

2017**MCA****2nd Semester Examination****MICROPROCESSOR****PAPER—MCA-204***Full Marks : 100**Time : 3 Hours**The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.**Illustrate the answers wherever necessary.*

Answer any seven questions.

7×10

1. (a) What is the role of RESET IN signal of 8085 ? 2
- (b) How does 8085 microprocessor demultiplex AD_7-AD_0 ? 3
- (c) Write an assembly language program for 8085 to multiply two 8 bit numbers. 5

(Turn Over)

2. (a) Explain direct and indirect addressing modes of 8085 microprocessor. 4+6
- (b) Draw and explain the internal architecture of 8085.
3. (a) What is a machine cycle? 1
- (b) Draw and explain the timing diagram of IN08H instruction of 8085 microprocessor. 5
- (c) Explain the task of STAXB and XCHG instructions.
4. (a) What is the function of ready signal of 8085? 2
- (b) What is a vector interrupt? Explain the task of INTR and \overline{INTA} signals of 8085. 4
- (c) Write down the length and addressing modes of the following instructions: 4
- (i) OUT 06H
- (ii) AMAO
- (iii) CALL 2050H
- (iv) LDA 2400H
5. (a) What is subroutine? Explain the task of CALL and RET instruction to implement a subroutine? 5

- (b) Write an assembly language program to sort a set of 8 bit numbers. 5
6. (a) Calculate the time to execute the following code. (clock frequency 2 MHz) 5
- MVIB, 05H
MVIA, 06H
ADDB
DCRA
HLT
- (b) Write an assembly language program for 8085 to find highest from a set of 8 bit number. 5
7. (a) Explain the function of the following instructions and calculate time delay of these. (clock frequency 2 MHz) 6
- (i) LDAX D
(ii) ORA M
(iii) DAD B
- (b) Write an assembly language program for 8085 microprocessor to find the 2's complement of an 8 bit number. 4

8. (a) Explain the different modes of operations of 8255. 5
- (b) Write an assembly language program for 8085 microprocessor to add two 16 bit numbers (without using DAD instruction). 5
9. (a) How does 8085 microprocessor generate separate control signals for memory and I/O devices? 4
- (b) Explain the different flag registers in 8086 microprocessor speed is 2 MHz. 6
- MVIA, 10H
- LOOP2 : MVIC, FEH
- LOOP1 : DCRC
- JNZ LOOP1
- DCRA
- JNZ LOOP2
10. (a) Explain the different addressing modes of 8086 microprocessor. 5
- (b) Explain the flag registers of 8086 microprocessor. 5

[Internal Assesment : 30 marks]