CHEMISTRY-11	Chapter#07-Second Half (7.4.1 – 7.5.1) Test-3		
	Name:	Class:	ID:
Date: / /	**Marks Total: 30**	**Marks Obtained:**	
Time Allowed: 50 Min.			

Maximum Marks: 10 **(OBJECTIVE TYPE)** Time Allowed: 10 Min.

NOTE: Tick The Correct Option:

1) In endothermic reaction, the heat content of the:
(a) Products is more than that of reactants (b) Reactants is more than that of products
(c) Reactants and products are equal (d) Both 'b' & 'c'

2) The pressure of oxygen inside the bomb calorimeter is:
(a) 100 atm (b) 50 atm (c) 25 atm (d) 20 atm

3) The enthalpy of atomization of hydrogen is 218 kJmole^{-1}. This is actually the energy required to break the _____ number of bonds in H_2 molecules.
(a) N_A (b) $2N_A$ (c) $\frac{1}{2}N_A$ (d) One

4) How much heat will be released during this reaction? $H_2SO_4 + 2NaOH \rightarrow Na_2SO_4 + 2H_2O$
(a) -57.4 k Cal (b) -57.4 kJ (c) -114.8 k Cal (d) -114.8 kJ

5) The amount of heat required to raise the temperature of a system by 1^{0}C or 1K is called:
(a) Specific heat (b) Heat capacity (c) Molar specific heat (d) All

6) Which enthalpy change cannot be measured directly?
(a) Enthalpy of formation of CO_2 (b) Enthalpy of combustion of CO
(c) Enthalpy of formation of CO (d) Both 'b' & 'c'

7) Hess's law is an application of:
(a) Law of conservation of matter (b) First law of thermodynamics
(c) Law of conservation of energy (d) Both 'b' & 'c'

8) According to Hess's law of constant heat summation, the overall enthalpy change in a cyclic process is:
(a) Zero (b) Unity (c) Constant (d) All

9) Which one is correct with respect to NaCl?
(a) $\Delta H^\circ_f = \Delta H^\circ_{latt}$ (b) $\Delta H^\circ_f < \Delta H^\circ_{latt}$ (c) $\Delta H^\circ_f > \Delta H^\circ_{latt}$ (d) None

10) Enthalpy of combustion of graphite is -393.51 kJ mol^{-1} while that of diamond is -395.41 kJ mol^{-1}. Can you guess from the above data, the following reaction (Graphite ⟶ Diamond) will be endothermic or exothermic?
(a) Endothermic (b) Exothermic (c) Both 'a' & 'b' (d) None

Maximum Marks: 24 **(SUBJECTIVE TYPE)** Time Allowed: 50 Min.

SECTION-I

Q.2: Give brief answers to the following questions: (16)

i. Why is it necessary to mention the physical states of reactants and products in a thermochemical reaction?

ii. Define enthalpy of combustion with example.

iii. How do we determine ΔH in the laboratory for food and fuel etc.

iv. Differentiate between specific heat and heat capacity.

v. Why can the enthalpy of formation of Al_2O_3/B_2O_3 not be measured directly?

vi. State Hess's law of constant heat summation.

SECTION-II

NOTE: Attempt All Questions: **(08)**

Q.3: Explain standard enthalpy of neutralization.

Q.4: Define lattice energy and Born-Haber cycle. How lattice energy is measured by Born-Haber cycle? Write equations for different enthalpy changes in the formation of NaCl.