

Chemical Energetics

Sr	Questions	Answers Choice
1	Standard enthalpy change refers to	A. STP B. 25 °C and 1 atm C. 100 °C D. 0 °C and 1 atm
2	Which of the following is a state function.	A. Heat B. Enthalpy C. Work D. Path
3	A process with increase in entropy and enthalpy is spontaneous at.	A. High temperature B. Low temperature C. All temperature D. never spontaneous
4	Which of the following causes entropy to increase	A. Condensation B. Freezing C. Evaporation D. Crystallization
5	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
6	The system that exchanges heat but not mass	A. Closed B. Rigid C. Open D. Isolated
7	$\Delta G = 0$ indicates	A. Equilibrium B. Spontaneity C. Non Spontaneity D. Irreversibility
8	The standard enthalpy of atomization of an element is always.	A. Negative B. Positive C. Zero D. Depend on element
9	An increase in entropy favors	A. Non spontaneity B. Disorder C. Order D. Equilibrium
10	ΔH is negative and ΔS is positive then reaction is.	A. Equilibrium B. Always spontaneous C. Temperature depends D. Non spontaneous
11	Energy stored in chemical bonds is.	A. Potential energy B. Kinetic energy C. Heat energy D. Radiant energy
12	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
13	What type of reaction has a negative ΔH and ΔS ?	A. Always spontaneous B. Never spontaneous C. Spontaneous at low temp D. Spontaneous at high temp
14	Which of the following is used to measure heat changes.	A. Calorimeter B. Voltmeter C. Thermometer D. Barometer

15	The standard enthalpy of formation of elements in their standard state is	B. -1 C. 1 D. 25
16	If a chemical reaction has $\Delta H = -100 \text{ kJ/mol}$, it is	A. Exothermic B. Endothermic C. Isothermal D. Isobaric
17	When a bond is formed	A. Energy is absorbed B. Energy is released C. ΔH is always zero D. No energy change
18	Which gas has highest molar enthalpy of combustion	A. C_2H_2 B. CH_4 C. H_2 D. CO
19	Enthalpy change in hydration depends on.	A. Charge B. Ion size C. Solvent nature D. All of these
20	The sign of ΔH during melting is.	A. Negative B. Positive C. Zero D. Can't be predicted