

IV. a) Explain with neat sketch the working of CSI controlled induction motor of V.geA. What are its features ?
Name:
VIII Semester B.Tech. Degree (Supplementary – Including Part Time)  Examination, October 2014  (2007 Admn. Onwards)  PT 2K6/2K6 EE 802 : INDUSTRIAL ELECTRIC DRIVES
Time: 3 Hours and the bellotted ties a to material blook and history ballotted ties a 100
Instruction: Answer all questions.
1. a) Draw the block diagram of an electric drive.
b) What are the advantages of electric drives?
c) A fully controlled converter is feeding a separately excited d. c. motor. In which quadrant of torque-speed plane can the motor be operated? What are the requirements of such an operation?
d) Explain current limit control.
e) What are the features of a PWM inverter fed induction motor drive?
f) How induction motor speed control is achieved by using VSI?
g) Draw and explain the block diagram of a CSI fed synchronous motor drive.
h) Explain the principle of variable frequency control of synchronous motor drive. (8x5=40)
II. a) With the help of torque-speed coordinate explain the multiquadrant operation. 8
b) Brief the factors on which the choice of an electric drive depends.
OR

c) Explain the different classifications of load torque with examples.

d) Describe the phase locked loop control.

a) Draw and explain chopper control of a separately excited DC motor. Also derive the equation for armature current.

OR

b) Explain the closed loop armature control with field weakening for a DC motor. 15

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		What are its features?		15

## VIII Semester B.Tech. Degree (Supplementary - Including Part Time)

- b) Explain the slip power recovery scheme of speed control scheme for a 3 phase induction motor. Draw the block schematics of the scheme and bring out the characteristics of the converter used.
- V. a) Draw and explain the block diagram of a self controlled synchronous motor fed from a three phase inverter.

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## OR

b) With block diagram and flow chart explain the microprocessor based speed control of a synchronous motor.

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