EE 8353 Electrical Drives and Control

Important 13mark questions

Unit I

1. Draw the typical temperature rise-time curve and derive the equation for temperature rise in an electric drive.
2. Explain heating and cooling curves of a motor and obtain the expression for maximum temperature attained.

Unit II

1. Derive the speed-torque characteristics of a DC shunt motor with suitable graph and equations.
2. Obtain the torque-slip characteristics of single phase induction motors.

Unit III

1. How are DC motors started? Draw and explain the four point starter used for a DC shunt motor.
2. Draw and explain the manual auto-transformer starter for three phase induction motor.

Unit IV

1. Demonstrate the operation of a semi converter fed DC shunt motor drive with relevant waveforms and draw the speed torque characteristics.
2. What are the factors controlling the motor speed? Discuss the various speed control methods used for DC series motors.

Unit V

1. Illustrate the static scherbius method of speed control of three phase induction motor.
2. Explain the working of variable frequency control of induction motor fed from voltage source inverter.