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B.Sc.(SEMESTER - V)
PHYSICAL CHEMISTRY
US05CCHE06
INTERNAL EXAMINATION

Date : 10.10.2019   **Time : 11:00 am to 12:15 pm**

Q- 1 Choose one most appropriate response out of four provided to you.   **(05)**

(i) In silver-lead system, the composition at the eutectic point is

   (a) 4.4% Ag,95.6% Pb   (b) 3.6% Ag,96.4% Pb   (c) 2.6% Ag,97.4% Pb   (d) 2.4% Ag,97.6% Pb

(ii) Eutectic point of a system and triple point are

   (a) identical   (b) different   (c) always the same   (d) both zero variant

(iii) Chromatography is a technique used for

   (a) separation (b) purification (c) identification of components of a mixture (d) all of these

(iv) In chemisorption the forces associated are:

   (a) ionic   (b) van der Waal's   (c) covalent   (d) H- bonding

(v) The current due to the electrostatic force of attraction between the ion and electrode is

   known as _____ current.

   (a) diffusion   (b) capacitive   (c) migration   (d) charging

Q- 2 Describe the phase diagram of sulphur system.   **(05)**

OR

Q- 2 Derive Gibbs phase rule thermodynamically.   **(05)**

Q- 3 Differentiate between physical adsorption and chemical adsorption.   **(05)**

OR

Q- 3 Derive Langmuir equation of adsorption isotherm and write down its limitations.   **(05)**

Q- 4 Write basic principles of GC and draw labeled block diagram of GC.   **(05)**

OR

Q- 4 Explain any two detectors of gas chromatography in detail.   **(05)**

Q- 5 Define half wave potential. Show that the ions can be identified from the measurements of

   half wave potential polarographically.   **(05)**

OR

Q- 5 Write a note on direct comparison method and absolute method.   **(05)**