

Applied Chemistry (AC-102)
Assignment 2
Due Date: April 28, 2017 (11:59 PM)
Format Accepted: Handwritten

Q1: Discuss the mechanism of cationic polymerization using a suitable monomer.

Q2: Write a short note on Coordination Polymerization.

Q3: A polymer has been found to possess the population of various molecules as follows:

- (i) 10 molecules of molecular mass each 20000.
- (ii) 20 molecules of molecular mass each 24000.
- (iii) 40 molecules of molecular mass each 40000.
- (iv) 40 molecules of molecular mass each 60000.
- (v) 20 molecules of molecular mass each 100000.

Calculate its Number Average Molecular weight, Weight Average Molecular weight and P.D.I.

Q4: List and explain 10 important properties of batteries.

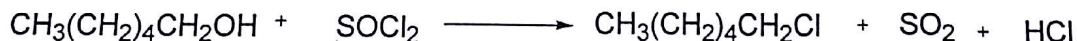
Q5: Write detailed notes on:

- a) Fuel Cells
- b) Lithium Batteries
- c) Electroplating.

Q6: Explain the phase diagram of a two-component Cu-Ni system.

Q7: What is Green Chemistry? Discuss the principles of Green chemistry with suitable examples.

Q8: 1-chlorohexane can be prepared by the following substitution reaction:



Calculate the % atom economy for the synthesis of 1-chlorohexane.

Q9: (a) How will you distinguish n-pentane, 2-methyl butane, and neopentane using mass spectrometry? Explain.

(b) How will you distinguish propanone and propanol using NMR spectroscopy? Explain.

Q 10. Draw the phase diagram of sulphur and mark the curve showing solid-solid transformation.
