

Chemical Energetics

Sr	Questions	Answers Choice
1	Enthalpy change of a process is measured under	A. Constant volume B. Constant pressure C. Constant temperature D. Constant Energy
2	Which of the following is always negative in an exothermic reaction.	A. Delta H B. Activation energy C. Entropy D. Delta S
3	A negative lattice energy temperature	A. Bond breaking B. Energy released C. Formation of covalent bond D. Spontaneity
4	Delta H is negative and Delta S is positive then reaction is.	A. Equilibrium B. Always spontaneous C. Temperature depends D. Non spontaneous
5	An increase in entropy favors	A. Non spontaneity B. Disorder C. Order D. Equilibrium
6	A process with increase in entropy and enthalpy is spontaneous at.	A. High temperature B. Low temperature C. All temperature D. never spontaneous
7	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
8	If a chemical reaction has Delta H = -100 kJ/mol, it is.	A. Endothermic B. Exothermic C. Isothermal D. Isobaric
9	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
10	Which of the following is used to measure heat changes.	A. Calorimeter B. Voltmeter C. Thermometer D. Barometer
11	Which step in the Born-Haber cycle is always endothermic	A. Sublimation B. Electron gain enthalpy C. Hydration D. Lattice formation
12	Which factor affects lattice energy	A. Ion size B. Ion charge C. Crystal structure D. None of these
13	Which of the following factors would lead to a greater enthalpy change of hydration .	A. A larger ionic radius and a smaller charge B. A smaller ionic radius and a smaller charge C. A larger ionic radius and a larger charge D. A smaller ionic radius and a larger charge
14	$\Delta G = 0$ indicates	A. Equilibrium B. Spontaneity C. Non Spontaneity

15 What type of reaction has a negative Delta H and Delta S?

A. Always spontaneous
B. Never spontaneous
C. Spontaneous at low temp
D. Spontaneous at high temp

16 The energy required to break a chemical bond is called.

A. Ionization energy
B. Bond energy
C. Enthalpy
D. Activation energy

17 Standard enthalpy change refers to

A. STP
B. 25 oC and 1 atm
C. 100 oC
D. 0 oC and 1 atm

18 The system that exchanges heat but not mass

A. Closed
B. Rigid
C. Open
D. Isolated

19 Enthalpy of fusion is the heat required to.

A. Melt a solid
B. Boil a liquid
C. Freeze a liquid
D. Vaporize a solid

20 Which gas has highest molar enthalpy of combustion

A. C₂H₂
B. CH₄
C. H₂
D. CO
