Chemistry Job Interview Questions And Answers

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Chemistry Interview Questions And Answers Guide.

Question - 1:
This metal lies between silicon and tin in its chemical and physical properties and used extensively in the making of transistors:

Ans:
Germanium
View All Answers

Question - 2:
The disruption of the three-dimensional shape of a protein by factors such as heat, acids, bases, and organic solvents, is called what?

Ans:
Denaturation
View All Answers

Question - 3:
Long chains of amino acids are linked together through what type of bond?

Ans:
Peptide Bonds
View All Answers

Question - 4:
What is the acid anhydride of H2CO3?

Ans:
CO2
View All Answers

Question - 5:
An atom has 18 protons and 22 neutrons. What is its mass number:

Ans:
40
View All Answers

Question - 6:
What radioactive isotope of this alkaline earth element formed as a fission product of uranium and is of particular importance because it is assimilated in the body much like calcium:

Ans:
Strontium
View All Answers

Question - 7:
What colorless liquid was originally produced from the distillation of wood and is often referred to as wood alcohol:

Ans:
Methanol
View All Answers

Question - 8:

Convert the molecular structure of the hydrocarbon C5H12 into its straight-chain Condensed Structural Formula:

Ans:

CH3CH2CH2CH2CH3

View All Answers

Question - 9:

In order to compare two different gas samples, scientists use what is called the STP. What does STP stand for?

Ans:

Standard Temperature And Pressure

View All Answers

Question - 10:

Give the symbol for the element that is derived from the Latin word Plumbum?

Ans:

Pb

View All Answers

Question - 11:

Cellulose is a polymer of repeating units of what molecule?

Ans:

Glucose

View All Answers

Question - 12:

What gas was discovered by Daniel Rutherford in 1772 by placing a mouse inside a bell jar, removing all the oxygen in the jar by burning a substance in it, and demonstrating the asphyxiation of the mouse:

Ans:

Nitrogen

View All Answers

Question - 13:

Name the two most abundant elements in the universe?

Ans:

Hyydrogen And Helium

View All Answers

Question - 14:

How many significant figures are there in the number 0.0036:

Ans:

2

View All Answers

Question - 15:

Many of the groups of elements in the periodic table have acquired common names. The elements in Group IA, with the exception of hydrogen, are called what?

Ans:

Alkali Metals

View All Answers

Question - 16:

What is the term for the pH at which an amino acid or protein becomes electrically neutral?

Ans:

Isoelectric Point

View All Answers

Question - 17:

Myoglobin binds oxygen in what tissue in the human body?

Ans:

Muscle

View All Answers

Question - 18:

What molecule is characteristically prevalent in sour milk and tired muscles?

Ans:

Lactic Acid

View All Answers

Question - 19:

How many milliliters of water would you add to 100 milliliters of a 0.350 molar solution to make a 0.100 molar solution?

Ans:

250 Milliliters

View All Answers

Question - 20:

A patient in the Emergency Room required 20 grams of a clotbusting drug based on his body weight of 150 pounds. The weight per volume (w/v) of the drug solution is 10%. How many milliliters of the drug solution should be administered?

Ans:

200 Milliliters

View All Answers

Question - 21:

If a human being were to be exposed suddenly to the surface of Mars, which of the following would most likely occur to the person's blood:

Ans:

1. it would boil in a matter of seconds
2. it would freeze in a matter of seconds
3. it would coagulate in a matter of seconds
4. there would be no immediate change

Answer: A

View All Answers

Question - 22:

Which of the following is a nonpolar molecule:

Ans:

1. HCl
2. NaCl
3. CaCl
4. H2

Answer: D

View All Answers

Question - 23:

Element A is a nonmetal with an electronegativity value of 3.0 and element B is a nonmetal with an electronegativity value of 2.5. What kind of bonding will occur between these two elements:

Ans:

1. nonpolar covalent
2. polar covalent
3. ionic
4. fission

Answer: B

View All Answers

Question - 24:

Which one of the following statements is true about the specific gravity of a substance:

Ans:

1. specific gravity is one of the few unitless values encountered in chemistry
2. the specific gravity of water is 1 gram per milliliter
3. specific gravity is calculated by dividing the density of water by the density of the substance
4. specific gravity is measured with an instrument called the densitometer

Answer: A

View All Answers

Question - 25:

Which of the following is true of an oxidation reaction:

Ans:

1. in an electrolytic cell, oxidation takes place at the cathode
2. in the following reaction, bromine is oxidized Br2 + 2e- Ã 2Br-

3. in a chemical reaction, the substance that is being oxidized is also known as the reducing agent
4. in a chemical reaction, the substance that is being oxidized is also known as the oxidizing agent

Answer: B

View All Answers

Question - 26:

Ten grams of dietary fat contains how many food calories?

Ans:

1. 40 calories
2. 90 calories
3. 60 calories
4. 120 calories

Answer: B

View All Answers

Question - 27:

If CO2 is bubbled through distilled water at room temperature, which of the following will most likely occur:

Ans:

1. the pH of the water increases
2. the pH of the water decreases
3. the pH of the water is unchanged
4. carbon will precipitate out of solution

Answer: B

View All Answers

Question - 28:

Which of the following is NOT true about cholesterol:

Ans:

1. there is no cholesterol in plants
2. cholesterol is found in meats, milk and eggs
3. cholesterol is not synthesized in the human body
4. cholesterol is a component of cellular membranes

Answer: C

View All Answers

Question - 29:

It is estimated that each person in the United States consumes an average of 100 pounds of sucrose each year. Which two simple sugars are linked to make a sucrose molecule?

Ans:

Glucose And Fructose

View All Answers

Question - 30:

What are the two most common end-products of alcoholic fermentation?

Ans:

Ethanol And Carbon Dioxide

View All Answers

Question - 31:

Carbohydrates are made of what three elements?

