**Centurion University of Technology and Management, Paralakhemundi**

**Sub- Transformer Manufacturing (Domain)**

**Assignment 1**

1. A 400 kVA 1 1/0.415 kV 3-ph delta/star-connected transformer has on rated load an h.v. I2R loss of 2.46 kW and l.v. loss of 1.95 kW. The total leakage reactance is 0.055 p.u. Find the ohmic values of resistance and leakage reactance.
2. A 300 kVA transformer has a core loss of 1.5 kW and a full load I2R loss of 4.5 kW. Calculate its efficiency for 25, 58 (maximum efficiency load), 75, 100 and 125% of rated load at power factors respectively of unity, 0.8 and 0.6.
3. The input voltage to a transformer is 440 V, and the output voltage is 11 kV. If the transformer has an efficiency of 98% and an output power of 1 MW, calculate the input current and the losses.
4. A power transformer has an efficiency of 97% and an output power of 1000 kVA. Determine the input power and losses.
5. The input power to a transformer is 10 MW, and the efficiency is 97%. Determine the output power and losses.