

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) - EXAMINATION – SUMMER 2016****Subject Code:2150707****Date:09/05/2016****Subject Name:Microprocessor and Interfacing****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 the functional block diagram of internal architecture of IC 8085 and Explain its working. **07**
 b) Write an 8085 program to copy block of five numbers starting from location 2001h to locations starting from 3001h. **07**
- Q.2** a) Explain the Architecture of Pentium Processor. **07**
 b) List and Explain categories of 8085 instructions that deal with data transfer. **07**
- OR**
- b) Explain the working of rotate instructions of 8085 with proper example in each case. **07**
- Q.3** a) Draw and explain block diagram of 8255A programmable peripheral interface device. What do you mean by BSR mode? **07**
 b) How many machine cycles are required to execute MVI A,32H instruction? Draw complete timing diagram with each machine cycle and find execution time for instruction with assume clock frequency $f=2\text{ MHz}$ **07**
- OR**
- Q.3** a) Draw and explain programmable interrupt controller 8259A. **07**
 b) How many machine cycles are required to execute MOV r,M instruction? Draw complete timing diagram with each machine cycle and briefly explain it. **07**
- Q.4** a) Write ALP to calculate the factorial of a number between 0 to 8. **07**
 b) Explain RIM and SIM instructions with pseudo code example. **07**
- OR**
- Q.4** a) Write ALP for displaying binary up counter. Counter should count numbers from 00H to FFH and it should increment after every 0.5 sec. (use 8085 operating frequency =2MHz) **07**
 b) Explain subroutine with proper example. **07**
- Q.5** a) Explain the architecture of the 80386 with a neat block diagram. **07**
 b) Discuss the features of ARM Processor. **07**
- OR**
- Q.5** a) Describe the architecture of the 80286 with a neat block diagram. **07**
 b) Draw and explain architecture of SUN SPARC. **07**