Ans:

Carbon,
Hydrogen,
Oxygen

View All Answers

Question - 32:

The reaction of an acid with an alcohol to form an ester and water is called:

Ans:

Esterification

View All Answers

Question - 33:

4.0 liters of oxygen are mixed with 8.0 liters of nitrogen. Identify the solute and solvent in this mixture:

Ans:

Oxygen Is The Solute; Nitrogen Is The Solvent

View All Answers

Question - 34:

Knowing that Iron has an atomic number of 26, how many protons and how many electrons does Fe+2 have?

Ans:

26 Protons,
24 Electrons

View All Answers

Question - 35:

What is the common name of the molecule dihydrogen dioxide?

Ans:

Hydrogen Peroxide

View All Answers

Question - 36:

The general term for the removal of salts from brackish water or seawater to make it usable is called:

Ans:

Desalination

View All Answers

Question - 37:

What are the 4 physical states of matter?

Ans:

Solid,
Liquid,
Gas,
Plasma

View All Answers

Question - 38:

What element does the symbol Au stand for?

Ans:

Gold

View All Answers

Question - 39:

Which of the following is true of bases:

Ans:

1. they give rise to hydrogen ions when dissolved in water
2. they are substances that accept or react with hydrogen ions
3. they always contain the hydroxide ion in it's structure
4. they have a pH below 7

Answer: B

View All Answers

Question - 40:

Which of the following has the same electron configuration as neon:

Ans:

1. Ar
2. F
3. Cl-
4. Na+

Answer: D

View All Answers

Question - 41:

Which of the following is NOT true of helium?

Ans:

1. deep sea divers breath a mixture of helium and oxygen
2. breathing helium causes a temporary change in the pitch and quality of one's voice
3. helium gas is commonly used by dentists as a mild anesthetic

4. a mixture of helium and neon gas produced the first gas laser
Answer: C

View All Answers

Question - 42:

In the chemistry lab, for safety reasons, when a concentrated acid is mixed with water:

Ans:

1. the water is always added to the acid
2. the acid is always added to the water
3. these can only be mixed at cold temperatures
4. these can never be mixed

Answer: B

View All Answers

Question - 43:

Magnesium can exist as three naturally occurring isotopes. These isotopes would all have the same:

Ans:

1. atomic weight
2. number of neutrons
3. number of protons
4. nucleus

Answer: C

View All Answers

Question - 44:

The property of water which permits an insect to walk on water is:

Ans:

1. viscosity
2. surface tension
3. tensile strength
4. turgor pressure

Answer: B

View All Answers

Question - 45:

Which one of the following statements is true about the neutralization of an acid by a base:

Ans:

1. the pH decreases when the base is added to the acid
2. a salt and water are end products
3. gas is an end product
4. organic compounds are end products

Answer: B

View All Answers

Question - 46:

Which of the following instruments would typically be used to measure the smallest quantities of mass:

Ans:

1. double-pan balance
2. triple-beam hanging balance
3. triple-beam platform balance
4. analytic balance

Answer: D

View All Answers

Question - 47:

Which of the following represents the simplest chemical formula:

Ans:

1. empirical formula
2. molecular formula
3. structural formula
4. primary formula

Answer: A

View All Answers

Question - 48:

According to Bronsted-Lowry definition, a base is:

Ans:

1. a proton donor
2. an electron donor
3. a proton acceptor
4. an electron acceptor

Answer: C

View All Answers

Question - 49:

Which element has the following ground-state electron configuration: 1s22s22p6?

Ans:

Neon

View All Answers

Question - 50:

Round the following number to four significant figures and express the result in standard exponential notation: 0.006543210?

Ans:

6.543 X 10-3

View All Answers

Question - 51:

To the nearest whole number, convert 0.300 atmosphere into millimeters of mercury, or torr:

Ans:

228 Millimeters Of Mercury, Or Torr

View All Answers

Question - 52:

Never found uncombined on Earth, what element occurs abundantly in limestone, gypsum and fluorite:

Ans:

Calcium

View All Answers

Question - 53:

What is the concentration, in parts per billion, of a solution that contains 1 microgram of solute per liter?

Ans:

1 PPB

View All Answers

Question - 54:

Convert -40oF into Centigrade:

Ans:

-40oC

View All Answers

Question - 55:

Convert 673 Kelvin into degrees centigrade:

Ans:

400 degree C

View All Answers

Question - 56:

What is the branch of chemistry that deals with the relationship between electricity and chemical reactions?

Ans:

Electrochemistry

View All Answers

Question - 57:

What is the only known substance for which there is no triple point:

Ans:

Helium

View All Answers

Question - 58:

Until the early 1960s, what group of elements were called the inert gases:

Ans:

Noble Gases

View All Answers

Question - 59:

The reaction of hydrocarbons with oxygen to produce carbon dioxide, water and heat is called:

Ans:

1. fission
2. fusion
3. endothermic
4. combustion

Answer: D

View All Answers

Question - 60:

Which of the following is NOT true about the Periodic Table:

Ans:

1. metals tend to gain ele ctrons while nonmetals tend to lose electrons
2. metals tend to lose electrons while nonmetals tend to gain electrons
3. elements with metallic properties are found on the left side of the table
4. alkali metals are found in the vertical column that contains lithium

Answer: A

View All Answers

Question - 61:

Under which of the following conditions will iron rust:

Ans:

1. in water
2. in water and oxygen
3. in oil
4. in oil and water

Answer: B

View All Answers

Question - 62:

Which of the following are NOT carbonate minerals:

Ans:

1. calcite
2. magnesite
3. dolomite
4. graphite

Answer: D

View All Answers

Question - 63:

Fish in an aquarium require oxygen to live, which is usually done by pumping air into the fish tank using a mechanical pump. If all other things remain constant, the most effective transfer of oxygen to water comes from:

Ans:

1. small bubbles of air
2. large bubbles of air
3. bubbling of cold air
4. slow bubbling of air

Answer: A

View All Answers

Question - 64:

What is the pH of a solution with a hydronium ion concentration of 1 X 10-8 moles/dm3?

