**1ˢᵗSem MCA Regular/ Back Examination –2014- 15**
# MICROPROCESSOR AND ASSEMBLY LANGUAGE PROGRAMMING
**BRANCH(S): MCA**
**Time: 3 Hours**
**Max marks: 70**
**Q.CODE:T810**
**Answer Question No.1 which is compulsory and any five from the rest.**
**The figures in the right hand margin indicate marks.**

Q1    Answer the following questions:    (2 x 10)
- a) Why status signals are provided in microprocessor?
- b) What is vectored interrupt?
- c) What is the main use of ready pin?
- d) What is the use of HLDA and HOLD?
- e) How clock signal is generated in 8086? What is the maximum internal clock frequency of 8086?
- f) What is Tri-state logic?
- g) What is Hardware and software interrupt?
- h) What are the functions of BIU?
- i) Difference between "Shift" and "Rotate"?
- j) Explain about Direction Flag?

Q2  a) Draw the Opcode Fetch machine cycle of 8085 and discuss.    (5)
- b) What features must the processor and the DMA controller have to ensure proper operation in DMA mode, explain?    (5)

Q3  a) Draw the SIM instruction format and discuss.    (5)
- b) Bring out the distinguishing features between memory mapped I/O scheme and I/O mapped I/O scheme.    (5)

Q4    Draw the pin configuration and functional pin diagram of 8085 microprocessor and explain function of each pin.    10

Q5  a) Discuss the two registers program counter and stack pointer.    (5)
- b) What is the function of ALE and how does it function?    (5)

Q6  a) Distinguish between the three modes of 8255.    (5)
- b) Draw the I/O Read and I/O Write machine cycles and discuss.    (5)

Q7  a) Mention and explain the modes in which 8086 can operate.    (5)
- b) What is meant by 'addressing mode'? Explain the different addressing modes of 8085?    (5)

Q8    Write short notes(Any TWO)    (5 x 2)
- a) USART
- b) Synchronous and Asynchronous mode DTS
- c) Encoder and decoder
- d) LDAX and STAX