Roll No.												

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

SUMMER TERM / MAKE UP END TERM EXAMINATION

Semester: Summer Term 2019
Course Code: EEE 210
Course Name: Electrical Machines-II
Program & Sem: B.Tech & V Sem (2016 Batch)

Date: 27 July 2019
Time: 2 Hours
Max Marks: 80
Weightage: 40%

Instructions: ***Answer all questions in Part A, Part B and Part C***

Part A

Answer **both** Questions. **Each** question carries **ten** marks. (2Qx10M=20)

1. Explain no load and blocked rotor tests on 3 phase squirrel cage Induction motor with neat circuit diagram in brief.

2. A 110 V, 3 phase star connected induction motor takes 25 A at a line voltage of 30 V on blocked rotor test, power input at this voltage is 440 watts and core loss is 40 watts. Find the equivalent resistance, reactance and impedance of the motor.

Part B

Answer **all** the Questions. **Each** question carries **ten** marks. (3Qx10M=30)

3. Explain the procedural steps of constructing circle diagram for a 3 phase Induction motor.

4. Explain working of capacitor start Induction motor with relevant diagram.

5. What are the methods of speed control of 3 phase Induction motor? Explain speed control of Induction motor by changing applied voltage.

Part C

Answer **both** the Questions. (1Qx20M=20M, 1Qx10M=10M)

6. Draw the circle diagram for a 3.73 KW, 200 V, 50 Hz, 4 pole, 3 Phase star connected induction motor from the following data:

   No Load: Line voltage 200 V, line current 5A, total input 350 W

   Blocked rotor test: Line voltage 100V, line current 26 A, total input 1700W

   Estimate from the diagram for full load condition, the line current, power factor and also the maximum torque. The rotor Cu losses at standstill is half of the total Cu loss. (20 M)

7. Explain star delta starter for 3 phase induction motor. (10 M)