Ans:

1. 7
2. 6
3. 8
4. 7.5

Answer: C

View All Answers

Question - 65:

Which of the following is true about the Kinetic Theory of Gases:

Ans:

1. gas particles do not attract or repel each other
2. gas particles are attracted to the walls of the container they are in
3. the kinetic energy of gas particles is unrelated to temperature
4. gas particles attract and repel each other

Answer: A

View All Answers

Question - 66:

The Tyndall Effect can be demonstrated when light is passed through which of the following:

Ans:

1. a colloidal suspension
2. supercritical water
3. aqueous solutions
4. mixtures of gasses

Answer: A

View All Answers

Question - 67:

Another name for heavy water is:

Ans:

1. ice
2. salt water
3. deuterium
4. deuterium oxide

Answer: D

View All Answers

Question - 68:

The wavelength of yellow light is 600 nanometers. What is the wavelength in centimeters:

Ans:

1. 6.0 x 10-9
2. 6.0 x 10-7
3. 6.0 x 10-5
4. 6.0 x 10-2

Answer: C

View All Answers

Question - 69:

Which of the following metals react violently with water to produce hydrogen gas:

Ans:

1. sodium
2. zinc
3. platinum
4. silver

Answer: SODIUM

View All Answers

Question - 70:

The use of electricity to decompose molten sodium chloride into its component elements is an example of:

Ans:

1. electrolysis
2. galvanization
3. a voltaic cell
4. electroplating

Answer: ELECTROLYSIS

View All Answers

Question - 71:

Which of the following is NOT a final product of the overall cell reaction in a hydrogen fuel cell:

Ans:

1. heat
2. electric power
3. carbon dioxide
4. water

Answer: CARBON DIOXIDE

View All Answers

Question - 72:

Which one of the following has the greatest tendency to lose an electron?

Ans:

1. Zn
2. Cl-
3. Br2
4. A mixture of PbSO4 and H2O

Answer: ZN

View All Answers

Question - 73:

Which of the following is an organic molecule:

Ans:

1. CaSO4
2. CH4
3. NH3
4. H2O

Answer: CH4

View All Answers

Question - 74:

Which of the following dominates the gasses in the Earths atmosphere, making up some 78% of the air by volume:

Ans:

1. nitrogen
2. oxygen
3. helium
4. hydrogen

Answer: NITROGEN

View All Answers

Question - 75:

Which of the following is the best example of a polysaccharide:

Ans:

1. glucose
2. galactose
3. sucrose
4. cellulose

Answer: CELLULOSE

View All Answers

Question - 76:

Which of the following is an example of a buffer system:

Ans:

1. H2CO3 and water
2. H2CO3 and NaHCO3
3. NH3 and N2
4. NaCl and KCl

Answer: H2CO3 AND NaHCO3

View All Answers

Question - 77:

Out of the following choices, which is the correct name for N2O3:

Ans:

1. dinitrogen oxide
2. dinitrogen dioxide
3. dinitrogen trioxide
4. dinitrogen tetroxide

Answer: DINITROGEN TRIOXIDE

View All Answers

Question - 78:

The ideal fuel for fuel cell use is:

Ans:

1. compressed natural gas
2. reformulated gasoline
3. hydrogen
4. methanol

Answer: HYDROGEN

View All Answers

Question - 79:

What is the function of a monosaccharide?

Ans:

Monosaccharide is the simplest form of sugar, called glucose when it is in the blood. It is the result of carbohydrate breakdown, which is the body's preferred source of energy. Therefore, you could say the monosaccharides are the fuel of the body.

View All Answers

Question - 80:

What are the properties of carbohydrates?

Ans:

Some physical properties are mass/size, color, smell, attraction to magnets, boiling point, melting point, texture, ductility, malleability, buoyancy, density, solid, liquid, or gas.

View All Answers

Question - 81:

What is a hydrogen bond?

Ans:

A hydrogen bond is a special type of attractive interaction (perhaps a variation of a dipole-dipole bond) that exists between an electronegative atom and a hydrogen atom bonded to another electronegative atom. This type of bond always involves a hydrogen atom, thus the name. Hydrogen bonds can occur between molecules (intermolecular) or within different parts of a single molecule (intramolecularly). The typical hydrogen bond is stronger than van-der-Waals forces, but weaker than covalent or ionic bonds.

View All Answers

Question - 82:

What are enzymes?

Ans:

Enzymes are biological catalysts, mainly proteins, generated by your body to speed up chemical reactions in the body. they have an active site on which the substrate is attached, and then broken up or joined.

View All Answers

Question - 83:

What is the function of mitochondria?

Ans:

Also known as the powerhouse of the cell, the mitochondria provide the location for the production of ATP (adenosine tri-phosphate). ATPs are produced by glycolosis, Krebs cycle, and electron transport. ATP in turn provides energy for the cell at the molecular level. They break down food and release energy

View All Answers

Question - 84:

What is a triglyceride?

Ans:

A triglyceride is a glyceride occurring naturally in animal and vegetable tissues; it consists of three individual fatty acids bound together

View All Answers

Question - 85:

What do centrioles do?

Ans:

Scientists believe that centrioles have something do with cell division and spindle formation, but the exact function is unknown, especially because plants do not have centrioles and they form anastral spindle fibers (cytoplasmic strands or microscopic tubules) and undergo cytokinesis by cell-plate formation.

View All Answers

Question - 86:

Why are elements arranged as they are in the periodic table?

Ans:

Elements in the periodic table are arranged in order of increasing atomic number (which is just the number of protons found in the nucleus of that element). Starting with hydrogen (H) with only 1 proton and reading left to right and then down, the atomic number goes up one for each element until you reach the highest atomic number of 106.
The reason the periodic table is the shape that it is has to do with the electronic configurations of the elements. The periodic table is arranged so that all the elements

in each period (row) have similar electronic configurations to the other elements in that period. That also often means that elements in the same group (column) show similar chemical reactivity. Electrons in atoms are arranged in different orbitals (named "s", "p", "d", and "f").
Elements in the same group all have the same number of electrons in each orbital. For instance, the alkali metals in the first column (Lithium, Sodium, Potassium, Rubidium, Caesium, and Francium) all have 1 electron in their outermost shell/layer (it turns out there are many shell, each one bigger than the previous one -- Lithium has 2 shells while bigger atoms like Caesium have 6 shells). What matters is that they all have a single electron in that outermost shell regardless of how many shells they have in total. This same trend is observed in each group of the table, excluding most of the transition metals.

