

C.U.SHAH UNIVERSITY
Winter Examination-2018

Subject Name: Microcontroller & Interfacing

Subject Code: 4TE04MC11

Branch: B.Tech (Electrical)

Semester: 4

Date: 25 /10/2018

Time: 10:30 To 1:30

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) The Number of timers in the 8051 is ____
(a)4 (b) 2 (c) 8 (d)3
- b) How many interrupts are there in the 8085?
(a) 4 (b) 2 (c) 5 (d) 3
- c) Which stack is used in 8085?
(a) FIFO (b) LIFO (c) FILO (d) None of the above
- d) Which of the following is an 8 – bit register?
(a)PSW (b)TCON (c) Accumulator (d) All of the above
- e) The Address register for storing the 16 bit addresses can only be
(a)stack pointer (b) Data Pointer (c) instruction pointer (d)Accumulator
- f) The idle mode can be terminated by
(a)PRESET (b) CLEAR (c) interrupt(d) interrupt or reset
- g) Each bank of 8051 contains _____Byte.
(a) 8 (b) 16 (c) 32 (d) None of these
- h) Which instruction is used to store data in the program memory?
(a) MOVX (b) MOVC (c) MOV (d) None of these
- i) Which of the following instruction is incorrect?
(a) INC DPTR (b) MOV@DPTR,A (c) MOV A,@ A+DPTR (d) MOV A,@R0
- j) The register that provides control and status information about serial port is
(a) IP (b) IE (c) TSCON (d) PCON and SCON
- k) The register that can be used as a scratch pad is
(a) Accumulator (b) B register (c) data Register (d) accumulator and B Register
- l) What is the size of internal ROM in 8085?
(a) 0 GB (b) 128 BYTE (c) 4 KB (d) 64 KB
- m) How many parallel I/O ports are there in the 8051?
(a) 1 (b) 2 (c) 3 (d) 4
- n) 8085 microprocessor is based on ____ Architecture?
(a) Von- Neumann (b) Harvard (c) Oxford (d) None of the above



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 different addressing modes available in 8051. (07)
 - (b) Explain TCON & TMOD special function register. (07)
- Q-4 Attempt all questions (14)**
- (a) Explain the architecture of 8085 microprocessor with suitable diagram. (07)
 - (b) Explain differences between microprocessor and microcontroller. (07)
- Q-5 Attempt all questions (14)**
- (a) Write a short note in Flash controller and its applications? (07)
 - (b) Draw and explain Internal Port structure of 8051. (07)
- Q-6 Attempt all questions (14)**
- (a) Explain the interfacing of LCD with 8051 with necessary schematics and code for the interfacing. (07)
 - (b) What is stack and stack pointer? Explain working of PUSH and POP instruction with suitable example. (07)
- Q-7 Attempt all questions (14)**
- (a) Explain the internal organization of RAM in 8051. (07)
 - (b) Explain various drive methods, used for driving stepper motors. (07)
- Q-8 Attempt all questions (14)**
- (a) Write a program to copy a block of 10 bytes of data from RAM locations starting at 35H to RAM locations starting at 60H. (5 points) (07)
 - (b) Write a program to add two 16-bit numbers. The numbers are 3CE7H and 3B8DH. Place the sum in R7 (high byte) and R6 (low byte). (4 points) (07)

