

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (OLD) - EXAMINATION – SUMMER 2018

Subject Code:150203

Date:30/04/2018

Subject Name:Power Electronics & Control Engineering

Time:02:30 PM to 05:00 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) Explain different methods of triggering the SCR in detail. **07**
(b) Explain the construction and characteristics of the TRIAC. **07**
- Q.2** (a) Explain construction and V-I characteristic of UJT. **07**
(b) Draw & explain torque-speed characteristics of DC motor. **07**
- OR**
- (b) Describe the design of Variable speed AC motor drives. **07**
- Q.3** (a) Explain leading & trailing tube circuits. **07**
(b) Explain working principle and operation of Ignitron. **07**
- OR**
- Q.3** (a) Explain energy storage welding system. **07**
(b) Write short note on thermocouples and strain gauge. **07**
- Q.4** (a) Explain the basic principle of operation of induction heating and list the advantages of induction heating. **07**
(b) Explain control of heating by using SCR, DIAC & TRIAC. **07**
- OR**
- Q.4** (a) Explain dielectric heating with necessary diagram. **07**
(b) Explain the working principle of stepper motor with necessary diagram. **07**
- Q.5** (a) Draw and explain the pin diagram of microprocessor 8085. **07**
(b) Explain Program Counter in detail. What is the function of stack pointer in 8085 microprocessor? **07**
- OR**
- Q.5** (a) Draw and explain the architecture of 8085. **07**
(b) Explain ladder diagram and ignitron contactors. **07**
