca-Colause a very small amount of phosphoric acid in some of the Coca-Cola system's soft drinks, such as Coca‑Cola Classic, Diet Coke, Coca-Cola Zero Sugar etc. It gives them their tartness.

67) Which of the following acid is used in prickly heat powder to prevent excessive sweating in body?

a) Phosphoric acid
b) Carboxylic acid
c) Boric Acid
d) Carbonic acid

Answer: c)

Boric acid also known as Hydrogen Borate is used in prickly heat powders to prevent excessive sweating. It is also used in antiseptics and for acne treatment.

68) Which of the following is the natural source of Hydrocarbon?

a) Biomass
b) Petroleum
c) Coal
d) Both b and c

Answer: d)

The natural sources of hydrocarbons include coal, petroleum, and natural gas. These are often known as fossil fuels because they are the remains of animals and plants which died millions of years ago; their remains have become deposited and transformed into sediment as a result of the great heat and pressure in the earth's crust.

69) Diamond is harder than graphite because of which of the following reason?

a) Tetrahedral structure of diamond
b) Difference in layers of atoms
c) Difference in crystalline structure
d) Greater Specific heat of diamond

Answer: b)

Diamond and Graphite both are allotropes of carbon. In Diamond, the molecules have strong force between its molecules while graphite has loose force of attraction between its molecules. Diamond has less intermolecular space between molecules while graphite has more intermolecular space between its molecules. Due to this, graphite is soft and slippery in nature whereas diamond is the hardest substance known to man.

70) Which of the following compound is commonly used to restore the colour of the old-paintings?

a) Hydrogen Peroxide
b) Sodium Peroxide
c) Sodium Chloride
d) Manganese dioxide

Answer: a)

Hydrogen peroxide is used to restore the colour of old oil paintings containing lead oxide.The white pigment in old painting turns black due to formation of PbS.This white pigment is restored by using hydrogen peroxide.

71) Which of the following polymer is used in making non-breakable crockery items?

a) Nylon
b) Bakelite
c) Dacron
d) Melamine Formaldehyde

Answer: d)

Melamine formaldehyde is made from the polymerization of formaldehyde with melamine is a thermosetting plastic that strengthens as it is heated during its preparation.Melamine formaldehyde mouldings are hard, scratch- and impact-resistant, and

resistant to shrinkage and heat. They are used to make household crockery items--such as glasses, cups, bowls and plates.

72) Cream gets separated out of milk when it is churned. This happens due to which of the following force?
a) Centrifugal force
b) Centripetal force
c) Gravitational force
d) Frictional force
Answer: a)
Cream can be separated from milk by either centrifuging or by allowing whole milk to stand. Both methods work on the principle that cream is lighter than milk.Because cream is lighter than milk, it rises to the top when the milk is allowed to stand. The cream can then be removed by skimming the top layer off.

73) Which of the following chemical is most commonly used for cloud-seeding or artificial rainmaking?
a) Sodium Chloride
b) Silver Iodide
c) Magnesium Chloride
d) Sodium Sulphate
Answer: b)
Cloud seeding has been the most commonly used technique in weather modification. In addition to cloud seeding, many other terms are also used, including man-made precipitation enhancement, artificial weather modification, rainmaking and so on. The chemical used for this purpose is Silver Iodide.

74) Which of the following gas is used in the manufacture of Vanaspati Ghee?
a) Nitrogen
b) Oxygen
c) Carbondioxide
d) Hydrogen
Answer: d)
Vanaspati ghee is manufactured from liquid vegetable fats like groundnut oil, coconut oil etc. It is manufactured by catalytic hydrogenation. Catalytic hydrogenation is a process by which hydrogen gas is passed through vegetable oils in the presence of catalyst like nickel (Ni), platinum (Pt) or palladium (Pd) to convert the oil into solid Vanaspati ghee.

75) Which of the following acid is used to remove ink and rust spots on clothes?
a) Hydrochloric acid
b) Formic acid
c) Oxalic acid
d) Sulphuric acid
Answer: c)
Oxalic acid is widely used as an acid rinse in laundries, where it is effective in removing rust and ink stains because it converts most insoluble iron compounds into a soluble complex ion.

76) Which of the following apparatus is used to test the acidity of the aqueous solution?
a) Calorimeter
b) Lactometer
c) Hygrometer
d) pH meter
Answer: d)
In aqueous solution, acidity is defined as pH below seven. Several methods can reveal presence, and extent, of acidic character. Titrations, indicator paper and digital pH meters can all determine pH, and therefore acidity of an aqueous solution.

