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COLLEGE OF ENGINEERING

DEPARTMENT OF CHEMICAL AND PETROLEUM ENGINEERING B.ENG. CHEMICAL ENGINEERING PROGRAMME

Computer Applications in Chemical Engineering II (CHE 471) Assignment IV

*Given Date: 11/11/2018
Submission Date: 17/11/2018*

PROBLEM STATEMENT

An equimolar gas mixture flowing at 5 kmol/hr and containing air and hydrogen sulphide is brought into contact with water flowing at a rate of 2500 kmol/hr in an absorption column. The absorber has 15 trays. Water enters the column from the top and the gas feed enters from the bottom at 298 K and 1 atm. With the aid of Aspen HYSYS, model and simulate the absorber using UNIQUAC model for property estimation. Report the molar compositions of the top and the bottom output streams of the absorption column. Also, plot the molar density and viscosity profiles of the liquid phase of the system.