

**Roll No.**

**Total No. of Pages : 01**

**Total No. of Questions : 08**

**M.Tech.(Power System) (Sem.-2)**  
**ADVANCED POWER ELECTRONICS**  
**Subject Code : MTPS-205A**  
**M.Code : 71374**

**Time : 3 Hrs.**

**Max. Marks : 100**

**INSTRUCTION TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

1. Draw and explain V-I and dynamic characteristics of SCR.
2. What are causes for generation of heat in semiconductor devices and how is this heat transferred?
3. With the help of a neat diagram explain the structure and working of IGBT.
4. What do you mean by IGCT? How is it different from GTO? Explain its turn 'OFF' process.
5. Classify different types of Thyristor. Draw their symbols and characteristics.
6. What are Snubber circuits? If any power electronic device is operated without any Snubber circuit, what will be consequences?
7. Classify different drive circuits. Discuss about cascade connected drive circuits.
8. Write short notes on the following :
  - a) Safe operating area
  - b) Circuit layout consideration.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**