

ETRX  
Microprocessors & Peripherals.

QP Code : 3528

- N.B. : 1. Question no. 1 is compulsory  
2. Solve any three from the remaining five questions.  
3. Assume suitable additional data if necessary.

- Q1. a) What is stack? Explain the use and operation of stack and stack pointer? (5marks)  
b) What is an instruction queue? Explain? (5 marks)  
c) Explain the flag register of 8085 microprocessor? (5 marks)  
d) Explain the LOCK(bar) & TEST(bar) Signal? (5marks)

Q2. a) Design a 8086 based system with following specifications

- CPU at 10MHz in minimum mode operation
- 64 KB SRAM using 8 KB devices
- 16 KB EPROM using 4 KB devices
- One 8255 PPI for keyboard interface

Design system with absolute decoding. Clearly show memory address map and I/O address map. Draw a neat schematic for chip selection logic. (20 Marks)

- Q3. a) Explain the first five dedicated interrupts of 8086? (10marks)  
b) Explain with one example addressing modes of 8086 ? (10marks)
- Q.4. a) Write 8086 assembly language program to move a string of words from offset 1000h to offset 6000h. The Length of the string is 0Ch. (10marks)  
b) Explain the following directives  
CODE , ASSUME , ALINE , EQU , EVEN , Various Data & Model directives ( 10 marks)

- Q5. a) What are different multiprocessor configurations? Explain Closely Coupled Configuration? (10marks)  
b) Sketch and explain the interface of PPI 8255 to the 8086 microprocessor in minimum mode. Interface four 7 segment LEDs to display as a BCD counter (10 marks)

Q6. Write Short Note on

- a) Difference between a JMP instruction and CALL instruction. (5marks)  
b) Flag register of 8086. (5marks)  
c) Operation modes of 8237 DMA Controller (5marks)  
d) Procedure of interfacing 8259 with CPU (5marks)