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| **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27** |
| **B.C.A - II SEMESTER** |
| **SEMESTER EXAMINATION: APRIL 2019** |
| **CA2218 - Microprocessors** |
|  |  |  |  |  |  |
| **Time- 2 1/2 hrs** |  | **Max Marks-70** |
|  |  |  |  |  |  |
| **This paper contains two printed pages and three parts** |
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**SECTION A Answer all questions(2X10=20)**

1. What is word size? Give the types of instructions according to word size.
2. How is ADI 01H instruction work? Find the status of carry flag after the execution.
3. Write a program to load a 32 bit number from memory into internal registers.
4. Give the difference between JMP and CALL instructions.
5. What is the use of ALE pin?
6. Write the features of mode 0 in 8255A PPI.
7. What is the function of WR signal on the memory chip?
8. What is NMI? What are the functions of it?
9. Give difference between machine language and assembly language of 8085.
10. What are the peripheral mapped I/O instructions?

**SECTION B Answer any five questions (6X5=30)**

1. Explain the functions of address bus, data bus and control bus and the reasons for the direction of information flow in these buses.
2. Explain the most commonly used control and status signals in 8085.
3. Explain the control word format of 8255A PPI .Explain the functions of 8255A in different modes.
4. Write an assembly program using minimum number of instructions to add 16 bit numbers in BC,DE and HL. Store the 16 bit result in DE.
5. What is memory mapped I/O. What are the control signals necessary in the memory mapped I/O?
6. a) Specify the contents of registers and status of the flags after the execution of following instructions

MVI A,00H

MVI B,F8H

MOV C,A

MOV D,B

HLT (3 marks)

b)Write the instructions to load the hexadecimal number 65H into accumulator and 92H in B register and display 65H in output port PORT0 and 92H in PORT11. (3 marks)

1. Explain the various interrupts in 8085.

**SECTION C Answer any two questions(10X2=20)**

1. a)Write a program to divide two 8 bit numbers. (5 marks)

b)Write an assembly program to find the largest element in an array. (5 marks)

1. Explain the architecture of 8085 with a neat diagram.
2. Demonstrate with a program how 8085 handles an interrupt.

CA 2218-19-A