

**Enrolment No:**

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LDRP INSTITUTE OF TECHNOLOGY AND RESEARCH, GANDHINAGAR  
DEPARTMENT OF ELECTRONICS AND COMMUNICATION  
B.E. 6<sup>th</sup> SEMESTER  
MID SEMESTER EXAMINATION - 2015**

**Subject Code: EC-603**

**Subject: Power Electronics**

**Date: 2<sup>nd</sup> March 2015**

**Branch: EC**

**Total Marks: 30**

**Time: 12:00 to 01:30 PM**

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**Instructions:** - All questions are compulsory.  
- Figures to the right indicate full marks.  
- Make suitable assumption, wherever necessary.

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**Que. 1      Answer the following question. (05)**

List out all turn on methods of SCR and explain any one in detail.

**Que. 2      Answer the following questions. (10)**

- A) Explain two transistor analogy and derive the equation of anode current.
- B) Explain class B commutation method with wave forms.

**OR**

**Que. 2      Answer the following questions. (10)**

- A) Explain single phase controlled rectifier with inductive load.
- B) Draw and explain VI characteristics of SCR.

**Que. 3      Answer the following questions. (15)**

- A) Explain IGBT in detail and compare it with SIT.
- B) Draw only block diagram of SMPS and UPS.

**OR**

**Que. 3      Answer the following questions. (15)**

- A) Explain protection circuit of SCR with Problems.
- B) Explain working principle of step down Chopper with wave forms.

\*\*\*\*\*Best of Luck\*\*\*\*\*