**Topics in Chemistry Practice Midterm:**

1. Which scientist proposed the model of the atom as a miniature solar system?

a) Bohr

b) Thomson

c) Rutherford

d) Dalton

1. What subatomic particle did Thomson discover?

a) Proton

b) Neutron

c) Electron

d) Nucleus

1. Who discovered the nucleus of an atom?

a) Rutherford

b) Bohr

c) Dalton

d) Mendeleev

1. Which of the following is an ionic compound?

a) CO2

b) H2O

c) NaCl

d) CH4

1. What is the name of the compound with the formula MgCl2?

a) Magnesium chloride

b) Magnesium dichloride

c) Magnesium chlorate

d) Magnesium chlorite

1. Which of these is a characteristic of ionic compounds?

a) Low melting point

b) Conductivity in solid state

c) Brittle

d) Covalent bonding

1. Covalent compounds are formed by:

a) Transfer of electrons

b) Sharing of electrons

c) Loss of electrons

d) Gain of electrons

1. Which type of bonding is seen in metals?

a) Covalent bonding

b) Ionic bonding

c) Metallic bonding

d) Van der Waals forces

1. The periodic table group known as alkali metals includes:

a) Group 1

b) Group 7

c) Group 2

d) Group 8

1. Halogens are found in which group of the periodic table?

a) Group 1

b) Group 7

c) Group 2

d) Group 8

1. How many significant figures are in the number 0.00540?

a) 2

b) 3

c) 4

d) 5

1. Accuracy refers to:

a) How close a measurement is to the true value

b) How precise a measurement is

c) Consistency in repeated measurements

d) The number of significant figures

1. Precision refers to:

a) How close a measurement is to the true value

b) How precise a measurement is

c) Consistency in repeated measurements

d) The number of significant figures

1. Which property is characteristic of covalent compounds?

a) High melting point

b) Conductivity in the solid state

c) Often exist as gases or liquids at room temperature

d) Hard and brittle

1. What is the charge of a proton?

a) Positive

b) Negative

c) Neutral

d) Variable

1. In the periodic table, elements in the same group have:

a) Different numbers of valence electrons

b) Similar chemical properties

c) Different atomic numbers

d) Identical masses

1. What is the formula for sodium carbonate?

a) NaCO3

b) Na2CO3

c) Na3CO3

d) NaCO2

1. Which statement is true about ionic bonding?

a) Electrons are shared between atoms

b) It occurs between nonmetals only

c) It involves the transfer of electrons

d) It results in the formation of neutral atoms

1. Which of the following is a property of metals?

a) Brittle

b) Low melting point

c) Malleable and ductile

d) Poor conductors of electricity

1. How many significant figures are in the number 0.00780?

a) 2

b) 3

c) 4

d) 5

1. Which property is characteristic of covalent compounds?

a) Conductivity in the solid state

b) High melting point

c) Often exist as gases or liquids at room temperature

d) Conduct electricity when dissolved in water

1. What is the charge of an electron?

a) Positive

b) Negative

c) Neutral

d) Variable

1. What is the formula for sulfur dioxide?

a) SO3

b) SO2

c) S2O

d) S2O3

1. What is the name of the compound with the formula KCl?

a) Potassium chloride

b) Potassium chlorite

c) Potassium chlorate

d) Potassium dichloride

1. Which statement is true about covalent bonding?

a) Electrons are transferred from one atom to another

b) It occurs between a metal and a nonmetal

c) It involves the sharing of electrons

d) It results in the formation of ions

1. What type of bond is present in a molecule of carbon dioxide (CO2)?

a) Ionic bond

b) Covalent bond

c) Metallic bond

d) Hydrogen bond

1. Which of the following is NOT a property of metals?

a) Conductivity of electricity

b) Brittle

c) Malleability

d) Ductility

1. How many significant figures are in the number 7000.0?

a) 2

b) 3

c) 5

d) 6

1. Which property is characteristic of ionic compounds?

a) Conductivity in the solid state

b) High melting point

c) Often exist as gases or liquids at room temperature

d) Conduct electricity when dissolved in water

1. What is the charge of a neutron?

a) Positive

b) Negative

c) Neutral

d) Variable

1. What type of bond is present in a molecule of methane (CH4)?

a) Ionic bond

b) Covalent bond

c) Metallic bond

d) Hydrogen bond

1. Which of the following is a property of covalent compounds?

a) High melting point

b) Conductivity in the solid state

c) Often exist as gases or liquids at room temperature

d) Conduct electricity when dissolved in water

1. What is the formula for calcium chloride?

a) CaCl2

b) Ca2Cl

c) CaCl

d) Ca2Cl3

1. Which of the following elements has the highest tendency to lose electrons to achieve an octet?

a) Sodium

b) Oxygen

c) Chlorine

d) Sulfur

1. What is the appropriate action if you spill a chemical on your skin during a lab experiment?

a) Wipe it off with a paper towel.

b) Wash the affected area with water and notify the teacher immediately.

c) Ignore it if it doesn't cause immediate discomfort.

d) Cover it with your lab coat and continue working.

1. Where should you keep your backpack, food, and drinks during a lab session?

a) On the lab bench to have them handy

b) Under the lab bench or in designated areas outside the lab

c) On the lab equipment for easy access

d) On your lap to prevent tripping hazards

1. How should you smell a chemical in the lab?

a) Take a deep breath directly from the container.

b) Waft the scent gently towards your nose with your hand.

c) Pour a small amount on your hand to smell it.

d) Don't smell chemicals directly; use designated methods or devices