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.

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- 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.
- 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.
