



Daffodil International University
Department of Computer Science and Engineering
Faculty of Science and Information Technology
Mid Term Examination, Semester: Fall 2019

Course Code: CSE 231

Course Title: Microprocessor and Assembly Language

Time: 1.5 Hours

Total Marks: 25

Life will give you many options, but today you have "Answer all the questions"

1. a) **MCQ:** Choose the best possible answer and write on your answer booklet. [4]
- I. Which of the following statement name is not legal in Assembly Language?
a) YOU&ME (b) DONE? (c) Sum_of_Digits (d) \$1000
- II. Which of the following is a legal number?
a) 1,101 (b) 0Ah (c) FFFF (d) 1B4D
- III. Which of the following instruction is not legal?
a) XCHG AL, BL (b) MOV DS, AX (c) MOV DS, 1000h (d) ADD AX, 5h
- IV. Consider, **AX=0523h** and **WORD1=01BCh**. What will be output value of AX after the execution of following instruction?
ADD AX, WORD1
a) 06FAh (b) 06FEh (c) 06FDh (d) 06DFh
- b) Convert the following Pseudocodes into Assembly program. [4]
- (i) **IF AX < 0**
 THEN
 put 1 in BX
 ELSE
 put 0 in BX
 END_IF
- (ii) **IF (AX < BX) OR (BX < CX)**
 THEN
 put -1 in DX
 ELSE
 put 1 in DX
 END_IF
- c) Write an assembly program that will input the three letters and output the letter which alphabetically comes first in the next line. [5]
- Sample Input/Output:**
Enter three letters: SRK
Output Letter: K
2. a) For each of the following instructions, give the new destination contents and the new settings of CF, SF, ZF, PF and OF. Suppose that the flags are initially 0 in each part of this question. [5]
- i. **ADD AX, BX** ; where AX contains 7FFFh and BX contains 0001h
- ii. **SUB AL, BL** ; where AL contains 01h and BL contains FFh
- b) Consider the following instruction: [2]
- MOV AX, 50H [BX] [SI]**
- Which addressing mode has been used in the above instruction? Explain how this addressing mode works.

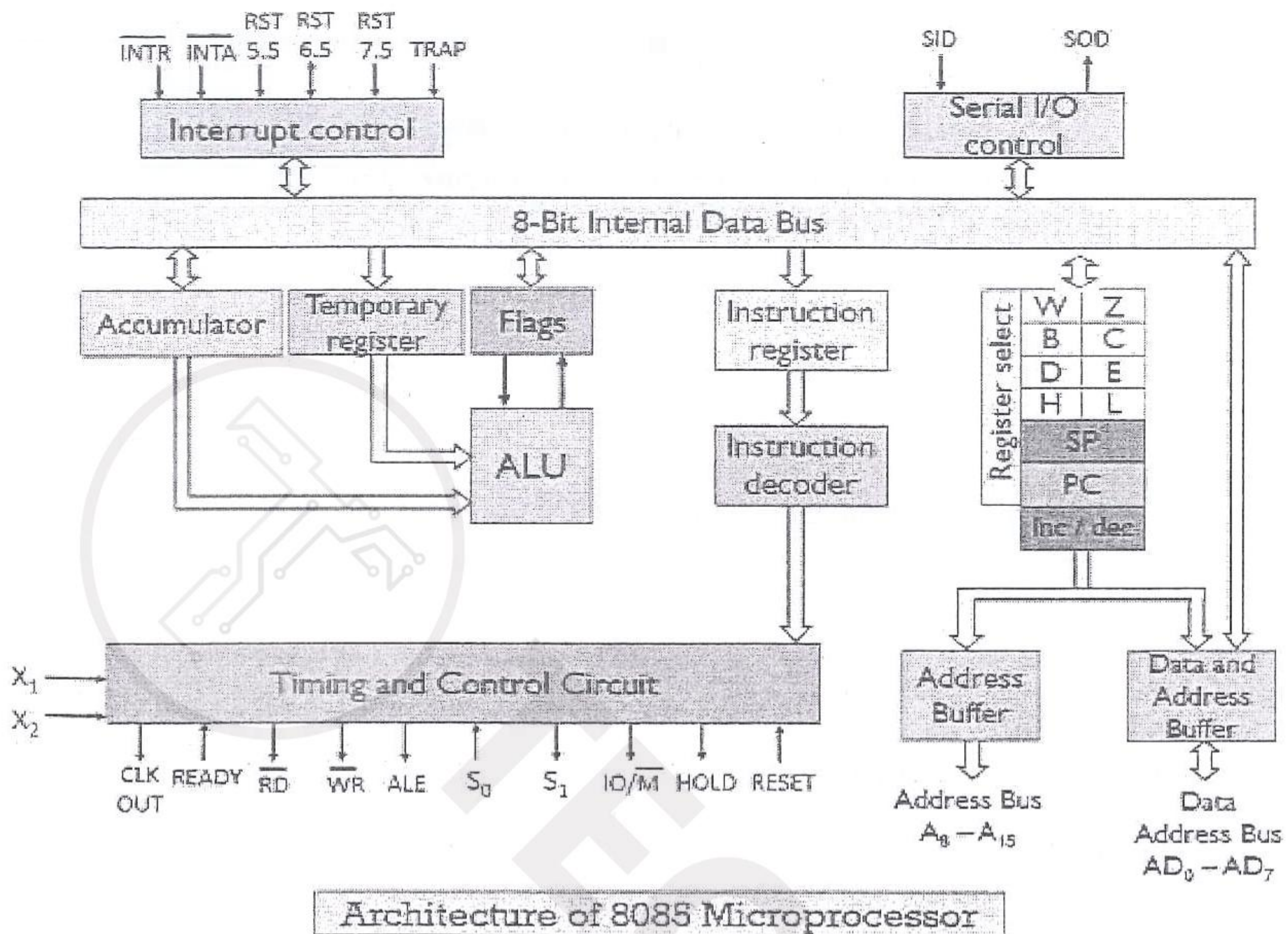


Fig. 1. Internal Architecture of 8085 Microprocessor

[5]

- c) Draw the internal architecture of 8086 Microprocessor and mention at least 5 differences between 8086 and 8085 architecture (shown in Fig. 1).

-- Best of Luck ☺ --