

## Simulation assignment -

A 400 V, 50 Hz wound-rotor induction motor has the following circuit model parameters:

$$R_1 = 0.3\Omega, \quad R'_2 = 0.25\Omega$$

$$X_1 = X'_2 = 0.6\Omega \text{ and } X_m = 1500\Omega$$

- Plot the torque-slip characteristics for the given motor at rated voltage.
- Plot the torque-slip characteristics for the stator voltage 100 V, 200 V, 300 V, 400 V.
- Plot the torque-slip characteristics when the frequency of the supply voltage is 40 Hz, 50 Hz, and 60 Hz.
- Plot the torque-slip characteristics when the rotor resistance ( $R'_2$ ) is increased to 0.30 $\Omega$ , 0.5 $\Omega$ , 0.8 $\Omega$  using variable resistors in series with the rotor windings.