Chemical Energetics

Sr	Questions	Answers Choice
1	A process with increase in entropy and enthalpy is spontaneous at.	A. High temperature B. Low temperature C. All temperature D. never spontaneous
2	Ion an exothermic reaction , the nergy of products is	A. Greater than reactants B. Less than reactants C. Equal to reactants D. Zero
3	Which of the following causes entropy to increases	A. Condensation B. Freezing C. Evaporation D. Crystallization
4	The enthalpy of solution is	A. Heat evolved /absorbed when 1 mole of solute dissolves B. Solute dissolves C. Always exothermic D. always endothermic
5	Enthalpy change in hydration depends on.	A. Charge B. Ion size C. Solvent nature D. All of these
6	If the pH of solution is 11, what is the [OH-]concentratio in the solution.	A. 1 x 10⁻³ M B. 1 x 10⁻¹¹ M C. 1 x 10⁻² M D. 1 x 10^{-14 M}
7	Which of the following is used to measure heat changes.	A. Calorimeter B. Voltmeter C. Thermometer D. Barometer
8	Which of the following is always negative in an exothermic reaction.	A. Delta H B. Activation energy C. Entropy D. Delta S
9	Born Haber cycle is used to calculate	A. Bond energy B. Heat of hydration C. Lattice energy D. Ionization energy
10	When a bond is formed	A. Energy is absorbed B. Energy is released C. Delta H is always zero D. No energy change
11	The system that exchanges heat but not mass	A. Closed B. Rigid C. Open D. Isolated
12	Heat of combustion of H2 is used to determine	A. Calorific value B. Enthalpy C. Ionization energy D. Lattice energy
13	Which of the followng factors would lead to a greater enthalpy chage of hydration .	A. A larger ionic reduis 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 alarger charge
14	If a chemcial reactio has Delta H = -100 kj/mol, it is	A. Exothermic B. Endothermic C. Isothermal D. Isobaric

15	Which gas has highest molar enthalpy of combustion	A. C_2H_2 B. CH_4 C. H_2 D. CO
16	What type of reation has a negative Delta H and Delta S?	A. Always spntaneous B. Never spontaneous C. Spontaneous at low temp D. Spontaneous at high temp
17	Which of the following has maximum heat capacity	A. Water B. Mercury C. Ethanol D. Iron
18	Delta H for an endothermic reaction is	A. Positive B. Negative C. Zero D. Depends on temperature
19	The calorie content of food, often expressed in Calories (keal), is fundamentally related to which thermodynamic quantity during its metabolism or combustion.	A. Enthealpy change B. Entropy change C. Gibbs free engnergy change D. Specific heat capacity
20	Delta H = q at constant	A. Pressure B. Energy C. Volume D. Temperature