

Code: 9ABS103

R09

B.Tech I Year (R09) Supplementary Examinations December/January 2015/2016

ENGINEERING CHEMISTRY

(Common to all branches)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 Write a note on the following:
 - (a) Merits of Ion exchange resins.
 - (b) Significance of calcium carbonate equivalent.
 - (c) Importance of EDTA titration.

- 2
 - (a) Explain sacrificial anodic protection and impressed current cathodic protection methods
 - (b) Write a note on anodic and cathodic inhibitors.

- 3
 - (a) Define vulcanization. How does it improve the properties of natural rubber?
 - (b) Write Preparation, properties and important applications of Teflon.

- 4 What is meant by binary explosive? Write any four explosives with % composition.

- 5
 - (a) Distinguish between Hydrogen-Oxygen and Methanol-Oxygen fuel cells.
 - (b) Write the applications of Ni-Cd batteries.

- 6
 - (a) Draw Well-labelled phase diagram of Pb-Ag system.
 - (b) Determine the number of phases, components and degrees of freedom in the system: ice, water and water vapour in equilibrium.

- 7
 - (a) Why and how corrections are made in determination of calorific value by Bomb's calorimeter.
 - (b) Calculate the volume of air required for the complete combustion of five liters of carbon monoxide, percentage of oxygen in air = 21.

- 8
 - (a) Write a note on any three types of common refractories.
 - (b) How does porosity affect refractoriness of a refractory? Explain.
