| Seat No.: | Enrolment No. |
|-----------|---------------|
| | |

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V- EXAMINATION - SUMMER 2016

| | • | ect Code: 151703 Date: 06/05/20 ect Name: Electronics in Industries |)16 | |
|-----|------------|---|-----------------|--|
| | • | e: 02:30 PM to 05:00 PM Total Marks: | Total Marks: 70 | |
| | | Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. | | |
| Q.1 | (a) | Draw half wave rectifier with heavily inductive load. Sketch output voltage and current waveforms, diode voltage waveforms. Also derive output voltage equation. | 07 | |
| | (b) | Draw full wave bridge rectifier with SCR as a switch and heavily inductive load in freewheeling mode .Draw output voltage and current waveforms for 15° firing angle. Give output voltage equation. | 07 | |
| Q.2 | (a) (b) | Explain TRIAC triggering modes. Explain three phase half wave rectifier | 07 07 | |
| | | OR | | |
| | (b) | Draw three phase bridge rectifier with output voltage and current waveforms. | 07 | |
| Q.3 | (a) | With circuit diagram and necessary waveforms, explain voltage commutation of SCR | 07 | |
| | (b) | With circuit diagram and necessary waveforms, explain pulse commutation of SCR | 07 | |
| | | OR | | |
| Q.3 | (a) | With circuit diagram and necessary waveforms, explain current commutation of SCR | 07 | |
| | (b) | With circuit diagram and necessary waveforms, explain Jones commutation of SCR | 07 | |
| Q.4 | (a) (b) | Explain the construction and working of IGBT in brief With necessary circuit diagram and waveforms, explain the function of Power BJT as a switch | 07 07 | |
| Q.4 | (a) | OR Explain the construction and working of DIAC in brief | 07 | |
| Ų.T | (b) | With necessary circuit diagram and waveforms, explain the function of UJT as a relaxation oscillator | 07 | |
| Q.5 | (a) (b) | Write a short note on PUT. What is the need of pulse transformer in firing circuit? Explain the function of pulse transformer with suitable circuit. | 07 07 | |
| 0.5 | (0) | OR Explain the function of MOSEET as a switch with pagessary circuit and | 07 | |
| Q.5 | (a) | Explain the function of MOSFET as a switch with necessary circuit and waveforms. | 07 | |
| | (b) | Write a short note on GTO. | 07 | |