View All Answers

Question - 87:

How many valence electrons does each of the elements in the periodic table have?

Ans:

This all depends on the element's atomic number (number of protons). Since atoms have the same number of protons as they do electrons, the atomic number is essentially equal to the number of electrons as well.
For example, Aluminum atomic number of 13 in the first electron cloud it will only have 2 so then it will have 8 in the other layers until there are not enough electrons. So the first will have 2 electrons, the second layer will have 8 electrons and the last layer will have 3 electrons because there are not enough electrons to make another full layer of 8 electrons. Therefore, Aluminum has 3 valence electrons.

View All Answers

Question - 88:

What is the atomic number and what does it tell you about the number of protons in an atom?

Ans:

The number of protons in an atom is the atomic number. The number of protons is equal to the atomic number of an atom. It is very important in knowing the number of electrons that surround the nucleus of an atom. In an atom, the electrical charge is neutral, due to the equal number of positive (protons) and negative (electrons) charges. The atomic number represents the protons in an atom and identifies the element. Hydrogen has one proton. No other atom has just one proton. Helium has two protons and no other element has only two protons. Lithium has three protons and so on.
The atomic number is equal to the number of protons in the nucleus, and for neutral atoms, it is the same as the number of electrons.

View All Answers

Question - 89:

Is Freon an element and if not what is it?

Ans:

If a substance does not appear in the Periodic Table, it is not an element, but rather a compound of other elements. Some elements have more than one name, especially radioactive ones. While the names for an element may vary in different languages, it will always have the same Symbol. (see related link for the Periodic Table)
Freon is a patented trade name for refrigerants produced by the DuPont Corporation, all of which are "fluorocarbons" or "hydro fluorocarbons" belonging to the class of compounds known as "haloalkenes". It contains the "halogen" elements Chlorine (Cl), Fluorine (F), as well as the element Carbon (C).

View All Answers

Question - 90:

What are the isomers of heptane?

Ans:

2-methyl hexane ; 3-methyl hexane ; 2,3-dimethyl pentane ; 2,4-dimethyl pentane ; 2,2,3-trimethyl butane.

View All Answers

Question - 91:

What is an isomer?

Ans:

An isomer is a molecule or compound that has the same number of atoms as another but a different structure.

View All Answers

Question - 92:

Explain the term distribution coefficient in organic chemistry.

Ans:

Well let us take an example that we have and a container with both oil and water in it.
These are immiscible, know, let us say there is elemental iodine I2 in this container, iodine is non-polar, so there will be more dissolved in the oil (an organic non-polar solvent) than the water (a non-organic polar solvent). However, there will be a trace amount of iodine dissolved in the water.
K= (concentration in mol/L of I2 in oil)/ (concentration in mol/L of I2 in water)
The distribution constant describes the ratio of iodine concentration in the organic layer to that in water.

View All Answers

Question - 93:

What is an example of a polysaccharide?

Ans:

Glycogen, cellulose, starches

View All Answers

Question - 94:

What is Chemical formula for glass?

Ans:

Silica is one of the main components in glass. The chemical formula for Silica is Si02.

View All Answers

Question - 95:

Draw the Lewis Dot Structure for CH4O.

Ans:

Lewis dot structure of CH4O consists of the Carbon atom being bonded to three of the Hydrogen atoms, and the Oxygen atom. The Oxygen atom then is bonded to the remaining Hydrogen (as it is an OH group) and the electrons to fill O's octet are then drawn in.

View All Answers

Question - 96:

How do you test a gas to see if it was hydrogen?

Ans:

You first must collect it. This can be done by piping it through a tube, which comes out under a bowl of water with an upside down test tube above it. Now after collecting the gas cork it.
Remove the cork and put in a light splint. If it is hydrogen, it will burn with a squeaky pop.

View All Answers

Question - 97:

What are 5 common uses of nitrogen?

Ans:

One use of nitrogen is ammonia. Another use for nitrogen is food preservatives.

View All Answers

Question - 98:

What are the benefits of doing your own chemistry homework?

Ans:

It is very beneficial to do your own chemistry homework because chemistry is a complex science that requires a lot of practice to get good. Try reading the book and doing simpler examples if you have trouble with more difficult problems.

View All Answers

Question - 99:

What is the pH of an Alkyl Halide?

Ans:

The pH is usually on acidic side (i.e. pH < 7). The reason being, some of the alkyl halides tend to decompose via beta hydride elimination process generating hydro-halo acids that impart acidity, e.g. tertiary butyl chloride decomposes to produce HCl or hydrochloric acid.

View All Answers

Question - 100:

What is the difference between hcl acid and hcl gas?

Ans:

HCl gas is molecular HCl in the gaseous phase, HCl acid is HCl in solution with water, and can be said to be in the form H+ Cl-. (Alternatively, to be a pendant, H3O+ Cl- as technically protons does not exist on their own in solution.) It is this dissociation of the molecule into constituent ions, which gives an acid its properties. On a physical level, HCl gas is a yellow/green gas, and HCl acid is a clear solution.

View All Answers

Question - 101:

Can a protein act as a buffer?

Ans:

The answer is yes! Proteins are made up of amino acids and a typical amino acid has two H- (hydrogen) connected to a Nitrogen and grabs on to a carbon which holds a H another carbon which double bonds with an O+ (Oxygen) and an OH. The last bond the middle carbon creates to fill its valence shell is to an "R" or a radical variable side change.

View All Answers

Question - 102:

What is the secondary structure of proteins?

Ans:

The secondary structure of a protein is a property of an individual polypeptide chain. The chain of amino acids acquires the conformation.

