## **Chemistry Practice Test SAT 28**

motion above absolute zero

Directions: Every question below contains two statements, I in the left-hand column and II in the right-hand column. For each question, decide if statement I is true or false and whether statement II is true or false, and fill in the corresponding T or F ovals on your answer sheet. \*Fill in oval CE only if statement II is a correct explanation of statement I. Q1. According to the Kinetic Molecular Theory, the particles of a gas are in random

#### **BECAUSE**

The degree of random motion of gas molecules varies inversely with the temperature of the gas.

- A. T,T
- B. T,F
- C. F,T
- D. F,F
- E. T,T,CE
- Q2. An electron has wave properties as well as particle properties

#### **BECAUSE**

the design of a particular experiment determines which properties are verified.

- A. T,T
- B. T,F
- C. F,T
- D. F,F
- E. T,T,CE
- Q3. The alkanes are considered a homologous series

### **BECAUSE**

homologous series have the same functional group but differ in formula by the addition of a fixed group of atoms.

- A. T,T
- B. T.F
- C. F,T
- D. F,F
- E. T,T,CE
- Q4. When an atom of an active metal becomes an ion, the radius of the ion is less than that of the atom

# **BECAUSE**

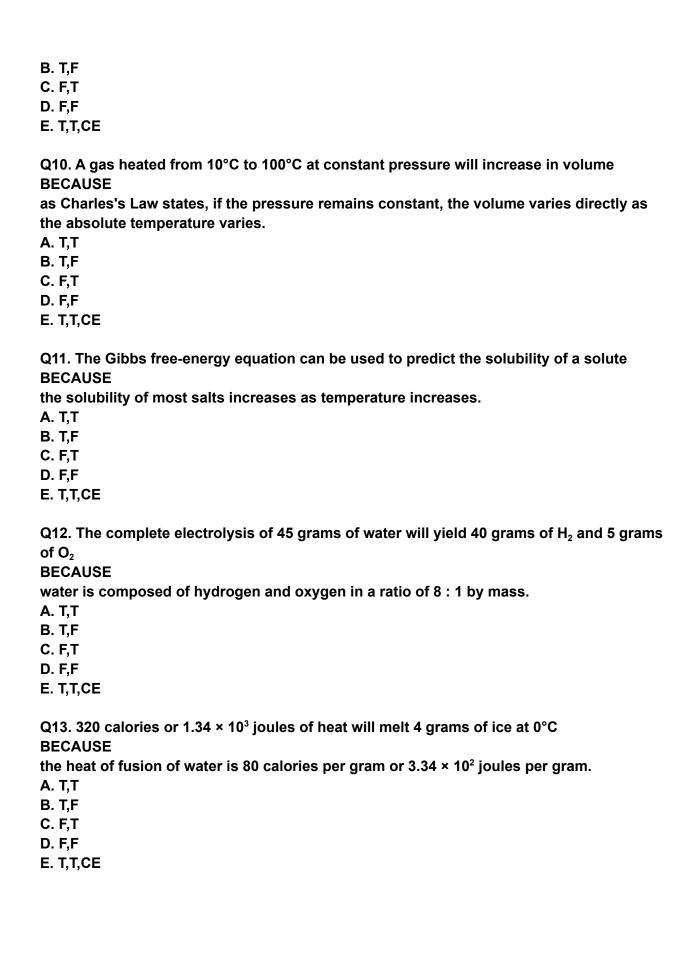
the nucleus of an active metallic ion has less positive charge than the electron "cloud."

- A. T,T
- B. T,F
- C. F,T
- D. F,F

E. T,T,CE Q5. When the heat of formation for a compound is negative, ΔH is negative BECAUSE a negative heat of formation indicates that a reaction is exothermic with a negative enthalpy change. A. T,T
B. T,F
C. F,T
D. F,F
E. T,T,CE
Q6. Water is a polar substance BECAUSE
the sharing of the bonding electrons in water is unequal.
A. T,T
B. T,F
C. F,T
D. F,F
E. T,T,CE
Q7. A catalyst accelerates a chemical reaction BECAUSE
a catalyst lowers the activation energy of the reaction.
A. T,T
B. T,F
C. F,T
D. F,F
E. T,T,CE
Q8. Copper is an oxidizing agent in the reaction with silver nitrate solution BECAUSE
copper loses electrons in a reaction with silver ions.
A. T,T
B. T,F
C. F,T
D. F,F
E. T,T,CE
Q9. The rate of diffusion (or effusion) of hydrogen gas compared with that of helium gas is 1 : 4 BECAUSE
the rate of diffusion (or effusion) of gases varies inversely as the square root of the
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molecular mass.

A. T,T



Q14. When 2 liters of oxygen gas react with 2 liters of hydrogen completely, the limiting factor is the volume of the oxygen

### **BECAUSE**

the coefficients in balanced equations of gaseous reactions give the volume relationships of the envolved gases.

- A. T,T
- B. T,F
- C. F,T
- D. F,F
- E. T,T,CE

Q15. Water is a good solvent for ionic and/or polar covalent substances BECAUSE

water shows hydrogen bonding between oxygen atoms.

- A. T,T
- B. T,F
- C. F,T
- D. F,F
- E. T,T,CE

Q16. Ammonia gas,  $NH_3$ , has a smaller density than argon gas, Ar, at STP BECAUSE

the density of a gas at STP is found by dividing the molar mass by 22.4 liters.

- A. T,T
- B. T,F
- C. F,T
- D. F,F
- E. T,T,CE