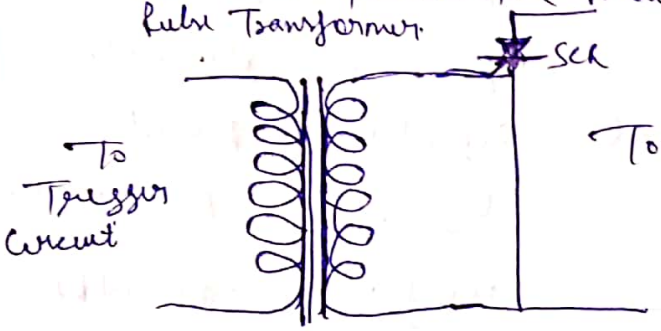
Qus 5:→ Write short Notes on (1) AC- triggering 2. Temperature triggering (3). dv/dt triggering (4) PIV

(1) AC Triggering :— This is the most commonly used method for AC application where the SCR is employed for such applications as a switching device. With the Power isolation between the power and control circuit the SCR is triggered by the phase shift AC voltage derived form the main supply

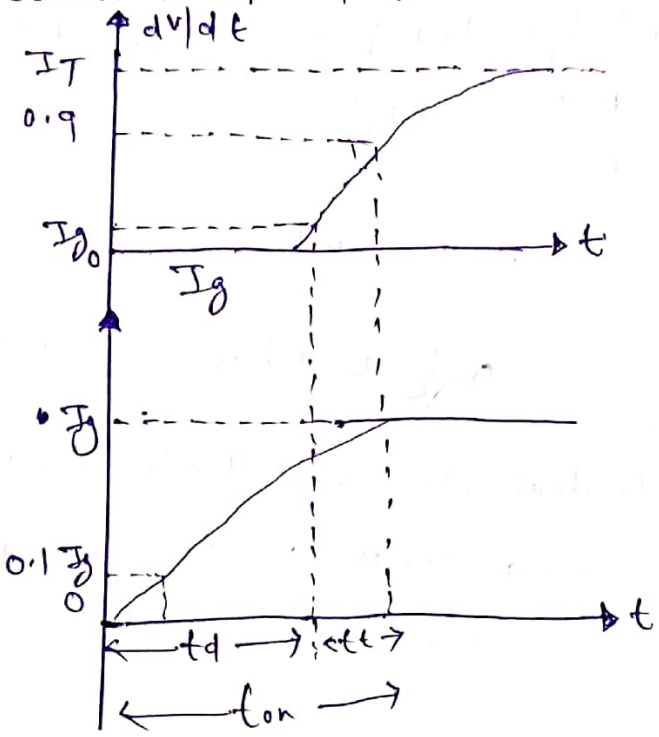


only one half of the cycle is available for the gate drive to control the firing angle. and next half of the cycle a reverse voltage is applied between the gate and cathode.

2:→ Temperature triggering :— of SCR's or thyristor occurs as the voltage across the Junction J_2 and any leakage current may raise the temperature of the Junction when the area is irradiated by light the charge carriers are generated and just like applying a gate Signal the SCR is triggered. This form of SCR Triggering may occur under some circumstances it may give rise to unexpected responses and therefore its effects should be noted as part of and design process.

(3) dv/dt triggering :→ SCR triggering can also occur.

without any gate current if the rate of rise of anode to cathode voltage exceeds certain limits for the particular device. The rate of high value of charging current may be destroy the thyristor hence the device must be protected against high dv/dt



When the thyristor is forward and a gate signal is injected. by applying positive gate voltage is applied b/w cathode and terminals then the thyristor is turned on.

4) PIV :- Peak inverse voltage (PIV). The maximum value of the reverse voltage that a PN junction or device can withstand without damaging itself is known as Peak inverse voltage. The rating of Peak inverse voltage (PIV) is given and described in the data sheet provided by the manufacturer. If the voltage coming across the junction at reverse bias condition increases beyond the specified value the junction