

Question bank

First Stage

English for University students

Q1 // Identify whether the statements are true (T) or false (F), and correct the false statements:

- 1- A scientific law is a statement that summarizes a collection of observations or results from experiments.
- 2- Inorganic compounds are composed of carbon, hydrogen and oxygen primarily.
- 3- Electron pair are two electrons which occupy the same molecular orbital but have same spins.
- 4- Atomic number refer to the number of protons in the nucleus of an atom and it also equal to the number of neutrons.
- 5- Transition metals are those whose atoms naturally occur with incomplete filled P- sub shell orbital.
- 6- The intramolecular hydrogen bonding is formed between the hydrogen atom and the electronegative atom present within the same molecule.
- 7- Strong acids are molecular compounds that essentially ionize to completion in aqueous solution.
- 8- Ionic bond is a type of bond that involves the sharing of electron pairs between atoms.
- 9- Bronsted-Lowry definition defines acids as substances that accept protons (H^+) whereas bases are substances that donate protons.
- 10- Electronegativity is the ability of an atom to attract proton toward itself.
- 11-An experiment is a procedure carefully done to examine the validity of a law.
- 12- The Law of Conservation of Mass dates from Antoine Lavoisier's 1789 discovery that mass is neither created nor destroyed in chemical reactions.
- 13- Isotopes are variants of a particular element with different number of protons.
- 14- Atomic mass number refer to the total number of protons and electrons.
- 15- ${}_{36}S^{16}$, ${}_{37}Cl^{17}$ and ${}_{39}K^{19}$ are isobars with each other.
- 16- In single displacement reaction, a less active element displaces the more active element.

17- Inorganic compounds do not contain carbon. Instead, they are composed of atoms that belong to more than one element, such as oxygen or nitrogen.

18- The intermolecular hydrogen bonding is formed between the hydrogen atom and the electronegative atom present within the same molecule.

19- Covalent bond is a type of bond that involves the sharing of electron pairs between atoms.

20- Electronegativity is the ability of an atom to attract proton toward itself.

Q2 // Fill the gaps in the text with a suitable word from the box

condensation, protons, either, conservation, neutralized, acceptors, allotropes, ionization, donors, chemical formula

1-The Law of of Mass dates from Antoine Lavoisier's 1789 discovery that mass is neither created nor destroyed in chemical reactions.

2- A is a way of presenting information about the chemical composition of a compound or molecule using letters, numbers, and sometimes also typographical symbols such as parenthesis, dashes, brackets and plus (+) and minus (-) signs.

3- Mass number is the sum of the numbers of and neutrons of the nucleus of an atom.

4- Graphite, diamond and fullerenes are of carbon.

5- A matter in gas state is change to liquid state by process.

6- The energy required to remove an electron from an atom or ion is called energy.

7- Hydrochloric acid is by both sodium hydroxide solution and ammonia solution. In both cases, you get a colourless solution which you can crystallise to get a white salt - sodium chloride or ammonium chloride.

8- The Lewis theory states that acids are electron pair while bases are electron pair

Q2 // Fill the gaps in the text with a suitable word from the box (30 Marks).

Electron, either, ions, neutralized, center, composition, diamond, condensation, positive, atom

- 1- In double displacement reactions two compounds react with each other and exchange their to form two new compounds.
- 2- Nucleus is located at the of an atom, made up of neutrons and protons and possessing a net electric charge.
- 3- Ionization energy is the energy required to remove an from an atom or ion.
- 4- Reflux is a technique involving the of vapors and the return of this condensate to the system from which it originated.
- 5- Graphite, and fullerenes are allotrops of carbon.
- 6- Elements are substances containing only one kind of
- 7- Hydrochloric acid is by both sodium hydroxide solution and ammonia solution. In both cases, you get a colorless solution which you can crystallise to get a white salt - sodium chloride or ammonium chloride.
- 8- Chemistry is the study of the of substances and the changes that they undergo.

Q3 // Answer the following questions

- 1- Define **three** of the following terms with giving an examples: **a**-Isotope, **b**-Isobar, **c**-Isotone, **d**-Isoelectronic.
- 2- Write **three** types of chemical reaction with giving an examples.
- 3- Define **three** of the following terms with giving examples: **a**-Decomposition reaction, **b**- Chemical formula, **c**- Electron affinity, **d**-Isoelectronic.
- 4- Define acids and bases according to: a- Arrhenius definition, b- Bronsted-Lowry definition c- Lewis theory.

Q4 // Write a paragraph of at least 100 words about the following titration procedure by using all these words (stir, add, put, change, titrate, next, after that, finally, color, end point)

