

Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name : Microcontroller & Interfacing

Subject Code : 4TE04MCI1

Branch: B.Tech (Electrical)

Semester : 4 Date : 01/05/2018

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.

- Q-1 Attempt the following questions: (14)**
- a) The I/O ports that are used as address and data for external memory are_____.
a) Port 1 & 2 b) Port 1 & 3 01
c) Port 0 & 2 d) Port 0 & 3
- b) What is the default value of stack once after the system undergoes the reset condition?
a) 07H b) 00H 01
c) 10H d) FFH
- c) Which pin of microcontroller port has an alternative function as write control signal for external data memory?
a) P0.1 b) P2.1 01
c) P3.6 d) P1.3
- d) Which of the following instruction is incorrect?
a) INC DPTR b) MOV @DPTR, A 01
c) MOV A, @A+DPTR d) MOV A,@R0
- e) Microcontrollers often have _____.
a) RAM only b) ROM only 01
c) CPU only d) All of the above
- f) Each bank of 8051 contains _____ byte.
a) 8 b) 16 01
c) 32 d) None of these
- g) Which instruction is used to store data in the program memory?
a) MOVX b) MOVC 01
c) MOV d) None of these
- h) What is the function of PSEN pin in 8051? 01
- i) How many interrupt sources are made available in 8051? 01
- j) Enlist any two 16 bit register of 8051? 01



- k) Which register are used for indirect addressing? 01
- l) All external data moves must involve which register? 01
- m) What do the mnemonic LCALL and ACALL stand for? 01
- n) What is the role of SBUF register in serial communication? 01

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

- Q-2 Attempt all questions (14)**
- a) Explain the architecture of 8051 with suitable diagram. 10
 - b) Explain PSW special function register in 8051. 04
- Q-3 Attempt all questions (14)**
- a) Explain differences between microprocessor and microcontroller. 07
 - b) Explain the internal organization of RAM in 8051. 07
- Q-4 Attempt all questions (14)**
- a) Enlist the different features of 8051 family. 07
 - b) Explain the architecture of 8085 microprocessor with suitable diagram. 07
- Q-5 Attempt all questions (14)**
- a) Explain briefly the pin diagram of 8051 with suitable diagram. 07
 - b) Write a program to generate a time delay of 10 milliseconds. 07
- Q-6 Attempt all questions (14)**
- a) Explain different addressing modes available in 8051. 07
 - b) Explain the interfacing of microcontroller with RS232 using MAX232. 07
- Q-7 Attempt all questions (14)**
- a) Explain the interfacing of 8051 with 7-Segment LED with suitable diagram. 07
 - b) Explain TCON & TMOD special function register. 07
- Q-8 Attempt all questions (14)**
- a) Explain the interfacing of 8051 with LCD with suitable diagram. 07



- b) Write a program to perform the following:
- a) Keep monitoring P2.1 until it becomes high.
 - b) When P2.1 becomes high, write value FFH to P0.
 - c) Send a high to low pulse to P3.4.

