

CHEMISTRY-11	Chapter#07(Complete) Test-4		
	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) 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) Both 'a' & 'b'
 - (d) Reactants and products are equal
- 2) Which is not a state function?
 - (a) Energy
 - (b) Heat
 - (c) Temperature
 - (d) Volume
- 3) For the reaction: $H^+ + OH^- \longrightarrow H_2O$, the change in enthalpy is called heat of:
 - (a) Reaction
 - (b) Combustion
 - (c) Solution
 - (d) Neutralization
- 4) The enthalpy of formation of CO_2 is:
 - (a) $-393.7 \text{ kJmol}^{-1}$
 - (b) -41.6 kJmol^{-1}
 - (c) $-285.58 \text{ kJmol}^{-1}$
 - (d) $+180.51 \text{ kJmol}^{-1}$
- 5) Thermochemistry is based on:
 - (a) Law of conservation of mass
 - (b) First law of thermochemistry
 - (c) Law of definite proportions
 - (d) First law of thermodynamics
- 6) A tri-atomic molecule shows _____ motion.
 - (a) Only translational
 - (b) Translational and vibrational
 - (c) Translational, vibrational and rotational
 - (d) None
- 7) 25°C is the standard temperature in:
 - (a) Thermochemistry
 - (b) Thermodynamics
 - (c) Electrochemistry
 - (d) All
- 8) The specific heat of water is:
 - (a) $4.2 \text{ JK}^{-1} \text{ mol}^{-1}$
 - (b) $4.2 \text{ J K}^{-1} \text{ g}^{-1}$
 - (c) 4.2 J K^{-1}
 - (d) $4.2 \text{ kJK}^{-1}\text{g}^{-1}$
 - (a) Endothermic
 - (b) Exothermic
 - (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. Define thermochemistry. Why is its scope limited?
- ii. A non-spontaneous process never happens in the universe. Justify.
- iii. Prove that $\Delta H = \Delta E + P\Delta V$.
- iv. Why $\Delta H = \Delta E$ for liquids and solids? OR Why ΔH and ΔE have same values for the reactions taking place in solid or liquid states?
- v. Define enthalpy of reaction, can it be negative? Why?
- vi. Define standard enthalpy of formation.
- vii. What is meant by standard enthalpy of neutralization?
- viii. Define standard enthalpy of solution. Give examples.
- ix. Differentiate between specific heat and heat capacity.
- x. Why can the enthalpy of formation of CO not be measured directly?

SECTION-II

NOTE: Attempt All Questions:

(12)

Q.3: Differentiate between spontaneous and non-spontaneous reactions with examples.

Q.4: State first law of thermodynamics? How does it explain that $\Delta H = q_p$.

Q.5: 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.