

Chemical Energetics

Sr	Questions	Answers Choice
1	Which of the following affects bond energy.	A. Bond length B. Bond length C. Atomic size D. All of these
2	The sign of Delta H during melting is.	A. Negative B. Positive C. Zero D. Can't be predicted
3	The enthalpy of sublimation involves.	A. Solid to gas B. Solid to liquid C. Liquid gas D. Gas to liquid
4	Which of the following is used to measure heat changes.	A. Calorimeter B. Voltmeter C. Thermometer D. Barometer
5	When a bond is formed	A. Energy is absorbed B. Energy is released C. Delta H is always zero D. No energy change
6	Consider a reaction with Delta H > 0 and Delta S < 0 this reaction will be	A. Spontaneous at all temperatures B. Non spontaneous at all temperature C. Spontaneous only at high temperatures D. Spontaneous only at low temperature
7	The standard enthalpy of formation of elements in their standard state is	A. 0 B. -1 C. 1 D. 25
8	Enthalpy change in hydration depends on.	A. Charge B. Ion size C. Solvent nature D. All of these
9	The energy required to break a chemical bond is called.	A. Ionization energy B. Bond energy C. Enthalpy D. Activation energy
10	If the pH of solution is 11, what is the [OH ⁻] concentration in the solution.	A. 1×10^{-3} M B. 1×10^{-11} M C. 1×10^{-2} M D. 1×10^{-14} M
11	The calorie content of food, often expressed in Calories (kcal), is fundamentally related to which thermodynamic quantity during its metabolism or combustion.	A. Enthalpy change B. Entropy change C. Gibbs free energy change D. Specific heat capacity
12	specific heat capacity is amount of heat needed to raise temp of	A. 1 mole B. 1 gram C. 1 kg D. 100 grams
13	Which is not a path function	A. Work B. Heat C. Entropy D. Temperature
14	Suppose there are 100 molecules of a gas initially in jar A, which is connected to an evacuated jar B, When the stopcock is opened, the possible ways of arrangement of molecules will be	A. 100 B. 1/100 C. 2/100 D. 1/2
		A. Condensation

15	Which of the following causes entropy to increase	B. Freezing C. Evaporation D. Crystallization
16	Which gas has highest molar enthalpy of combustion	A. C ₂ H ₂ B. CH ₄ C. H ₂ D. CO
17	The change in internal energy is zero is.	A. Isothermal process B. Adiabatic process C. Exothermic process D. Endothermic process
18	Born Haber cycle is used to calculate	A. Bond energy B. Heat of hydration C. Lattice energy D. Ionization energy
19	The enthalpy change when one mole of ionic compound is dissolved in water is	A. Heat of hydration B. Heat of solution C. Heat of combustion D. Heat of atomization
20	Enthalpy of fusion is the heat required to.	A. Melt a solid B. Boil a liquid C. Freeze a liquid D. Vaporize a solid