THADOMAL SHAHANI ENGINEERING COLLEGE

F.E. SEM – II (2021-22)
Engineering Chemistry - II

ASSIGNMENT - I (FUELS)

1. **2 g coal sample was burnt in the combustion tube. The increase in the weight of $CaCl_2$ tube and Potash bulb was found to be 1.3 g and 4.05 g respectively. Calculate % of Carbon and Hydrogen in coal sample.**

2. **1.5 g coal sample was analysed for nitrogen by Kjeldahl method. Liberated ammonia required 14 ml of 0.1 N H_2SO_4 for neutralisation. Calculate % of nitrogen in coal sample.**

3. **In a bomb calorimeter experiment 1.5 g coal sample produced 0.3 g of $BaSO_4$. Calculate the % of sulphur.**

4. **Calculate HCV and LCV from the results obtained in above (ex. 1, 2, 3) ultimate analysis.**

5. **Calculate % of Hydrogen in coal sample from following details of coal analysis:**
   % C = 66, % O = 24, % N = 0.8, % S = 1.5, % Ash = 0.2, NCV = 5327.58 kcal/ kg.