

Rayat ShikshanSantha's
Rajarshi Chhatrapati Shahu College, Kolhapur
B.Sc. (Part-III ,Sem-VI) Preliminary Examination(2019-20)
Subject: Physical Chemistry P-XIII

Instructions: All questions are compulsory
Figure to right indicate full marks.
Draw a neat labelled diagram whenever necessary.
Use of scientific calculator is allowed.

Marks: 40

Q1.A) Select the most correct alternative

(08)

- 1) [111] Plane Of a crystal is called as plane .
a) Cubic b)diagonal c) cube diagonal d)none of these .
- 2) are the reciprocal of Weiss indices.
a) Miller indices b) Weiss indices c) simple d) none of these.
- 3) A decrease of free energy accompanying reaction gives
a) non mechanical work b) free energy c) both a and b d) none of these
- 4) At equilibrium , the free energy change is
a)Zero b) One c)Two d) Three
- 5)Solid which exhibits a regularity in the arrangement of structural units are called solids.
a) amorphous b) crystalline c)both a and b d)none of these
- 6)The reaction which gives maximum amount of product is known as Reaction
a) main b) major c) chain d)consecutive
- 7) Reaction in which the product of chemical change react to form the original reactants are known asreactions.
a) Parallel b) chain c)opposing d)side
- 8) The variation of melting point of reaction with pressure is given by
a)Arrhenius equation b) Kirchoff's equation c) ClapeyronClausius equation d) All of these.

Q.2) Answer the following (Any Two)

(20)

- 1)Derive thermodynamically the law of mass action
- 2)Derive Bragg's equation with neat labelled
- 3) What are reversible reaction ? Derive an expression for rate constant of the following reversible reaction of first order.

Q.3) Write a short note (Any Three)

(12)

- 1)Laws of crystallography.
- 2)GibbsDuhem equation
- 3)Gibbs Helmholtz equation.
- 4)Consecutive reaction
- 5)Parallel reaction.