View All Answers

Question - 103:
What types of insulators are there?

Ans:
There are many different types of insulators. Fleece is probably the best insulator and Wool is next. Wool had rayon in it, so pure wool might come out with different results. Cotton and vinyl are also good insulators. Burlap had so many holes in the material that it was not a very good insulator.
View All Answers

Question - 104:
Two common isotopes of carbon are carbon-12 and carbon-14. How are atoms of the isotopes different from one another?

Ans:
The nucleus of the carbon-12 atom contains six neutrons, whereas the carbon-14 atom has eight neutrons.
View All Answers

Question - 105:
What is the product of HCl Zn?

Ans:
If this answers, your question HCl Zn is hydrogen, chloride, and zinc.
Zn + 2HCl -> ZnCl2 + H2
HCl is also known hydrochloric acid. It reacts with zinc to produce Zinc Chloride (a white crystalline solid) and hydrogen gas.
View All Answers

Question - 106:
What is Na2HPO4?

Ans:
Sodium Phosphate
View All Answers

Question - 107:
What is the dipole moment direction for methanol?

Ans:
The direction is towards the oxygen since the Oxygen atom has a much higher electronegative than either of the three Hydrogen atoms or the Carbon atom itself.
View All Answers

Question - 108:
Why do some medications contain hcl?

Ans:
HCl is the chemically abbreviated form of Hydrochloride. It is the way that the medications are put into solid form. Many liquid or oral suspension formulas contain HBr, hydro bromide. Some medications contain Fumigate, some contain Male ate, and it is a medium to put the substances into or dilute them.
View All Answers

Question - 109:
What is the molar mass of chlorine?

Ans:
The Molar Mass Of chlorine should be 35.453 or simply 35 if you care to round
View All Answers

Question - 110:
What kind of bond does HCl have?

Ans:
The bond between hydrogen and chlorine in HCl is polar covalent bond because of large electro negativity difference between the two bonded atoms.
View All Answers

Question - 111:
What happens when quarks and anti-quarks collide?

Ans:
They explode it with protons and anti-protons, neutrons and anti-neutrons, electrons and positrons.
View All Answers

Question - 112:
What are substrates?

Ans:

A substrate is a surface on which a plant or animal grows or is attached.
pH= -log [H+]

View All Answers

Question - 113:

What is pH?

Ans:

pH is the negative logarithm of hydrogen ion concentrated.

View All Answers

Question - 114:

What is dipole-dipole force?

Ans:

Dipole-dipole force is weak attraction that occurs between two polar molecules.

View All Answers

Question - 115:

What are some examples of a reversible reaction?

Ans:

1. Conversion of ammonium cyanate into urea
2. Dissociation of hydrogen iodide
3. Reaction between gaseous CO and NO2

View All Answers

Question - 116:

What is the Ionic equation for HCL-NaOH?

Ans:

H+ + OH- -> H20

View All Answers

Question - 117:

What is the chemical formula for dichromate?

Ans:

Dichromate is Cr2O7.

View All Answers

Question - 118:

Is HCl polar or non-polar?

Ans:

Yes, HCl is a polar compound because chlorine is more electronegative than H It attract the bond pair towards itself. Hence, compound is a polar.

View All Answers

Question - 119:

How do you convert oxygen gas to liquid oxygen?

Ans:

Condense in a temperature less than -186 c ideally with liquid helium or other cryogenic means.

View All Answers

Question - 120:

What element was used to make the first atomic bomb?

Ans:

Uranium was used in the Hiroshima bomb and Plutonium in the Nagasaki one.

View All Answers

Question - 121:

What is the difference in the modern periodic table and Mendeleevs table?

Ans:

The periodic table is now arranged in the order of increasing atomic numbers. In addition, it is said that the modern table makes it easier to read and learn. The way that it is set up now allows scientists to make changes if necessary. Hope this helps

View All Answers

Question - 122:
What is the direction of the dipole moment expected for carbon tetrachloride?

Ans:
It has no net dipole moment. Hence, it is non-polar.
View All Answers

Question - 123:
What is the full form of hcl?

Ans:
The full form of HCL is hydrochloric acid or hydrogen chloride gas
View All Answers

Question - 124:
Is benzene an element or a compound?

Ans:
Benzene is a compound.
View All Answers

Question - 125:
What is the chemical formula for Epsom salts?

Ans:
Epsom Salt chemical formula is Me245-H2O.
View All Answers

Question - 126:
Are the chemical properties of lithium a metal metalloid or a nonmetal?

Ans:
Lithium, Li, is a metal. However, can also be a metalloid or a nonmetal.
View All Answers

Question - 127:
Can you show you the organic structure of cetearyl alcohol and tell me what organic family it is?

Ans:
Cetearyl alcohol is actually a mixture of both stearyl alcohol and cetyl alcohol (refer to links below for structures). Both of these compounds would be considered "fatty alcohols" due to their long carbon chains. Fatty alcohols are in the aliphatic hydrocarbon family. To draw the structure of "cetearyl alcohol" you would actually have to draw the structure of cetyl alcohol and the structure of stearyl alcohol.
View All Answers

Question - 128:
Explain the method for the preparation of 1 normal solution of hydrochloric acid.

Ans:
Dilute 85ml of HCL to 1000ml
View All Answers

Question - 129:
What are 3 facts on evaporation?

Ans:
1. 80% of evaporation comes from the ocean.
2. 20% of evaporation comes from inland water.
3. Wind helps evaporation by moving it
View All Answers

Question - 130:
What is some importance of organic chemistry?

Ans:
In organic chemistry one uses it both medicinally one uses it to test for illness way back from ancient times. It is also a good diagnostic tool by smell feel or touch. You can actually heed the smell of decay in organic chemistry
View All Answers

Question - 131:
How do you separate the colors of ink?

Ans:

The colors of ink can be separated by chromatography.

View All Answers

Question - 132:

What is the use of glacial acetic acid?

