CHEMISTRY-11	Chapter#07(Complete) Test-5		
	Name:	Class:	ID:
Date: / /	**Marks Total: 40**	**Marks Obtained:**	
Time Allowed: 75 Min.			

Maximum Marks: 08 **(OBJECTIVE TYPE)** Time Allowed: 10 Min.

NOTE: Tick The Correct Option:

1) The change in heat energy of a chemical reaction at constant temperature and pressure is called:

(a) Enthalpy change (b) Heat of sublimation
(c) Bond energy (d) Internal energy change

2) In endothermic reaction, ΔH is taken as:

(a) Positive (b) Zero (c) Negative (d) May be any value

3) When the temperature of the system falls or the system cools, the reaction is:

(a) Exothermic (b) Endothermic (c) Both (d) None

4) **A spontaneous process is:**

(a) Unidirectional (b) Real (c) Irreversible (d) All

5) Energy is transferred between the system and the surroundings in the form of:

(a) Temperature (b) Heat (c) Work (d) Both 'b' & 'c'

6) First law of thermodynamics is also called law of conservation of:

(a) Mass (b) Energy (c) Momentum (d) Both 'a' & 'b'

7) Born-Haber cycle helps us to calculate the _____ of binary ionic compounds.

(a) Bond energies (b) Hydration energies
(c) Lattice energies (d) Formation enthalpies

8) Enthalpy of combustion of graphite is -393.51 kJ mol^{-1} while that of diamond is -395.41 kJ mol^{-1}. Can you guess which one is more stable?

(a) Diamond (b) Graphite (c) Both 'a' & 'b' (d) None

Maximum Marks: 32 **(SUBJECTIVE TYPE)** Time Allowed: 65 Min.

SECTION-I

Q.2: Give brief answers to the following questions: (20)

i. What is a non-spontaneous process? OR What type of reactions are non-spontaneous? Give examples.

ii. Define system and surroundings with suitable example.

iii. The total energy of a system is the sum of translational, rotational and vibrational motions. Justify.

iv. What is the mathematical relationship between heat and temperature?

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

vi. Enthalpy of neutralization is merely the heat of formation of one mole of liquid water. Comment.

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

viii. Differentiate between specific heat and heat capacity.

ix. Why can the enthalpy of formation of Al_2O_3 not be measured directly?

x. Define Born-Haber cycle and lattice energy.

SECTION-II

NOTE: Attempt All Questions: **(12)**

Q.3: Differentiate between exothermic and endothermic reactions with examples.

Q.4: Describe the measurement of enthalpy of reaction by bomb calorimeter.

Q.6: State and explain Hess's law of constant heat summation with an example.