77) Which of the following is the first organic compound that was synthesised in the laboratory?
a) Uric acid
b) Sulphuric acid
c) Glucose
d) Urea
Answer: d)
Urea was first organic compound to be prepared in the laboratory, which was prepared by Friedrich Wohler, a German chemist in the year 1828.

78) Which metallic element is present in atomic clocks and gets ionised easily when heated or exposed to light?

a) Radium
b) Osmium
c) Cesium
d) Gallium
Answer: c)
Cesium is a soft-silvery metallic element which is present in atomic clocks and ionises easily when heated or exposed to light.

79) Which of the following non-metallic element shows allotropy in the liquid state?
a) Sulphur
b) Oxygen
c) Nitrogen
d) Carbon
Answer: a)
The element sulphur exists as many allotropes. In terms of large number of allotropes, sulphur is second only to carbon.Sulphur is a non-metal which shows allotropy in liquid state. Disulphur and trisulphur are some of the allotropes of sulphur.

80) Which of the following form of Phosphorous is considered to be the most reactive?
a) Violet phosphorous
b) Red phosphorous
c) White phosphorous
d) Black phosphorous
Answer: c)
Phosphorus was first produced as the common white phosphorus, which is the most volatile, most reactive, and most toxic, but the least thermodynamically stable form of phosphorus.

81) Who among the following is known for the discovery of atomic-bomb?
a) J. Robert Oppenheimer
b) John Albery
c) John Dalton
d) Richard R. Ernst
Answer: a)
J. Robert Oppenheimer, theoretical physicist noted as director of the Los Alamos Laboratory during the development of the atomic bomb. He is often called as the "father of the atomic bomb" for leading the Manhattan Project, the program that developed the first nuclear weapon during World War II.

82) Which of the following element is found in maximum percentage in the human body?
a) Calcium
b) Phosphorous
c) Oxygen
d) Nitrogen
Answer: c)
Oxygen is the most abundant element in the human body. It's mainly found bound to hydrogen in the form of water. Water, in turn, makes up about 60% of the human body and participates in countless metabolic reactions.

83) Which among the following form of coal contains the highest percentage of carbon content?
a) Bitumen
b) Peat
c) Lignite
d) Anthracite
Answer: d)
Anthracite has the highest carbon content, the fewest impurities, and the highest energy density of all types of coal and is the highest ranking of coals. Anthracite is the most metamorphosed type of coal in which the carbon content is between 92% and 98%.

84) Which of the following alkali metals has the highest specific heat?
a) Potassium
b) Rubidium
c) Lithium
d) Francium
Answer: c)
Lithium is the first element in the alkali metal group. It is the lightest solid metal, soft, silvery-white, has a low melting point and is reactive, though not as reactive or as soft as the other alkali metals.It has a high specific heat (calorific capacity), the huge temperature interval in the liquid state, low viscosity and very low density.

85) Which of the following fundamental particles are found in the nucleus of an atom?
a) Neutrons and electrons
b) Neutrons and protons
c) Protons and electrons
d) Electrons, protons and neutrons
Answer: b)
The three main subatomic particles that form an atom are protons, neutrons, and electrons. The centre of the atom is called the nucleus.Both protons and neutrons are found in the nucleus of an atom. The third type of particle that an atom has, electrons, are found in orbitals outside of the nucleus. The nucleus is the densest part of an atom.

86) Which of the following gas is used for the artificial ripening of the green-fruits?
a) Phosphine
b) Ethylene
c) Fluoroacetylene
d) Propane
Answer: b)
Ripening is a process in fruits that causes them to become more palatable.Ethylene gas is used for Artificial Ripening of Green Fruits.

87) Which of the following element is required for the conversion of the solar energy?
a) Silicon
b) Rubidium
c) Potassium
d) Thallium
Answer: a)
Silicon is what is known as a semi-conductor, meaning that it shares some of the properties of metals and some of those of an electrical insulator, making it a key ingredient in solar cells. Thus, this element is required for the solar energy conversion.

88) Which one of the following is considered as the purest form of iron?
a) Pig Iron
b) Cast Iron
c) Steel
d) Wrought Iron
Answer: d)
Wrought Iron is the purest form Iron. It contains 0.12–0.25 carbon. The purity of iron is classified on the basis of carbon content in it.

