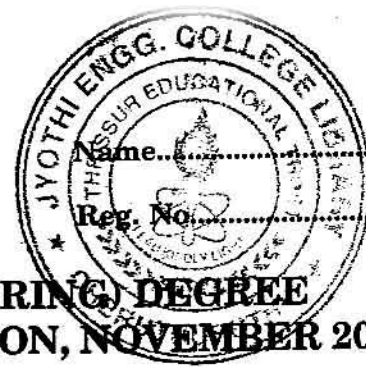


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**FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE
[REGULAR/SUPPLEMENTARY] EXAMINATION, NOVEMBER 2013**

AI 09 505 – POWER ELECTRONICS

Time : Three Hours

Maximum : 70 Marks

Part A

Answer all questions.

1. State the types of power diodes.
2. What is a power transistor?
3. What is a controlled rectifier?
4. State two applications of D.C. choppers.
5. Define Load regulation.

(5 × 2 = 10 marks)

Part B

Answer any four questions.

1. Write briefly on MCT.
2. Write notes on GTO.
3. Explain briefly the working of single phase converter.
4. Explain the working principle of a D.C. chopper.
5. Draw the block diagram of UPS and explain its types.
6. Draw a simple drive circuit using power MOSFET and explain.

(4 × 5 = 20 marks)

Part C

Answer all questions.

1. Explain the working of TRIAC with its characteristics.

Or

2. Explain the working of IGBT with its characteristics.

Turn over

3. (a) Explain a method for power factor improvement.
- (b) Write notes on cyclo converters.

Or

4. Explain the method of A.C. voltage controller circuits.
5. (a) Explain the working of MOSFET/IGBT chopper.
- (b) Explain the vector control of induction motors.

Or

6. Explain the working of any two types of inverters.
7. (a) Explain the working of buck boost regulator.
- (b) Explain the role of microcontrollers in the control of power electronic circuits.

Or

8. Explain the working of an isolation amplifier circuit and a synchronization circuit.

(4 × 10 = 40 marks)