

Code No: **R32025****R10****Set No. 1****III B.Tech II Semester Supplementary Examinations, November - 2017****POWER SEMICONDUCTOR DRIVES**

(Electrical and Electronics Engineering)

Time: 3 hours**Max. Marks: 75****Answer any FIVE Questions****All Questions carry equal marks**

- 1 a) Explain field and armature control methods of DC motor.
b) Explain the principle of synchronous motor.
- 2 a) Explain the working of single phase fully controlled converter connected to dc series motor.
b) Draw the speed torque characteristics of DC motor and obtain the relation between them.
- 3 Explain the principle and working of three phase semi controlled converter connected to separately excited motor.
- 4 a) Discuss the significance of electric braking and plugging.
b) Explain the four quadrant operation of dc motors by dual converters.
- 5 a) Draw the variable frequency characteristics of induction motor control.
b) With a neat sketch draw the block diagram closed loop induction motor and explain it.
- 6 a) Discuss about the variable frequency control of induction motor by voltage source inverter.
b) State the significance of PWM control.
- 7 a) Mention the applications of Static Scherbius drive.
b) State the performance of Static Kramer Drive.
- 8 a) Mention the difference between separate control and self-control of synchronous motor.
b) Discuss the advantages and disadvantages of pulse width modulation.
