Assignment 1

1. Draw the structure, exact and simplified equivalent circuits of an IGBT.

2. Draw the turn-ON & turn-OFF switching waveforms of a power diode and state the requirements for fast soft-recovery diodes.

3. Draw the circuit diagram of a three-phase fully controlled bridge rectifier feeding a resistive load and sketch to **scale** the following waveforms:

(a) phase R, Y & B voltages

(b) output voltage

(c) output current