Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**PDDC - IV$^{th}$ Semester–Examination – May- 2012**

**Subject code:X40901**

**Subject Name: Microprocessor and Interfacing**

**Date:08/05/2012** **Time: 02:30 pm – 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.**

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|---|---|---|---|
| **Q.1** | **(a)** | Classify the various types of memories. | **07** |
| | **(b)** | Describe various Addressing modes of 8085 microprocessor. | **07** |
| **Q.2** | **(a)** | Draw architecture of 8085 microprocessor and explain ALU. | **07** |
| | **(b)** | Write an ALP to count continuously from 00H to FFH with 1 sec delay between each count and display the output at output port whose address is 3AH. Assume clock frequency to be 1 MHz. | **07** |
| | | **OR** | |
| | **(b)** | Write a program to count continuously in hexadecimal from FFH to 00H in a system with a 0.5 μs clock period. Use register H to set up a one millisecond delay between each count and display the numbers at one of the output ports. | **07** |
| **Q.3** | **(a)** | Describe various Flags in 8085 Micro processor and state when they are set and reset | **07** |
| | **(b)** | Explain the timing diagram of the memory write cyle. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Write a detailed note on Interrupts of 8085 μP. | **07** |
| | **(b)** | Explain the similarities and differences of CALL & RET with PUSH & POP. | **07** |
| **Q.4** | **(a)** | Sketch the block diagram of 8255 and explain the function of each block. | **07** |
| | **(b)** | Describe the process of Digital to Analog conversion by Binary Weighted resister method. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Write in brief about the instructions: MOV, MVI, LXI, RAR, HLT, RST, JNZ | **07** |
| | **(b)** | Draw the Pin-Diagram of 8085. | **07** |
| **Q.5** | **(a)** | Sketch the block diagram of successive approximation type A to D converter and explain the Conversion process of 4 bit converter. | **07** |
| | **(b)** | Compare microcontroller and microprocessor. | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Draw functional pin out diagram of 8279 Keyboard & Display controller & Explain function of each pin. | **07** |
| | **(b)** | Explain SID and SOD, interfacing point of view. | **07** |

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