Ans:

There are no medical uses to pure GAA, dilute concentrations can be used to remove warts or verucas; it can also be used via iontophoresis to treat bone spurs. Industrial uses include photography and the manufacturing of aspirin.

View All Answers

Question - 133:

How does spontaneous combustion occur?

Ans:

It is caused by a build up of sulfur in a person's body that eventually reacts to increased body heat.

View All Answers

Question - 134:

Which is polar HCl or HF?

Ans:

This question is quite simple if you have an electro negativity chart:
Florine's Electronegativity: 4.0
Chlorine's Electronegativity: 3.0
Hydrogen's Electronegativity: 2.1
HCl: 3.0-2.1= .9 (Slightly polar)
HF: 4.0-2.1= 1.9 (Much more polar)

View All Answers

Question - 135:

How are dipole attractions London dispersion forces and hydrogen bonding similar?

Ans:

They are all forces of attraction used to kelp keep molecules together. Since the molecules are the atoms bonded together, there are no electrons, or not enough, left over to bond with more atoms. The result would be trillions of tiny molecules floating about. Instead, each of these types of attractions draws the molecules together into solids, liquids, or gases.

View All Answers

Question - 136:

What makes a molecule into an organic molecule?

Ans:

Any molecule that contains one or more atoms of Carbon is an organic molecule. All elements that are composed by Carbon are studied by Organic Chemistry.

View All Answers

Question - 137:

What wavelengths can the human eye see?

Ans:

Human eye is sensitive to an approximate range of wavelength of radiations from 380nm to 760nm. This portion of electromagnetic spectrum is identified as Light

View All Answers

Question - 138:

What is the IUPAC name of benzene?

Ans:

The IUPAC name for Benzene is Benzene. It forms the basis for other IUPAC-named benzene derivatives like 1, 2-dimethylbenzene etc.

View All Answers

Question - 139:

Is HCl an acid or a base?

Ans:

HCl, or hydrochloric acid, as the name implies, is an acid. In fact, it is considered a strong acid because it dissociates completely in water to form H3O+ and Cl-. However, it can also act as a base in reactions with acids stronger than it can like HClO4.

View All Answers

Question - 140:

Is benzene a polar molecule?

Ans:

No, Benzene is a non-polar compound

View All Answers

Question - 141:

How can you tell if there is a dipole moment or not?

Ans:

A dipole moment is defined as a measure of the molecular polarity of a compound; the magnitude of the partial charges on the ends of a molecule times the distance between them (in meters).
In order for there to be a dipole moment, the element must have molecular polarity, which results from molecules with a net imbalance of charge (often a result of differences in electro negativity). If the molecule has more than two atoms, both shape and bond polarity determines the molecular polarity.
In general, look for a difference in electro negativity of the elements of a molecule which results in polarity and thus a possible dipole moment. Note that molecular shape influence polarity so molecules with the same elements but a different shape (and vice versa) will not have the same dipole moment.

View All Answers

Question - 142:

What is the chemical formula of detergent?

Ans:

The chemical formula for detergent certainly is not "c3h8o5," as was suggested. ("c3h8o5" does not even exist as a molecule.)
Rather, the chemical formula for "detergent" really depends on what you mean by the word. By itself the word does not connoted any specific formula (must/must not have this function group).
Commercial detergents are made up of many different chemical compounds (different surfactants, colorants, pH modifiers, chlorinated and non-chlorinated whiteners, etc). For example, one effective (albeit harsh) surfactant is sodium lauryl sulfate (aka sodium dodecyl sulfate): C12H25NaO4S.

View All Answers

Question - 143:

Why acetic has less conductivity than Hcl?

Ans:

Acetic acid has less conductivity, because it ionizes less in solution. HCl separates almost completely in solution to form the ions Cl- and H+. Acetic acid only partially ionizes into CH3COO- and H+ with lots of it staying as complete CH3COOH molecules. It is the concentration of ions in a solution, which determines its conductivity. An electric current passes through the solution by movement of these ions. The extent to which any partially ionized substance actually ionizes can be expressed as its pKa value.

View All Answers

Question - 144:

What is the net charge of a non-ionized atom?

Ans:

In an atom, the number of protons is equal to the number of electrons and that one proton has the same positive charge value as an electron does a negative charge value.
Therefore, I am assuming that all atoms have no charge, zero, none, squat.
Non-ionized also means the atom has not suffered electron exchange, so a non-ionized atom is really just an atom (which is word redundancy).
This is what I know from AS level Chemistry, so I don't know if it's the same thing as more advanced chemistry (for university or something).

View All Answers

Question - 145:

What is a substituted hydrocarbon?

Ans:

A substituted hydrocarbon is a hydrocarbon with one or more of the hydrogen is substituted with another element, (often a halogen such as chlorine or bromine) or another group of atoms such as -OH. Examples: -
a simple hydrocarbon is methane CH4. Substitute chlorine for hydrogen to get
CH3Cl Methyl Chloride is used for cleaning. Sub. Again to get
CH2Cl2 Methylene Chloride is used as paint stripper. Sub again to get
CHCl3 Chloroform is an ancient anesthetic. Sub again to get
CCl4 Carbon Tetrachloride is used in cleaning and fire extinguishers.
Substitute a single -OH group into -
CH4 to get CH3OH methanol or into C2H6 to get C2H5OH ethanol
The above examples all begin with unbranched non-cyclic hydrocarbons, but any hydrocarbon is a suitable target. A well-known instance is a double substitution of chlorine at opposite ends of a benzene ring to form paradichlorbenzene, commonly found hanging in toilet bowls. C6H6 becomes C6H4Cl2

View All Answers

Question - 146:

What is the direction of the dipole moment expected for hydrogen bromide?

Ans:

The HBr molecule is linear (obviously, since it contains only two atoms). The dipole moment is a vector, parallel to the bond, pointing toward the partially positively charged atom, which is, in this case, the hydrogen. The magnitude of the dipole moment is the difference in the partial electrical charges on each atom times the spatial separation of the atoms in the bond. In a molecule with more than two atoms (more than one bond), the dipole moment of each bond must be added vectorially and the resultant vector will determine the dipole moment of the molecule. For instance, carbon dioxide has two carbon-oxygen double bonds of high polarity, but

because the molecule is linear, and the individual dipoles oppose each other, the carbon dioxide molecule has no net dipole moment.

