

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V • EXAMINATION – WINTER • 2014****Subject Code: 151703****Date: 01-12-2014****Subject Name: Electronics in Industries****Time: 10.30 am - 01.00 pm****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 the basic construction and characteristics of a Fast Recovery Diode? Draw any application of Fast Recovery Diode. **07**
- (b)** What is the basic construction and characteristics of a Schottky Diode? Draw any application of Schottky Diode. **07**
- Q.2 (a)** What is HEXFET? Prepare a circuit showing its application. **07**
- (b)** Draw and explain construction and characteristics of a Gate Turn-off Thyristor. **07**
- OR**
- (b)** Draw and explain construction and characteristics of a Insulated Gate Bipolar Transistor. **07**
- Q.3 (a)** Discuss following methods to turn on a Thyristor. (a) dv/dt Turn-on (b) High Voltage Turn-on. **07**
- (b)** Draw and explain Dual Converter. **07**
- OR**
- Q.3 (a)** Prepare an application of a Silicon Unilateral Switch and discuss. **07**
- (b)** Prepare UJT Firing Circuit and listout its advantages and disadvantages. **07**
- Q.4 (a)** What is Complementary Unijunction Transistor? How does it differ with other devices used for firing circuit? **07**
- (b)** Prepare PUT Firing Circuit and listout its advantages and disadvantages **07**
- OR**
- Q.4 (a)** What are the differences in Voltage Commutation and Current Commutation circuit? Discuss their applications. **07**
- (b)** Prepare and explain Jones Commutation circuit. **07**
- Q.5 (a)** Draw and explain Three-Phase Twelve-Pulse Full-Wave Bridge Rectifier. **07**
- (b)** Why Reverse Conducting Thyristor is called multilayered device? Explain its characteristic and importance. **07**
- OR**
- Q.5 (a)** Draw and explain Full-Wave Bridge Rectifier with Resistive-Inductive Load. **07**
- (b)** What is a TRIAC? Draw one of its application and explain. **07**
