Code No: EE1912 **GEC-R14**

M. Tech II Semester Regular/Suppl. Examinations, July 2017

ELECTRIC DRIVES-II

(Power Electronics and Electric Drives)

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

Note: Answer any **FIVE** questions. All Questions carry equal Marks.

5 × 12 = 60M

1. Discuss in brief the current-Fed inverter control of induction motor for
   i) Volts/Hz control

   ii) efficiency optimization control by flux program. (12M)

2. Discuss the Voltage-fed inverter control of induction motor for

   i) speed control with slip regulation

   ii) speed control with torque and flux control. (12M)

3. Discuss the transient analysis of induction motor obtaining an expression for

   time required to start an induction motor on No load and hence the slip for maximum torque. (12M)

4. Discuss the principles of vector control and derivation of indirect vector control implementation. (12M)

5. Explain in brief control strategies of synchronous motor,

   i) Constant torque angle control

   ii) Power factor control. (12M)

6. Explain the load commutated inverter fed PMSM drive in motoring and regeneration. (12M)

7. Obtain the modeling of PM brushless DC motor along with their drive schemes. (12M)

8. a) Explain the operation of variable reluctance motor drive with inverter circuit with the help of neat circuit diagram. (6M)

   b) Explain the operation of current controlled variable reluctance servo motor drive. (6M)

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