

Avinashilingam Institute for Home Science and Higher Education for Women

Coimbatore-641 043

Bachelor's Degree Examination – November - 2017

III Semester

Class: II UG

Time: 3 hours

Major : Chemistry

Max. Marks: 100

15 BCHC 08 – Thermodynamics –I and solid state chemistry

Part-A

10x1=10

Choose the correct answer

1. A process which proceeds infinitesimally slowly is called
a. irreversible b. reversible c. isothermal d. adiabatic
2. A system in which no thermal energy passes into or out of the system is called
a. an open system b. a closed system c. a reversible system
d. adiabatic system
3. First law of thermodynamics is the law of
a. entropy b. free energy c. conservation of energy d. heat and work
4. Enthalpy is represented by the symbol
a. S b. G c. A d. H
5. The branch of chemistry which deals with the heat changes caused by chemical reaction is called
a. thermodynamics b. thermal chemistry c. thermochemistry d. electro chemistry
6. Bomb calorimeter was devised by
a. Berthelot b. Brownian c. Hess's d. Grignard
7. The crystal structure of CsCl is
a. Simple cubic b. FCC c. Tetragonal d. BCC
8. Miller indices in a crystal indicate
a. designation of planes in crystals b. intercepts of plane on X-axis
c. reciprocals of fractional intercepts of that plane on various axes
d. none of the above
9. "It is only the absorbed eight radiations that are effective in producing a chemical reaction?"
This is the statement of
a. Lambert Law b. Lambert-Beer Law c. Grothus-Draper law d. Stark-Einstein law
10. A species which can both absorb and transfer radiant energy for activation of reactant molecule is called,
a. an ionizer b. a photosensitizer c. a photochemical substance
d. a radio active substance

Part-B

5X6=30

Answer the following

Answer should not exceed 400 words or two pages

- 11.a. State and explain different types of systems with examples.
(or)
- 11.b. Explain (i) exact differential and inexact differential. (3)
(ii) state function and path function (3)
- 12.a. State and explain first and zeroth law of thermodynamics.
(or)
- 12.b. What is Joule-Thomson effect? Discuss about Joule-Thomson experiment.
- 13.a. What is mean by bond energy? Explain how heat of reaction of a compound can be calculated from bond energy data.
(or)
- 13.b. State and explain Hess's law of constant heat summation. Give its applications.

