

Chemical Energetics

Sr	Questions	Answers Choice
1	When a bond is formed	A. Energy is absorbed B. Energy is released C. Delta H is always zero D. No energy change
2	Enthalpy of neutralization of strong acid an strong base is approximately	A. +57.3 kJ/mol B. -57.3 kJ/mol C. 0 D. +5.73 kJ/mol
3	Enthalpy of fusion is the heat required to.	A. Melt a solid B. Boil a liquid C. Freez a liquid D. Vaporize a solid
4	Which factor affects lattice energy	A. Ion size B. Ion charge C. Crystal structure D. None of these
5	Enthalpy change in hydration depends on.	A. Charge B. Ion size C. Solvent nature D. All of these
6	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 positive ways of arrangement of molecules will be	A. 100 B. 1/100 C. 2/100 D. 1/2
7	A process with increase in entropy and enthalpy is spontaneous at.	A. High temperature B. Low temperature C. All temperature D. never spontaneous
8	$\Delta G = 0$ indicates	A. Equilibrium B. Spontaneity C. Non Spontaneity D. Irreversibility
9	The change in internal energy is zero is.	A. Isothermal process B. Adiabatic process C. Exothermic process D. Endothermic process
10	The system that exchanges heat but not mass	A. Closed B. Rigid C. Open D. Isolated
11	The SI unit of enthalpy	A. Calorie B. eV C. kJ mol^{-1} D. J mol^{-1}
12	Heat of combustion of H_2 is used to determine	A. Calorific value B. Enthalpy C. Ionization energy D. Lattice energy
13	Delta H is negative and Delta S is positive then reaction is.	A. Equilibrium B. Always spontaneous C. Temperature depends D. Non spontaneous
14	The standard enthalpy of atomization of an element is always.	A. Negative B. Positive C. Zero D. Depend on element
15	The enthalpy change for a reaction depends on.	A. Pathway taken from reactants to products B. Presence of a catalyst C. Initial and final states of the

reactants and products
D. Rate of the reaction

16 In an exothermic reaction, the energy of products is
A. Greater than reactants
B. Less than reactants
C. Equal to reactants
D. Zero

17 Standard condition include all except
A. 298 K
B. 0 °C
C. 1 atm
D. 1 M concentration

18 Which step in the Born-Haber cycle is always endothermic
A. Sublimation
B. Electron gain enthalpy
C. Hydration
D. Lattice formation

19 If a chemical reaction has $\Delta H = -100 \text{ kJ/mol}$, it is
A. Exothermic
B. Endothermic
C. Isothermal
D. Isobaric

20 Which of the following is always negative in an exothermic reaction.
A. ΔH
B. Activation energy
C. Entropy
D. ΔS