

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

[2]

Roll No .....

**MEPS-301(C)**  
**M.E./M.Tech., III Semester**  
 Examination, November 2018  
**Power Controller**  
 (Elective-I)

Time : Three Hours

Maximum Marks: 70

- Note:** i) Attempt any five questions.  
 ii) All questions carry equal marks.

1. a) Draw and explain the VI characteristics of SCR, MOSFET. 7  
 b) Explain different protection techniques of SCR. 7
2. Explain operation of 3- $\phi$  bridge converter with freewheeling diode. 14
3. a) Write the differences between VSI and CSI. 7  
 b) Write short notes on resonant choppers. 7
4. With neat wave form explain 3- $\phi$  VSI for 120° mode of conduction. 14
5. a) Derive Average output voltage of 1-  $\phi$ -1- $\phi$  Cyclo converter. 7  
 b) Explain about power quality. 7

MEPS-301(C)

PTO

304

6. a) Explain different PWM techniques. 7  
 b) What is meant by heat sink? Explain with neat sketch. 7
7. a) Write detail notes on Resonant choppers. 7  
 b) Explain different power factor improvement techniques. 7
8. Write short notes.  
 a) Harmonic reduction techniques. 7  
 b) Series operation of SCR. 7

\*\*\*\*\*

MEPS-301(C)

305