

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV (NEW) EXAMINATION – WINTER 2018****Subject Code:2140304****Date:28/11/2018****Subject Name:Microprocessor & its 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.

		MARKS
<b>Q.1</b>	(a) Explain R/2R ladder network circuit used in D/A converter.	<b>03</b>
	(b) What are interfacing logic devices? Explain all with figures.	<b>04</b>
	(c) With neat schematic explain architecture of 8085. Why 8085 is called 8-bit microprocessor?	<b>07</b>
<b>Q.2</b>	(a) Explain various addressing modes of 8085.	<b>03</b>
	(b) Design a seven segment LED output port with the device address F5H, using a 74LS138 3-to-8 decoder, a 74LS20 4-input NAND gate, a 74LS02 NOR gate and a common anode seven segment LED.	<b>04</b>
	(c) Interface 32K EPROM and 32K RAM with 8085, mention the address range for both. Draw neat schematic.	<b>07</b>
	<b>OR</b>	
	(c) With neat schematic show interfacing circuit of D/A converter (preferably 1408) with 8085, with necessary addressing scheme.	<b>07</b>
<b>Q.3</b>	(a) Sixteen bytes of data are stored at location C000H to C05FH. Write a program to transfer the entire block to new location starting at D000H.	<b>03</b>
	(b) Draw and explain timing diagram of STA C000h stored at memory location starting at D000H.	<b>04</b>
	(c) Write a program to count continuously in hexadecimal from FFH to 00H in a system with a 0.5μS clock period. Display the number on any output port.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Write difference between Memory mapped I/O and Peripheral mapped I/O.	<b>03</b>
	(b) Draw and explain timing diagram of MVI A,64H stored at memory location starting 3000H.	<b>04</b>
	(c) Write a program to generate rectangular wave with period of 200 μS ON- period and 400 μS OFF- period.	<b>07</b>
<b>Q.4</b>	(a) Explain concept of Successive Approximation (SAR type) A to D converter with figures.	<b>03</b>
	(b) Explain the concept of Interrupt in 8085. How many Interrupts are there in 8085? What is vector location and how it is mapped?	<b>04</b>
	(c) Explain various modes used in 8255 PPI.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Explain CMP and CPI instructions.	<b>03</b>
	(b) Explain RS 232 serial communication protocol with figure.	<b>04</b>
	(c) With neat schematic explain working of 8255 Programmable Peripheral Interface. How it is useful for 8085?	<b>07</b>
<b>Q.5</b>	(a) Explain with figure rotate and SWAP instructions.	<b>03</b>
	(b) Explain the concept of subroutine with help of CALL and RET instruction.	<b>04</b>

- (c) With neat schematic explain working of 8253 Programmable timer Interface. **07**

**OR**

- Q.5** (a) Explain Control word of 8155 Multipurpose programmable device. **03**  
(b) Explain Bus organization of 8085. **04**  
(c) With neat schematic explain working of 8259 Programmable Interrupt Controller. **07**

\*\*\*\*\*

www.FirstRanker.com