

Unit : 4

1. What does the CPU do when it receives interrupts?
2. How would you enable and disable interrupts in 8086?
3. Explain the type 0,1,2 interrupts found in Interrupt Vector Table in 8086/8088 Microprocessor?
4. Explain how interrupts can be generated through software in 8086. also indicate how hardware interrupt are received by the 8086?
5. What is Interrupt Vector Table in 8086? Explain its structure?
6. Explain the Command word/Control words in 8259 in detail?
7. With the help of block diagram explain the various modes of operation of 8259 in detail?
8. Explain in brief the use of 8259 PIC. Also draw the flowcharts for initialization sequence of the 8259 PIC?
9. Describe the use of CAS0, CAS1, and CAS2 lines in the system with cascaded in 8259?
10. What are the mode 0,2, and 4 in 8253? Explain with the help of waveform?
11. With the help of neat timing diagram, explain the mode 0,1 and 2 of 8253?
12. Mention the use of various modes of 8253?
13. Draw the block diagram of 8254 timer. Also explain the control word format of 8253?
14. A 32-bit binary counter is to be implemented using 8253 timer/counter?
15. Explain the block diagram of 8255. What are the different modes of 8255? Give the format of mode word?
16. Explain the format of BSR mode of 8255? How will you read the status word of 8255?
17. Draw the timing diagram of mode 2 in 8255? Showing the relevant signal?
18. What is handshaking? How is it used to interface the Centronix type parallel printer?
19. Explain in brief the port structure of I/O mode of 8255?

20. Draw and explain internal block diagram of 8279? Write 8086 instruction to initialize 8279?

21. Explain the command word/control words of 8279?

22. Explain the various mode of display RAM of 8279? Also explain the commands related to display RAM?

23. What is a key Debounce? Explain the software and hardware key debounce techniques in brief?

24. Explain the following terms related to 8279:

1. Two key lockout
2. N key Rollover
3. display Ram
4. FIFO status word

25. What is the diff. Between Asynchronous and Synchronous method of serial input/output?

26. Differentiate between Synchronous and Asynchronous data transfer?

27. What is RS 232C?

28. Explain the various programmable features of 8251?

29. Explain how memory to memory transfer is handled in 8237?

30. Explain the various modes of 8237?

31. What is DMA? Explain the mechanism by which 8237 DMA Controller is used for data transfer?

32. Explain the following mode of DMA

1. Single transfer mode
2. Block transfer mode
3. Demand transfer mode

Unit 5.

1. Interface ADC with 8086 clearly showing control and data signals also draw timing diagram of same?

2. Interface a typical 12 bit ADC with 8255 and write a program to generate triangular

waveform of the period 10msec. The CPU runs at 5Mhz clock frequency.

3. What is D/A Converter? Explain any two types of D/A converters along with the characteristics.

4. Explain any two types of D/A converters along with their applications?

5. Explain data acquisition system with example?

6. Write a short note on :

1. LVDT

2. Flow sensors

7. Interface a stepper motor with 8086. What is full stepping and half stepping modes? Write an initialization routine for same?

Unit 6.

1. What are the different components of MS-DOS? What is the difference between BIOS and DOS interrupts or calls?

2. What is the difference between .EXE and .COM?

3. What is TSR? How is it made resident in the memory? Can we remove it? If yes then How?

4. Write a note on POST sequence?

5. What are the components of DOS.?

6. Write any 4 function calls of INT 21h with usage of registers and returns?