Attempt any four parts of the following:

1. What are the basic functions of microprocessor? Differentiate between microprocessor and microcomputer.
2. Describe the functions of flag of the 8085 microprocessor.
3. How instruction cycle, machine cycle and clock cycle are related? Explain them with proper sketches.
4. Discuss the improvement of INTEL 8086 over INTEL 8085 microprocessor.
5. Write short note on built-in serial data interface of 8085.
6. Describe the function of the 8086 instruction queue. How does it speed up processing?

Attempt any four parts of the following:

1. Classify the instructions of 8086 microprocessor in different group. Also, provide an example for each one.
2. Draw the timing diagram of memory read cycle in minimum mode. Discuss how it differs with the maximum mode.
3. Show bit wise the PSW of 8086 and explain the function of each flag.
4. Discuss the function of the segment registers of 8086.
5. Explain the physical address formation with the segment and off-set words.
6. Describe the demultiplexing of the bus AD_7-AD_0 with suitable diagram.

Attempt any two parts of the following:

1. Explain the addressing modes of the INTEL 8086 microprocessor with suitable example for each.
2. Write an assembly language program to sum the following series.
   Sum = 1+2+3+4+.....+12
3. Write an assembly language program to generate a delay of 0.4 sec if the crystal frequency is 5 MHz.

Attempt any two parts of the following:

1. Discuss the functional block diagram of INTEL 8255 and explain its port address formation and different modes of operation.
2. Draw a labeled block diagram of INTEL 8253. Explain the function of each unit separately. Also, explain how a counter block works.
3. Describe the interfacing of an 8259 PIC to 8086 microprocessor.

Write short note on any two of the following:

1. Pentium Processor
2. 8237 DMA controller
3. Interfacing of DRAM to 8086 microprocessor.