

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) - EXAMINATION – SUMMER 2016****Subject Code:2152006****Date:09/05/2016****Subject Name:Basics of Micro Computer Systems****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) Draw and explain 8085 Hardware model with programming model. **07**
(b) Explain the 8085 Bus Structure. **07**
- Q.2** (a) Differentiate between Microprocessor and Microcontroller. **07**
(b) Draw and explain timing diagram for OUT instruction. **07**
- OR**
- (b) Draw and explain timing diagram for IN instruction. **07**
- Q.3** (a) Draw and explain pin diagram for 8085. **07**
(b) Compare instructions: **07**
1) SUB A and MVI A,00H,
2) SUB B and CMP B
- OR**
- Q.3** (a) What is Arithmetic Operation? Explain any six instructions of arithmetic operation in 8085. **07**
(b) Define machine cycle. List out modes of machine cycle and explain any two modes. **07**
- Q.4** (a) Draw and explain pin diagram for 8051. **07**
(b) Explain TMOD and TCON registers. **07**
- OR**
- Q.4** (a) What is addressing mode? Explain any three in detail. **07**
(b) List out JUMP and CALL instruction. Explain two of each. **07**
- Q.5** (a) What is stack and stack pointer? Explain with use of PUSH and POP instruction. **07**
(b) Write an assembly program to generate a square wave of 10 KHz with timer 0 on port pin. **07**
- OR**
- Q.5** (a) Draw and explain the interrupt structure of 8051. **07**
(b) Write an assembly program to generate a frequency of 2 KHz and 10KHz on pins P0.0 and P0.1 respectively. Assume crystal frequency= 12 MHz. **07**
