

## Principles of microprocessor system

[ REVISED COURSE ]

CON/4996-06.

YM-5428

7/6/2006

( 3 Hours )

[ Total Marks : 100

- N.B. : (1) Question No.1 is compulsory.  
 (2) Attempt any four questions out of remaining six questions.  
 (3) Assume suitable data whenever required.  
 (4) Figures to the right indicate full marks.

1. Design 8085 system using - 20
  - (i) 4K of EPROM using 2K x 8 devices
  - (ii) 8K of RAM using 4K x 8 devices
  - (iii) 8255 PPI (2 output ports and 1 input port)-in I/O mapped I/O.
  - (iv) 8259 PIC in I/O mapped I/O.

Draw memory Map and I/O Map, Explain address decoding, control signal generation.
2. (a) What is stack ? What is use of stack ? Explain any four instructions associated with stack ? 8  
 (b) Explain Programmer's Model of 8085. 6  
 (c) Write a short note on Wait State Generator. 6
3. (a) Explain 8085 based minimum system configuration in detail. 12  
 (b) Differentiate between I/O mapped I/O and Memory mapped I/O. 8
4. (a) Write a short note on : 8
  - (i) 8255 Mode 1
  - (ii) BSR Mode.
- (b) Explain various operating Modes of Programmable Timer IC 8254 in detail. 12
5. (a) Explain only hardware interrupts of 8085 with vector locations, input triggering level, masking - unmasking, enable - disable and priority. 12  
 (b) In 8085-8259 based system explain when interrupt arrives at input of 8259, explain sequence of events which will takes place. 8
6. (a) Explain all ICW's and OCW's of 8259. 12  
 (b) With reference to DMA controller 8237. Explain DMA read, write and verify cycles. 8
7. (a) Write assembly language programme to find out number of negatives, zeros and positive numbers from given list of numbers. 6  
 (b) Write a programme in assembly language to sort a list of numbers in ascending order. 6  
 (c) Write a short note on software delays of 8085. 8