APJ Abdul Kalam Technological University

FirstSemester M. Tech Degree Examination, December2016

Cluster: **Kollam**

Branch:**ELECTRICAL AND ELECTRONICS ENGINEERING**

Specialisation: POWER SYSTEM

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. Illustrate the operation of single phase AC voltage controller using RL Load

2. Illustrate the operation of any two of the isolated dc-dc converters using bidirectional excitation.

3. Switched mode inverters are more preferred over square wave inverters for drive applications. Explain with an example.

4. Explain the working of a capacitor commutated single phase CSI feeding R Load.

(4 x 9=36)

PART B

5. (a) Explain parallel resonance and derive an equation for inductor current and capacitor voltage.

(b) Explain the operation of PLR converter in discontinuous mode.

6. (a) Explain ARCP phase leg.

(b) Explain ARCP phase leg three phase inverter

7. (a) Explain ZCS resonant Switch converter

(b) Explain resonant DC link inverter.

(2 x 12=24)

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