

TE MTRX / SEM-VI / CBSEGS / 28 / 5/2019

(3 Hours)

Total Marks: 80

N. B. 1) Question No. 1 is compulsory.

2) Answer any 3 questions from the remaining 5 questions.

3) Assume suitable data wherever necessary.

- Q1 (a) Explain any one forced commutation method 20  
(b) Compare IGBT AND SCR  
(c) Mention various triggering method and explain any one  
(d) Define holding current and latching current with respect SCR
- Q2 (a) Compare series and parallel inverter .Explain operation of parallel inverter with waveforms. 20  
(b) Explain the operation of John's chopper with waveform.
- Q3 (a) Describe a speed control scheme for DC motor with constant voltage and constant current control method. 20  
(b) Draw a circuit diagram of single phase full converter .Explain its inversion and rectification mode, with suitable waveforms.
- Q4 (a) Draw the circuit diagram of fan regulator using DIAC and TRIAC .Explain its operation 20  
(b) Draw schematic diagram for switched mode boost regulator with C filter. Explain its operation and derive expression for peak to peak ripple output voltage.
- Q5 (a) Derive the expression for output RMS and average voltages for semi converter rectifier. 20  
(b) Explain different types of commutation used in SCR.
- Q6 Write short note on (any four) 20  
a) Bridge inverter  
b) UJT relaxation oscillator

- c)  $dv/dt$  and  $di/dt$  rating of SCR
  - d) Characteristics of SCR
  - e) Step up chopper
  - f) Compare AC and DC drives
- 

muquestionpapers.com