

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV (New) EXAMINATION – WINTER 2015

Subject Code:2141001**Date:22/12/2015****Subject Name: MICROPROCESSOR & INTERFACING****Time: 2:30pm to 5:00pm****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) Describe basic Machine Cycle used in 8085. Draw Timing Diagram for **OUT** instruction. **07**
- (b) Draw Architectural Block of 8085 microprocessor with Flag Register and list out main Features of 8085. **07**
- Q.2** (a) Explain Following instruction of 8085 microprocessor. **07**
 (1)DAA (2)LHLD (3)PCHL (4)INX (5)CMA (6)ORI (7)RRC
- (b) Give Brief note on Bus structure of 8085. How Control Signals are generated? **07**
- OR**
- (b) Explain following Pin Functions of 8085 microprocessor. **(1) 07**
 ALE (2) READY (3) HLDA (4) INTR (5) RESET OUT (6)TRAP (7)SID
- Q.3** (a) Explain main categories of 8085 instructions with suitable opcode. **07**
- (b) Write an Assembly language program with flowchart to add all positive numbers out of **ten** numbers stored at memory location. Discard all negative numbers. Store result and carry. **07**
- OR**
- Q.3** (a) Write an Assembly language program with flowchart to add two 16 bit numbers stored at memory location. Store result and carry. **07**
- (b) Write a Subroutine program to generate 100 millisecond delay using register pair (Show calculation for count). Write main program to generate 1 second delay by calling subroutine program.(Use Clock frequency 2 MHz) **07**
- Q.4** (a) Differentiate **04**
 (1) Memory mapped I/O and I/O mapped I/O **03**
 (2) Linear Decoding and Absolute Decoding **03**
- (b) Draw and explain block diagram of 8255 (PPI) with control word format. **07**
- OR**
- Q.4** (a) Design an Interfacing circuit with single 3 to 8 decoder to connect **TWO** 4k×8 EPROM with starting address from 0000H onwards and **ONE** 2k×8 RAM with starting address 2000H onwards. **07**
- (b) Briefly explain different parameters used for ADC. Explain interfacing scheme for 8-bit ADC with 8085 microprocessor. **07**
- Q.5** (a) Define Polling and Interrupt. Describe the interrupt used in 8085 with its type and priority. **07**
- (b) Draw and briefly explain Architecture of 8086 microprocessor. **07**
- OR**
- Q.5** (a) Explain addressing modes used in 8086 microprocessor with suitable example. **07**
- (b) Write Short note on Advance Microprocessor. **07**
