Seat No.: _____ Enrolment No._____

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 it's 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 Thyrister. (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**

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