View All Answers

Question - 147:

How do you solve Ideal Gas Law problems?

Ans:

The Ideal Gas Law is used to relate the pressure, volume, temperature, and amount of an "ideal" gas. Although many gases are not ideal in reality, you can usually use the Ideal Gas Law anyway. Here is how you solve these problems!
The Ideal Gas Law is PV = nRT.

View All Answers

Question - 148:

Why chemists have not created a periodic table of compounds?

Ans:

One major reason I can think of, that has not been addressed yet, is the periodicity of the elements. You can line the elements up into neat functional groups--alkali metals, transition elements, halogens and so on. This you could not do with compounds, even if you had a separate table for hydrocarbons, one for elastomers, and one for dyestuffs... Compounds also find wide use as smaller blocks of larger compounds. We call these precursors. Take toluene. It is a very toxic compound, but if you compound it into toluene diisocyanate, then compound that into polyurethane, it becomes safe enough that you can build it into replacement hip joints. Chemists do keep books of compounds, but a table on a big sheet of paper the size of...oh, the entire side of a Wal-Mart store might be big enough? It could never happen.

View All Answers

Question - 149:

What is the octet rule in chemistry?

Ans:

The octet rule is a simple chemical rule of thumb that states that atoms tend to combine in such a way that they each have eight electrons in their valence shells, giving them the same electronic configuration as a noble gas. This 8-electron configuration is especially stable because with 8 valence electrons, the s- and p-orbitals are completely filled (with 2 in the s-orbital, and 6 in the p-orbitals). Having completely filled orbitals provides increased stability due to something called "exchange energy."
The rule is applicable to the main-group elements, especially carbon, nitrogen, oxygen, and the halogens, but also the metals in the first two columns of the periodic table (but not to the transition metals in the middle of the periodic table). Note that the elements hydrogen (H) and helium (He) do not follow the octet rule, but rather the "duet" rule (2 electrons) because they do not have any p-orbital electrons.
In simple terms, molecules or ions tend to be most stable when the outermost electron shells of their constituent atoms contain eight electrons. The rule is commonly used in drawing Lewis dot structures.

View All Answers

Question - 150:

Do all explosions produce carbon dioxide?

Ans:

An explosion is nothing more than the rapid release of energy. This is most commonly due to the rapid combustion of a material, although nuclear explosions do not involve combustion. The combustion of any hydrocarbon or other carbon-containing substance ALWAYS produces carbon dioxide. This might include explosion due to a natural gas or gasoline.
It is possible, however, to explode substances that do not contain carbon, such as pure hydrogen (the very famous Hindenburg disaster in 1937 is a classic example of a very big hydrogen gas explosion. An explosion of hydrogen produces only water vapor (H2O), NOT carbon dioxide (CO2).
Also, nuclear explosions (both fusion and fission) themselves do not produce carbon dioxide, although they may cause surrounding objects to incinerate, which would release carbon dioxide.

View All Answers

Question - 151:

Where does arsenic come from?

Ans:

(FeAsS) Arsenopyrite also known as mispickel is the most common mineral containing arsenic.

View All Answers

Question - 152:

What is protein in Chemistry?

Ans:

Protein is a source of backup energy that your body stores, a large complex molecule made up of one or more chains of amino acids. Proteins perform a wide variety of activities in the cell.
Highly complex nitrogenous compounds found in all animal and vegetable tissues. Proteins, the principal constituents of the protoplasm of all cells (apart from water), are of high molecular weight, and consist essentially of combinations of amino acids in peptide linkages. Twenty different amino acids are commonly found in proteins and each protein has a unique, genetically defined amino acid sequence that determines its specific shape and function.

View All Answers

Question - 153:

What is ciprofloxacin HCL used for what type?

Ans:

Ciprofloxacin is used to fight bacterial infections. I am currently taking this medicine to help cure mastoiditis.

View All Answers

Question - 154:

What is a tripod? How it is used?

Ans:

A tripod is a general term for a stand or support with three legs. It is often used to support a camera gun, or to place above the Bunsen burner in the science lab to heat/boil anything.
In the science laboratory, metal gauze is placed on top of it to give support to the beaker (An iron ring clamp with a ring stand can often be used instead and an iron ring allows for easy height adjustment).

View All Answers

Question - 155:

What is the equation for photosynthesis?

Ans:

1) Light energy
2) == 6CO2 + 6H2O --------> C6H12O6 + 6O2 ==
3) Carbon dioxide + water +light energy------> carbohydrates+ oxygen

View All Answers

Question - 156:

How many moles of HCl are present in .70 L of a .33 M HCl solution?

Ans:

* First, remember definition of M (moles), M = moles of species / L.
0.33 M = 0.33 moles HCl / L
* Then, multiple your volume by the molar concentration:
0.33 moles HCl / L x 0.70 L = 0.231 moles HCl
It is helpful to carry the units with your calculations. That way you can check that numerators and denominators cancel to give you the units of your answer.

View All Answers

Question - 157:

What are the cons of eating organic foods?

Ans:

It is more expensive and you have less of a variety to choose. Stores like Wegamans have a variety of organic food though.
Since organic produce does not contain chemicals and stabilizers, it spoils more quickly. It also may appear "uglier" (asymmetrical, not shiny or waxy, dirty).

View All Answers

Question - 158:

How reactive is Trimethylindium towards oxygen and water?

