Code No. EE1912 **R14**

M. Tech II Semester Regular Examinations, September 2015

ELECTRIC DRIVES –II

(Power Electronics & Electric Drives)

Time : 3 Hours **Max. Marks : 60**

Note: Answer Any Five Questions. All Questions carry equal marks.

1. a) Explain steady state operation of an induction motor using relevant equations and characteristics (6M)
   b) Draw equivalent diagram of induction motor and discuss approximations and assumptions to arrive such an equivalent circuit. (6M)
2. a) Discuss speed control of an induction motor using voltage source inverter with neat circuit diagram and waveforms. (6M)
   b) Compare control of an induction motor with VSI and CSI. (6M)
3. a) Explain vector control of an induction motor (6M)
   b) Explain estimation of flux in voltage model in vector control in detail. (6M)
4. a) Explain unity power factor control of synchronous motor drive with suitable diagram. (6M)
   b) Explain load commutated inverter fed synchronous motor drive. (6M)
5. a) Discuss characteristics of permanent magnet synchronous machine (6M)
   b) Elucidate current control variable reluctance motor servo drive with suitable block diagram and its characteristics (6M)
6. a) Explain slip power recovery scheme in induction motor using block diagram and suitable waveforms. (6M)
   b) Discuss working of static Kramer drive (6M)
7. a) Explain working of three phase full wave BLDC motor drive (6M)
   b) Discuss in detail torque production in variable reluctance motor and its characteristics. (6M)
8. a) Explain constant torque angle control in synchronous motor drive. (6M)
   b) Discuss constant flux control in synchronous motor drive and its characteristics (6M)

*****