

**SARDAR PATEL UNIVERSITY**  
**Programme: B.Sc (Electronics)**  
**Semester: V**  
**Syllabus with effect from: June - 2013**

<b>Paper Code: US05CELE05</b>	<b>Total Credit: 3</b>
<b>Title of Paper: Industrial Electronics</b>	

Unit	Description in detail	Weightage (%)
I	Thyristor, symbolic Representation, principle of operation and characteristics, Methods of turning ON, Turn OFF mechanism, Device specifications and Rating.	<b>25%</b>
II	Gate Characteristics, Circuits for Gate Triggering, Series and parallel operation of SCRs, String Efficiency.	<b>25%</b>
III	Thyristor, Low Power devices, UJT, UJT Relaxation oscillator, UJT's Frequency stability, Triac, Triggering Mode, Phase control using Triac, Power control, Static circuit Breaker, Over voltage protection, Time Delay circuits, Logic circuits.	<b>25%</b>
IV	AC, DC, Stepper Motor, Inverters, Types of Inverters, Series and Parallel inverters, Single phase half bridge inverter, Single phase full bridge inverter .	<b>25%</b>

**Basic Text & Reference Books:**

- An introduction to Thyristor and their Applications By : M. Ramamoorthy
- Power electronics By: M.D.Singh and K.B.Khanchandani

