

Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Microprocessor & its Applications

Subject Code: 4TE04MPA1

Branch: B.Tech (EC)

Semester: 4

Date: 26/04/2018

Time: 10:30 To 01:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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- Q-1 Attempt the following questions (14)**
- a) Define the following terms 1. Microprocessor. 2. Microcontroller. 1
 - b) Define the following terms 1. Address Bus. 2. Data Bus. 1
 - c) Define the following terms 1. Compiler. 2. Interpreter. 1
 - d) Define the following terms 1. Byte. 2. Program. 1
 - e) Draw the general diagram of μ p with its internal parts. 1
 - f) Draw the software model of 8085 μ P. 1
 - g) Why SP register is 16-bit in 8085 μ P? 1
 - h) What is the main function of PC register in 8085 μ P? 1
 - i) Explain in brief PROM. 1
 - j) Explain in brief EPROM. 1
 - k) How many data bits processed by 8085 μ P? 1
 - l) If the memory chip size is 4096 x 8 bits, how many address lines are necessary on this chip? 1
 - m) If the memory chips size is 4K x 8 bits, how many chips are required to make up 16KX8 memory? 1
 - n) The memory address of the last location of a 2Kbyte memory chip is given as 87FF H. State first location of the memory. 1

Attempt any four questions from Q-2 to Q-8

- Q-2 Attempt all questions (14)**
- (a) Draw and explain in detail microprocessor based system with bus architecture. 07
 - (b) State different operations performed by μ P. Explain in detail μ P initiated operations performed by μ P. 07
- Q-3 Attempt all questions (14)**
- (a) Explain in brief with diagram de-multiplexing of lower order address bus AD0 – AD7 in 8085 μ P. Explain in detail flag register with diagram. 07
 - (b) Draw the classification chart for memory. Explain in brief different types of RAM 07



Q-4	Attempt all questions	(14)
	(a) What do you mean by addressing modes? Explain each in detail with example.	07
	(b) Draw the timing diagram for the instruction LXI B, 2050H.	07
Q-5	Attempt all questions	(14)
	(a) Write an ALP to add two 8-bit numbers without use of any add instructions. Assume result is more than 8-bit.	07
	(b) Write an ALP to divide one 8-bit number stored at memory location 2050H by another 8-bit number stored at memory location 2051H. Result stored at memory locations 2052H (quotient) and 2053H (remainder).	07
Q-6	Attempt all questions	(14)
	(a) Compare memory mapped I/O and I/O mapped I/O in detail.	07
	(b) Write short notes on vectored interrupts available on 8085.	07
Q-7	Attempt all questions	(14)
	(a) Explain in detail R/2R ladder network concept used in Digital to Analog converter.	07
	(b) Write short notes on Programmable Interrupt controller IC 8259.	07
Q-8	Attempt all questions	(14)
	(a) Write short notes on Programmable Peripheral Interface IC 8255A.	07
	(b) Write short notes on Programmable DMA controller IC 8257.	07