Ans:

Trimethylindium is extremely reactive towards oxygen and water. With low concentrations of oxygen (ppb to ppm to a few %), it immediately forms dimethylindium methoxide (Me2InOMe) as the first reaction product by insertion of O between In and C. With increased concentrations of oxygen (several %, atmospheric air or pure oxygen), it burns or explodes. Similar insertion reactions are expected with other elements of Group 16 (such as S, Se and Te) with highly vigorous outburst at higher concentrations of S, Se and Te.
Trimethylindium reacts readily and vigorously with water to form Me2InOH and Methane (CH4) gas if the concentration of H2O is very small (up to 1000's ppm). With high concentrations of water (% level), trimethylindium can burn and often explode leaving behind In (OH)3, In2O3 as the final products. Extremely violent reactions of trimethylindium are also known with oxidizers. Such as H2O2, KMnO4, HNO3, Bleach) and halogenated compounds (CCl4, CBrCl3, CBr2Cl2, CHCl3, C2Cl6, and halocarbon oils).

View All Answers

Question - 159:

What are the differences between organic and inorganic chemistry?

Ans:

Organic chemistry is the chemistry of carbon compounds while inorganic chemistry is the chemistry of all the rest of the elements on the periodic table.

View All Answers

Question - 160:

Where is tin obtained?

Ans:

Tin is obtained in various places tin is found mainly in the ore cassiterite, which is found in Malaysia, Bolivia, Thailand, and Nigeria.

View All Answers

Question - 161:

What is a dipole moment?

Ans:

Dipole moment is the measure polarity of a polar covalent bond. It is defined as the product magnitude of charge on the atoms and the distance between the two bonded atoms. Its common unit is debye and SI unit is columb meter.

View All Answers

Question - 162:

How many electrons are in benzene?

Ans:

There are 30 electrons in benzene. This includes 24 carbon electrons and 6 hydrogen electrons. There are 12 electrons shared between C and H, and 18 between C and C. (6 electrons in up ring, 6 in down ring and 6 between C and C).

View All Answers

Question - 163:

What is a medicine dropper?

Ans:

A medicine dropper is an instrument used to measure small amount of liquids, usually in milligrams. You will first pinch the handle before you submerge it in the water.

View All Answers

Question - 164:

What is the structure of a DNA molecule?

Ans:

A molecule of DNA is double-stranded. The molecule has the shape of a double helix.
The DNA molecule consists of two complementary strands oriented in an anti-parallel fashion. Each strand is composed of nucleotides. A nucleotide consists of a base (a purine or pyrimidine), a sugar (between the other two components) named deoxyribose, and a phosphate group. Nucleotides are linked to each other via phosphodiester bonds, forming a sugar-phosphate backbone to each strand.
The base of each nucleotide projects into the interior cavity of the helix. Each base is opposite another base: adenine (a purine) is always paired with thymine (a pyrimidine), and guanine (purine) with cytosine (pyrimidine); this phenomenon is called complementary base pairing.
Each nucleotide forms hydrogen bonds with its complementary base on the other strand. Two hydrogen bonds form between adenine and thymine; three hydrogen bonds form between guanine and cytosine.

View All Answers

Question - 165:

What is the difference between the law of multiple proportions and the law of definite proportions?

Ans:

Both laws have to do with relating to Dalton's Atomic Theory. The only difference is that the Law of Definite Proportions deals with elements combining to form ONE compound in a simple whole number ratio. The Law of Multiple Proportions is comparing the same 2 elements that make up 2 different compounds the division of these 2 ratios should equal a simple whole number ratio.
For example, Carbon and oxygen can combine to form carbon monoxide and carbon dioxide. If you calculated each compounds ration of oxygen to carbon, you would get the following ratios: compound A would equal a combining ratio of 1.34:1 (O:C). Compound B would equal a combining ratio of 2.67:1 (O:C).
If you divided the bigger ratio by the smaller ratio you would have that oxygen combines with a ratio of 2.67/1.34, which would equal 1.99:1, which is close enough to 2:1.

View All Answers

Question - 166:

What is alum?

Ans:

Alum is a chemical (aluminum potassium sulphate); it tends to be whitish powder with several uses, including:

1. As an astringent
2. As an antibacterial
3. As a food preservative
4. As a 'Styptic pencil' to heal shaving cuts
5. To stem the flow of minor blood loss and cuts
6. Soaked into materials to make them flame retardant

There are other uses, but these are some of the more common ones.

View All Answers

Question - 167:

What is hydra?

Ans:

Hydra is a type of polyp. It is an animal, because it moves around like one even though it looks like a plant. A hydra is from the Phylum Cnidarian and belongs with others such as jellyfish and coral.

View All Answers

Question - 168:

Is DNA organic?

Ans:

* Of, relating to, or derived from living organisms: organic matter.
* Of, relating to, or affecting a bodily organ: an organic disease.
In addition, DNA would chemically be considered organic since it contains carbon as the primary chemical backbone of the molecule.

View All Answers

Question - 169:

What are KOH and HCl?

Ans:

KOH is potassium hydroxide, which is a strong base. HCl is hydrochloric acid, which is a strong acid.

View All Answers

Question - 170:

How do you prepare a solution of 1 M HCl?

Ans:

Exactly how you prepare will depend on what you are starting with. Typically, to make a 1 M HCl solution, you will be starting with a stock solution of more concentrated HCl that you will then dilute.

View All Answers

Question - 171:

What are the hydrocarbons?

Ans:

Hydrocarbons are compounds made entirely out of Hydrogen and Carbon.

View All Answers

Question - 172:

How do you extract ephedrine from a mineral block?

Ans:

You cannot extract ephedrine or pseudo ephedrine from a mineral block. Anyone who tells you that they have done it is either mistaken or a liar.

View All Answers

Question - 173:

What is the dipole moment of chlorooctane?

Ans:

There are multiple forms of the molecule "chlorooctane." This is because the chlorine atom can be attached to the octane chain in several different places, and each different placement will result in a different dipole moment. If you specify the structure of the compound more precisely (1-chlorooctane or 2-chlorooctane for example), it is possible to determine its dipole moment.

View All Answers

Question - 174:

What is an oxidizing agent?

Ans:

Any chemical species that has a tendency to accept electrons and thereby undergoing reduction themselves is known as an oxidizing agent

View All Answers

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