

## Answer Sheet for CHE654 Homework Set #2 (100 Points)

**Note:** For all problems, submit a copy of your process flow diagram and a copy of your input summary of the process.

### 17. (30 points) *Simulation of Benzene Production Using ASPEN PLUS*

Flow rate of benzene product stream = \_\_\_\_\_ lbmol/hr

Purity of benzene in the product stream = \_\_\_\_\_ mole%

Required area in the heat exchanger = \_\_\_\_\_ ft<sup>2</sup>

### 18. (40 points) *Producing Cyclohexane from Benzene-Water Waste*

The purity (mole%) of cyclohexane:

Before the treatment unit = \_\_\_\_\_ After the treatment unit = \_\_\_\_\_

The required heat transfer area in the cooler = \_\_\_\_\_ ft<sup>2</sup>

The temperature of the organic stream:

Before entering the cooler = \_\_\_\_\_ °F, After exiting the cooler = \_\_\_\_\_

### 19. (30 points) *Simulating an Allyl-Chloride Production Process with ASPEN PLUS*

Overall fractional conversion of chlorine = \_\_\_\_\_

Allyl chloride product purity (mole%) = \_\_\_\_\_