**2016 QE (Microprocessors)**

1. (10 points) Explain the three bus system and their directions.
2. (10 points) What are the addressing modes? Explain four addressing modes with examples. Use the following samples as examples. (MOV AX,BX, RET, MOV AX,[1234H], NOP, MOV AX,1234H, XLAT, MOV AX,[BX], MOV AX,BX )
3. (10 points) Explain the principles of SISD, SIMD, MISD, and MIMD.
4. (10 points) Explain three I/O methods.
5. (10points) The following code is to add two (packed) BCD numbers, 98H and 24H. Determine the intermediate results of AL (in Hex) and CF (Carry flag). Note that DAA is used for correct result. Fill the blanks with Hexadecimal numbers.

MOV AL,98H

ADD AL,24H ;AL=( )

DAA ;AL=( ), CF=( )