

Roll No

MEPE - 104

M.E./M.Tech., I Semester

Examination, December 2016

Forced Commutation Circuits

Time : Three Hours

Maximum Marks : 70

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

1. Explain the operation of three phase bridge inverter in 120° mode with circuit diagram and draw the various voltage waveforms and also write the voltage equation for line and phase voltages. 14
2. Describe various methods for the control of output voltage of inverters in detail. 14
3. Discuss various techniques of Harmonics reduction in the inverter output voltage with the help of diagram. 14
4. Give the classification of chopper circuits. Explain the type E-chopper with the help of diagram and the operation on the quadrant diagram. 14
5. Explain the various configuration of switched mode power supplies with the help of block diagrams. 14

[2]

6. a) Explain induction heating with the help of diagram. Also give its industrial applications. 7
b) Explain high frequency sources used for fluorescent lamps. 7
7. Explain the various power supplies used for AC and DC drives. 14
8. Write short notes on any two of the following : 14
 - a) Safe operating area for SRM drive
 - b) Applications to dielectric heating.
 - c) Laser power supply
 - d) Ferro resonant
 - e) Phase sequence control
