

Registration No :

--	--	--	--	--	--	--	--	--	--

Total Number of Pages : 02

MCA  
MCA506C

**5<sup>th</sup> Semester Regular/Back Examination 2019-20**  
**MICROPROCESSOR & ASSEMBLY LEVEL LANGUAGE PROGRAMMING**

**BRANCH : MCA**

**Max Marks : 100**

**Time : 3 Hours**

**Q.CODE : HRB434**

**Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.**

**The figures in the right hand margin indicate marks.**

**Part-I**

**Q1 Only Short Answer Type Questions (Answer All-10) (2 x 10)**

- a) Discuss the significance of flag register employed by different microprocessor.
- b) Give difference between RLC and RAL.
- c) Name the various logical operators present in 8085 microprocessor.
- d) If a typical PC uses a 20-bit address code, how much memory can be the CPU address?
- e) List the various registers of 8086 microprocessor.
- f) State the main advantage of 8086 over 8085 microprocessor.
- g) What do you mean by a Tri-state device?
- h) What do you mean by bus? Name the buses used in microprocessor based system.
- i) What will be the contents of PC after the execution of RST 6 instruction?
- j) What is DMA data transfer?

**Part-II**

**Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)**

- a) Explain in detail the various types of registers present in 8085 microprocessor.
- b) What is the use of segment registers? Explain how the physical address is obtained using segment registers.
- c) What is the use of DMA controller? Write an 8085 ALP to subtract 8 bit number stored in XX50 from XX51 and store answer in XX52 and borrow (if any) in XX53.
- d) What is addressing mode? Explain different types of addressing modes with suitable example in context of 8085 instructions.
- e) Write a detailed note on 8259A programmable interrupt interface.
- f) Draw 8085 machine cycle and bus timings for MVI A, BC H 07.
- g) Write an assembly language program to multiply the contents of memory location 2040H with 2041H.
- h) Give classification of 8085 Instruction set based on operations.
- i) Write short notes on : (a) Demultiplexer, (b) USART
- j) State Subroutine with one example? How does it differ from Macro?
- k) Tabulate differences between I/O mapped I/O and memory mapped I/O.
- l) What do you mean by an Interrupt? Enlist hardware and software interrupts of 8085 microprocessor.

**Part-III**

**Only Long Answer Type Questions (Answer Any Two out of Four)**

- Q3** State various types of microprocessors based on architecture. Draw the architecture of 8086 microprocessor. **(16)**
- Q4** What is Programmable Peripheral Interface? Explain the architecture and pin diagram of 8255A. **(16)**
- Q5** Draw the block diagram of a CRT controller and explain its working principle. Also explain how it can be interfaced to 8085 processor. **(16)**
- Q6** What is 8255 programmable peripheral interface? Show the interfacing of following : **(16)**
- a) Seven Segment LED
  - b) Keyboard