

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V • EXAMINATION – SUMMER • 2015****Subject code: 151703****Date: 07/05/2015****Subject Name: Electronics in Industries****Time: 02.30pm-05.00pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

**Q.1 (a)** What is Schottky diode? Explain its functioning, characteristics and compare it with p-n junction diode. **07**

**(b)** Discuss depletion type power MOSFET in detail. **07**

**Q.2 (a)** Discuss gate turn off thyristor in detail. **07**

**(b)** What is IGBT? Draw its symbol and construction. "IGBT is advantageous than BJTS and MOSFET" prove. **07**

**OR**

**(b)** Explain RCT in detail. **07**

**Q.3 (a)** List out and explain thyristor turn on methods. **07**

**(b)** Discuss UJT in detail. **07**

**OR**

**Q.3 (a)** How can we design UJT firing circuit? Explain in detail. **07**

**(b)** Discuss SBS and SUS. **07**

**Q.4 (a)** Discuss single phase half wave rectifier in detail. **07**

**(b)** Derive the formulas of efficiency, TUF and PIV of single phase half wave rectifier. **07**

**OR**

**Q.4 (a)** Explain single phase full wave bridge rectifier in detail. **07**

**(b)** Discuss single phase full wave bridge rectifier with resistive inductive load in detail. **07**

**Q.5 (a)** Discuss half wave controlled rectifier with resistive load in detail. **07**

**(b)** Discuss half wave controlled rectifier with resistive inductive load in detail. **07**

**OR**

**Q.5 (a)** Explain six phase half wave controlled rectifier in detail. **07**

**(b)** Explain six phase full wave controlled bridge rectifier in detail. **07**

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