

D 30972

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Name.....

Reg. No.....

**FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION  
OCTOBER 2012**

AI 09 505—POWER ELECTRONICS

(2009 Schemes)

Maximum : 70 Marks

Time : Three Hours

**Part A**

*Answer all questions.*

1. Give *two* applications of power MOSFET.
2. State the significance of power factor.
3. Name *two* applications of controlled rectifiers.
4. Give the classification of Choppers.
5. State the working principle of IGBT.

(5 × 2 = 10 marks)

**Part B**

*Answer any four of the following questions.*

1. Briefly explain an application of TRIAC.
2. Explain the working principle of GTO.
3. Write a brief note on cycloconverters.
4. Explain the vector control of induction motors.
5. Explain the control of power electronic circuits using microprocessors with an example.
6. Define the terms load regulation and line regulation. Explain the types of UPS.

(4 × 5 = 20 marks)

**Part C**

*Answer any one of question from each module.*

1. Explain the working of SCR with its characteristics.

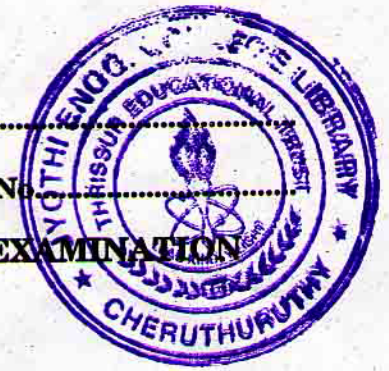
*Or*

2. (a) Explain the working of power MOSFET.  
(b) Explain the working of IGBT.

3. Explain the working of three phase convertor circuit. Explain a method for power factor improvement.

*Or*

**Turn over**



4. Explain the method of AC voltage controller circuits.
5. Explain the working of DC chopper.

*Or*

6. Explain the working of current source invertors.
7. Explain the working of switched mode power supply.

*Or*

8. (a) Explain the need for synchronization circuits.
- (b) Explain a simple drive circuit using power BJT.

(4 × 10 = 40 marks)