# Microprocessor Important Questions

1. Explain the basic operation of microprocessor 8085 during execution of an instruction.
2. With a neat diagram describe the internal architecture of 8085. State the function of each block.
3. Describe the functions of different flags of ALU of INTEL 8085 microprocessor.
4. List the functions of the two DMA signals HOLD and HLDA.
5. Explain the function of HOLD, READY, ALE and CLK OUT signals of 8085.
6. Explain the functions of the ALE and IO/M signals of the 8085 microprocessor.
7. Explain the function of Stack Pointer, Accumulator, and HL register pair of 8085.
8. Explain the function of instruction register and program counter of 8085.
9. Explain the pin diagram of 8085.
10. Explain the need to demultiplex the bus $AD_7 - AD_0$.
11. Explain the 8085 bus structure.
12. After a certain ALU operation the content of accumulator is 32H and known flags are CY = 1 and AC = 1. Based upon this information obtain the BCD number that would be present in accumulator after the decimal adjust accumulator operations.
13. Two numbers 35H and A0H are stored in memory. After the subtraction of these two numbers in 8085, determine the status of various flags and accumulator.
14. Register B has 65H and the accumulator has 97H. Subtract the contents of register B from the contents of the accumulator. Also give flag status.
15. Specify the contents of the register and the flag status as the following instructions are executed :
    MVI A, 00H
    MVI B, F8H
    MOV C, A
    MOV D, B
    HLT
16. Explain following instructions with suitable example and also indicate flag condition :
    a. PUSH
    b. CALL
    c. ANA
17. Explain all the data transfer instruction.
18. What is sub-routine? How is it useful? Explain the use of stack in CALL and RETURN instruction.
19. Describe the various addressing modes of 8085.
20. Explain the operation performed by following 8085 instruction. Also name the machine cycles, in sequence, it would take for the execution :
    a. XTHL
    b. CPE 5000H
    c. RNZ
21. For the following 8085 instructions, explain the operation performed, name the machine cycles taken for the execution addressing mode of instruction and flags affected :
    a. SHLD 5000H
    b. INR M
    c. ADD B
22. Find the 2's complement of the number stored at memory location 2200H and store the complement number at memory location 2300H.

23. Explain looping, counting and indexing.
24. Write a program to multiply two 8-bit numbers.
25. Write a program to divide 16-bit number by 8-bit number.
26. Write a program to calculate the sum of series of even numbers.
27. Write a program to count number of zero's in a number.
28. Write a subroutine to set the zero flag and check whether the instruction JZ functions properly, without modifying any register contents other than flag.
29. A series of 8-bit number is stored in the memory. Write an 8085 assembly language program to add all the numbers in the series. The result may be 16-bit.
30. Write a program to divide 10H by 04H.
31. Write a subroutine to multiply two 8-bit numbers. The input to this subroutine is given through memory location and 16-bit result should be stored in memory locations and 16-bit result should be stored in memory. It is required that execution of this subroutine should not affect the programming environment of caller program.
32. A table of 20, 8-bit data is stored at memory location 5000H. draw the flowchart and write an 8085 assembly language program to count the even numbers and odd numbers in this table. Store the count in memory.
33. Explain the purpose of IO/M, $S_1$ and $S_0$ signals of 8085. List out the information provided by the various combinations of these signals in a table.