

APJ Abdul Kalam Technological University
First Semester M. Tech Degree Examination, December 2015
Cluster: Kollam
Branch: ELECTRICAL ENGINEERING
Specialisation: POWER SYSTEMS
Subject: 02EE6241 SOLID STATE POWER CONVERTERS

Time: 3 Hrs

Max. Marks: 60

Instructions: *Answer All Questions from Part A.*
 Answer Two Full questions from Part B.

PART A

1. With a neat diagram and explain the single phase half and full wave ac regulators with R load. Also derive its voltage equations.
2. Explain the steady state analysis of buck converter in continuous mode of operation.
3. With a neat circuit diagram and waveform explain the operation of single phase half bridge and full bridge inverters .
4. Discuss about hysteresis control and PWM current control method.

(4 x 9=36)

PART B

(Answer any two question. Each question carry 12 marks)

5. Describe the working principle of voltage source series loaded resonant converters.
6. Discuss about resonant DC link inverters with zero voltage switchings.
7. Write short notes
 - (a) Analysis of ARCP phase leg.
 - (b) ZVS Resonant switch converters.