

Subject Title: 8085 Microprocessor and Applications

Prepared by: Ms E Gayathri

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Unit - I: Introduction to 8085 Microprocessor and its Architecture

1. What is Microprocessor? Give the power supply and clock frequency of 8085
2. What are the functions of an accumulator?
3. List the 16 bit registers of 8085 microprocessor.
4. List the few applications of microprocessor based system.
5. What is interrupt? What are hardware and software interrupts?
6. What are Vectored and non vectored interrupts?
7. What is the need for the timing diagram?
8. Define: i) Instruction cycle ii) Machine cycle iii) T-State
9. Explain the difference between a JMP instruction and CALL instruction.
10. What is memory mapping?
11. Compare memory mapped I/O and peripheral mapped I/O.
12. What is the signal classification of 8085?
13. Describe the functional block diagram of 8085.
14. Describe the functional pin diagram of 8085.
15. Explain the 8085 interrupt system in detail.
16. Discuss the different memory mapping schemes.
17. Explain various machine cycles supported by 8085.
18. Give the list of microprocessor initiated operation.
19. Draw and explain the timing diagram of Memory read cycle.
20. Draw and explain the timing diagram of Memory write cycle with example.
21. Explain the difference between a JMP instruction and CALL instruction.
22. Draw and explain the timing diagram of Op-code fetch cycle.

Unit - II: Instruction set of 8085 Microprocessor

23. What is op-code? What is an instruction?
24. Define stack. What is subroutine?
25. Compare CALL and PUSH instructions.
26. What is the use of addressing modes?
27. Explain LDA, STA and DAA instructions.
28. Write the contents of flag register and accumulator on execution of the program segment.

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XRA A

HLT

29. Explain the instruction MOV A, B with the help of a timing diagram.
30. Discuss the various addressing modes of 8085 microprocessor with relevant examples.
31. Describe in detail the instruction set of 8085 microprocessor with relevant examples.
32. Explain the operation of stack in detail.
33. Explain the concept of subroutine with an example.

Unit - III: Programming of 8085 microprocessor

34. What is an Assembly language program?
35. Write an assembly language program to perform decimal addition of two 8 bit numbers.
36. Write an assembly language program to perform 8bit subtraction.
37. Write an assembly language program to perform 8 bit multiplication.
38. Write an assembly language program to perform 8 bit division.
39. Write an assembly language program to perform 16 bit addition.
40. Write an assembly language program to find the largest number in the given array.
41. Write an assembly language Program to find smallest number in the given array.
42. Write an assembly language program to sort the given numbers in ascending order.
43. Write an assembly language program to sort the given numbers in descending order.
44. Write an ALP to generate a accurate time delay of 100ms.

Unit - IV: Interfacing of Peripherals

45. What is interfacing? What is 8212?

46. Explain the types of programming and non programmable interfacing peripherals.
47. Mention the applications of stepper motor.
48. What are A/D converters and D/A Converters?
49. Define the parameters of A/D and D/A converters.
50. Explain the control word format of 8255.
51. Find the resolution of an 8 bit DAC with output voltage range of 0-2.5V.
52. Explain the BSR mode of 8255 PPI.
53. Write a control word for 8255 PPI to make port A as IN port, port B and C as OUT ports.
54. What are closed and open loop process control systems.
55. Find the resolution of 6 bit D/A converter with a full scale output of 10V.
56. Explain the pin diagram of 8212.
57. Discuss the different operating modes of 8255 PPI.
58. Explain the working and interfacing of a stepper motor with 8085 microprocessor.
59. Explain the different methods of A/D converters.
60. Explain the principle and action of successive approximation A/D converters.
61. Draw the block diagram of 8255 PPI and briefly explain different modes of operation.