Seat No).:	Enrolment No	
Dout 110	···	GUJARAT TECHNOLOGICAL UNIVERSITY	
		BE - SEMESTER-IV(New) • EXAMINATION – WINTER 2016	
Subje	e:19/11/2016		
Subje	ct Na	ame:Microprocessor & its Interfacing	
-		-	larks: 70
Instruc			
		ttempt all questions.	
		lake suitable assumptions wherever necessary. igures to the right indicate full marks.	
	J. I	gures to the right mulcate run marks.	MARKS
Q.1		Short Questions	14
Q.1	1		17
	2	What happens when HLT instruction is executed in processor?	
	3	What is Program counter?	
	4	What is Machine language?	
	5	What are interrupts?	
	6	Mention the purpose of SID and SOD lines.	
	7	List few application of Microprocessor based system.	
	8 9	What is the function of IO/M signal in the 8085?	
	9	Explain the difference between a JMP instruction and CALL instruction.	
	10	What is meant by Wait State?	
	11	What is meant by polling?	
	12	What are operations performed on data in 8085?	
	13	Define instruction cycle, machine cycle and T-state.	
	14	1	0.0
Q.2	(a)	•	03
	(b) (c)	Distinguish between the memories mapped I/O peripheral I/O? What is the difference between Mode 0, Mode 1 and Mode 2	04 07
	(C)	operations of 8255?	U7
		OR	
	(c)	Draw the architectural diagram of 8085 microprocessor and list out	07
		the following	
		(i) General Purpose Registers	
0.2	(a)	(ii) Special Purpose registers with their functions	02
Q.3	(a) (b)	•	03 04
	(c)	What is an addressing mode? With suitable example, explain any 4	07
	(0)	addressing modes in 8085	0.
		OR	
Q.3	(a)	•	03
	(b)	10 Student's exam marks are stored in memory location starting at	04
		1200h. Write an ALP to find the lowest marks & store it at location 1201h.	
	(-)		07

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Q.4

Q.4	(a)	Write an 8085 subroutine to exchange two numbers. Use it to	03
		reverse an array of 10 numbers starting from 3050h.	
	(b)	Write an ALP for 8085 to find the square of the numbers from 0 to	04
		11 using a Table of Square.	
	(c)	Explain brief about the internal hardware architecture of 8086	07
		microprocessor with a neat diagram.	
Q.5	(a)	Explain the following instructions of microprocessor 8085	03
	()	(i) LHLD (ii) DAD (iii) DAA	
	(b)	Interface 8-bit digital to analog converter with 8085 microprocessor.	04
		Write a program to generate sawtooth wave using DAC.	
	(c)	Generate a square wave of 5KHz on D0 of output port 80H using	07
	` ′	appropriate DELAY subroutine assuming crystal frequency of	
		4MHz. Show your delay calculations.	
		OR	
Q.5	(a)	Explain control word format and different modes of 8254.	03
•	(b)	What is an output port? Explain the design of output port with an	04
	(,,,	example.	-
	(c)	Draw and explain block diagram of 8259A programmable interrupt	07
	(0)	controller.	07
		controller.	
