

## Regents Practice 25 Questions Quiz 1 (1-26 multiple choice)

- 1 In which type of chemical reaction do two or more reactants combine to form one product, only?  
(1) synthesis      (2) double replacement      (3) single replacement      (4) decomposition
- 2 Which statement explains why neon is a Group 18 element?  
(1) Neon is a gas at STP.      (2) Neon atoms have a stable valence electron configuration.  
(3) Neon has a low melting point.      (4) Neon atoms have two electrons in the first shell.
- 3 Which element has chemical properties that are most similar to the chemical properties of fluorine?  
(1) boron      (2) neon      (3) chlorine      (4) oxygen
- 4 What occurs as two atoms of iodine combine to become a molecule of iodine?  
(1) A bond is formed as energy is absorbed.      (2) A bond is formed as energy is released.  
(3) A bond is broken as energy is absorbed.      (4) A bond is broken as energy is released.
- 5 What is the number of pairs of electrons that are shared between the nitrogen atoms in a molecule of  $N_2$ ?  
(1) 1      (2) 3      (3) 2      (4) 6
- 6 Which phrase describes an atom?  
(1) a negatively charged nucleus surrounded by positively charged protons  
(2) a negatively charged nucleus surrounded by positively charged electrons  
(3) a positively charged nucleus surrounded by negatively charged protons  
(4) a positively charged nucleus surrounded by negatively charged electrons
- 7 An orbital is defined as a region of the most probable location of  
(1) an electron      (2) a nucleus      (3) a neutron      (4) a proton
- 8 The bright-line spectrum of an element in the gaseous phase is produced as  
(1) protons move from lower energy states to higher energy states  
(2) protons move from higher energy states to lower energy states  
(3) electrons move from lower energy states to higher energy states  
(4) electrons move from higher energy states to lower energy states
- 9 An atom of lithium-7 has an equal number of  
(1) electrons and neutrons      (2) electrons and protons      (3) positrons and neutrons      (4) positrons and protons
- 10 Which set of values represents standard pressure and standard temperature?  
(1) 1 atm and 101.3 K      (2) 1 kPa and 273 K      (3) 101.3 kPa and 0°C      (4) 101.3 atm and 273°C
- 11 Which statement about one atom of an element identifies the element?  
(1) The atom has 8 protons.      (2) The difference between the number of neutrons and protons in the atom is 1.  
(3) The atom has 8 neutrons.      (4) The sum of the number of protons and neutrons in the atom is 16.
- 12 A substance is classified as either an element or a  
(1) compound      (2) ion      (3) gas      (4) solid

- 14 A solid element that is brittle, a poor conductor of electricity, and can covalent bonds is classified as a  
(1) nonmetal            (2) noble gas            (3) metalloid            (4) metal
- 15 Three forms of energy are  
(1) chemical, exothermic, and temperature            (2) chemical, thermal, and electromagnetic  
(3) electrical, nuclear, and temperature            (4) electrical, mechanical, and endothermic
- 16 What is the total amount of heat required to melt 1.00 gram of  $\text{H}_2\text{O}_{(s)}$  at  $0.^\circ\text{C}$  and 1 atmosphere?  
(1) 4.18 J            (2) 373 J            (3) 334 J            (4) 2260 J
- 17 Which compound is soluble in water?  
(1)  $\text{PbS}$             (2)  $\text{Na}_2\text{S}$             (3)  $\text{BaS}$             (4)  $\text{Fe}_2\text{S}_3$
- 18 Compared to a 26-gram sample of  $\text{NaCl}_{(s)}$  at STP, a 52-gram sample of  $\text{NaCl}_{(s)}$  at STP has  
(1) a different density            (2) a different gram-formula mass  
(3) the same chemical properties            (4) the same volume
- 19 A gas changes directly to a solid during  
(1) fusion            (2) saponification            (3) deposition            (4) decomposition
- 20 The phase of a sample of a molecular substance at STP is not determined by its  
(1) arrangement of molecules            (2) intermolecular forces  
(3) number of molecules            (4) molecular structure
- 21 Which atom has the weakest attraction for electrons in a chemical bond?  
(1) a boron atom            (2) a fluorine atom            (3) a calcium atom            (4) a nitrogen atom
- 22 Which element is a liquid at 305 K and 1.0 atmosphere? (1) magnesium    (2) gallium    (3) fluorine    (4) iodine
- 23 Which list of elements consists of a metal, a metalloid, and a nonmetal?  
(1) Li, Na, Rb            (2) Sn, Si, C            (3) Cr, Mo, W            (4) O, S, Te
- 24 At STP, which physical property of aluminum always remains the same from sample to sample?  
(1) mass            (2) length            (3) density            (4) volume
- 25 Which statement describes a chemical property of silicon?  
(1) Silicon has a blue-gray color.            (2) Silicon is a brittle solid at  $20.^\circ\text{C}$ .  
(3) Silicon melts at  $1414^\circ\text{C}$ .            (4) Silicon reacts with fluorine.
- 26 A compound is broken down by chemical means during  
(1) chromatography            (2) electrolysis            (3) distillation            (4) filtration