Green University of Bangladesh

Faculty of Science and Engineering

Department of Computer Science and Engineering

Program: B.Sc. Engg. in CSE

Class Test-2, Spring 2022 Semester

CHE 101, Chemistry

Section: DA; Shift: DAY; Batch ID: 212(pc)

1. Aqueous copper (II) sulfate is using copper electrodes.(a) The positive electrode decreases in mass. Why?(b) The negative electrode increases in mass. Why?Write an ionic equation, including state symbols, for the reaction at the positive & negative electrodes. [3.0]
2. How many milliliters of water should be added to 500 mL 0.05 M NaOHsolution to dilute it to a 0.02 M solution? [3.0]
3. Determine the molality of a solution containing 86.53 g of sodium carbonate (mol mass =105.99) per litre in water at 20°C. The density of the solution at this temperature is 1.0816 g ml–1. [3.0]
4. Develop an electrochemical cell by using dilute sulfuric acid as electrolyte and copper & zinc as a cathode & anode respectively with mechanism. [3.0]
5. Explain why on addition of 1 mol of NaCl to 1 litre of water, the boiling point of water increases, while addition of 1 mol of methyl alcohol to one litre of water decreases its boiling point. [3.0]