

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV (NEW) EXAMINATION – WINTER 2018****Subject Code:2141001****Date:28/11/2018****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) Classify 8085 microprocessor instruction set. **03**
(b) Draw and explain a circuit to generate control signals. **04**
(c) Draw and explain block diagram of 8085 microprocessor. **07**

- Q.2** (a) Draw and explain the bus structure of 8085 microprocessor. **03**
(b) Compare Memory mapped I/O and I/O mapped I/O. **04**
(c) Explain the following instructions of 8085 microprocessor. 1) RRC 2) STC **07**
3) ACI 4) DAD 5) PUSH 6) INX 7) HLT

OR

- (c) Explain the following instructions of 8085 microprocessor. 1) RAR 2) **07**
CMP 3) LHI 4) DAA 5) POP 6) DCR 7) XCHG

- Q.3** (a) Differentiate: Linear Decoding and Absolute Decoding **03**
(b) Design a delay loop to generate delay of 200msec. Assume clock frequency **04**
of 8085 microprocessor is 2MHz.
(c) List out basic machine cycles of 8085 microprocessor. Draw and explain **07**
any two in detail.

OR

- Q.3** (a) Explain de-multiplexing of AD0-AD7 lower order address and data bus. **03**
(b) Write a program to perform multiplication of two 8-bit numbers. **04**
(c) Draw and explain timing diagram of STA instruction. **07**
Q.4 (a) Explain SIM and RIM instructions. **03**
(b) Design an interfacing circuit to interface one 2KB EPROM and two 4KB **04**
RAM.
(c) Write a program to arrange given numbers in descending order. **07**

OR

- Q.4** (a) Explain the concept of stack memory with an example. **03**
(b) Broadly classify the interrupts in 8085 microprocessor. **04**
(c) Write a program to find negative numbers from the given array of numbers. **07**
Q.5 (a) Draw block diagram of 8253 timer IC. **03**
(b) Draw architecture 8086 microprocessor. **04**
(c) Draw and explain 8259 Programmable Interrupt Controller. **07**

OR

- Q.5** (a) Give an overview of Advance microprocessors. **03**
(b) Explain Addressing modes of 8086 microprocessor. **04**
(c) Draw and explain block diagram and control word of 8255 PPI. **07**