89) Which of the following substance is commonly used as a preservative in foods?
a) Acetic acid
b) Tartaric acid
c) Sodium Benzoate
d) Sodium Carbonate
Answer: c)
Sodium benzoate is a sodium salt that is commonly used as a chemical preservative but can also occur naturally in some foods. This chemical is often found in processed foods such as sodas, fruit juices, vinegar, pharmaceuticals, cosmetics, dyes or industrial settings.

90) Which one of the following is the most abundant inert gas present in the atmosphere?
a) Helium
b) Argon
c) Krypton
d) Radon
Answer: b)
An inert gas is a gas which does not undergo chemical reactions under a set of given conditions.Argon (Ar), chemical element, inert gas of Group 18 of the periodic table, is terrestrially the most abundant inert gas in the atmosphere and industrially the most frequently used of the noble gases.

91) Which of the following isotope of uranium is used as a nuclear-fuel in reactors?
a) U237
b) U238
c) U235
d) U233
Answer: c)
Uranium 235, the only existing fissile nucleus found in natural uranium, is used as a nuclear fuel in reactors and as an explosive for nuclear weapons. This very rare

isotope, present at the concentration of 0.7% in natural uranium, is thus a highly strategic and coveted material.

92) Vinegar prepared by fermentation of cane-sugar contains what percentage of acetic acid by volume?
a) 10-20%
b) 5-20%
c) 15-20%
d) 8-15%
Answer: b)
Vinegar is an aqueous solution of acetic acid and trace chemicals that may include flavourings. The acetic acid is produced by the fermentation of ethanol or sugars by acetic acid bacteria.Vinegar typically contains 5–20% acetic acid by volume.

93) What is the term used for the process of removing calcium and magnesium from hard-water?
a) Filtration
b) Distillation
c) Sedimentation
d) Water Softening
Answer: d)
Water softening is the removal of calcium, magnesium, and certain other metal cations in hard water. The resulting soft water requires less soap for the same cleaning effort, as soap is not wasted mopping up calcium ions.

94) Which of the following gas usually causes explosions in coal-mines?
a) Propane
b) Methane
c) Fluoroethane
d) Diazomethane
Answer: b)
Methane explosions occur in coal-mines when a build-up of methane gas, a by-product of coal, comes into contact with a heat source, and there is not enough air to dilute the gas to levels below its explosion point.

95) Which of the following is the most reactive element in the Halogen series?
a) Chlorine
b) Bromine
c) Fluorine
d) Iodine
Answer: c)
Fluorine is the most reactive of the halogens because it is at the top of the halogen group, which is the second to right group on the periodic table. With halogens, the higher an element is in the column, the more reactive it is.

96) Which of the following acid is secreted by the glands in the wall of the stomach?
a) Acetic acid
b) Oxalic acid
c) Butyric acid
d) Hydrochloric acid
Answer: d)
Hydrochloric acid is produced right in your stomach, and the gastric glands contain specialized epithelial cells called parietal cells that produce hydrochloric acid.The chemical is needed in order to activate an enzyme that digests the proteins in food. Hydrochloric acid also kills many harmful bacteria that enter the stomach.

97) Which of the following element is used for the manufacture of the safety-matches?
a) Thorium
b) Tungsten
c) Phosphorous
d) Sulphur
Answer: c)
The element phosphorus is used to produce safety matches. During manufacture, the match stick is soaked in ammonium phosphate, which prevents 'afterglow' once the flame has gone out, and paraffin, which ensures that it burns easily.

98) Which of the following element can form a large number of compounds because of its property of catenation?
a) Sulphur
b) Potassium
c) Aluminium
d) Carbon

Answer: d)
Carbon forms a large number of compounds because of its peculiar property of Catenation, it forms a covalent bond so, it can form a large number of compounds.

99) Which inert gas mixed with oxygen is given to the patients suffering from restricted breathing?
a) Xenon
b) Krypton
c) Helium
d) Argon
Answer: c)
Helium is a low-density, biologically inert gas that can be safely mixed with oxygen. Thus, it is given to the patients suffering from restricted breathing.

100) What is the chemical name of the Laughing Gas?
a) Nitric oxide
b) Nitrous oxide
c) Nitrogen dioxide
d) Nitrogen Pentaoxide
Answer: b)
Nitrous oxide, commonly known as laughing gas or nitrous,is a chemical compound, an oxide of nitrogen. At room temperature, it is a colourless non-flammable gas, with a slight metallic scent and taste. Ithas significant medical uses, especially in surgery and dentistry, for its anaesthetic and pain reducing effects.