

University of Mumbai

T.E Third Year 2013 - 2014 May

Semester 5 (TE Third Year)

Microprocessors

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(Rev)

Sub: Microprocessor

QP Code : MV-18443

TE (Comp) (V) (2 Hours)

[ Total Marks : 60

- N.B. : (1) Q. 1 is compulsory.  
(2) Answer any four questions from remaining questions.  
(3) Assume suitable data if necessary.  
(4) Figures to the right indicate full marks.

1. (a) Explain 8085 programmer's model. 5  
(b) What is segmentation? What are the advantages of segmentation? 5  
(c) Draw and explain the 4x4 keyboard interface using 8255. 5  
(d) Explain the role of bus arbiter in loosely coupled systems. 5
2. (a) Explain architecture of 8086. 10  
(b) Write an assembly language program to find whether given word is palindrome or not. 10
3. (a) Describe interrupt structure of 8086? 10  
(b) Explain the hardware required to generate clock and reset signals. 10
4. (a) Design 8086 based system in minimum mode system for following requirements: 10  
(i) 128 KB ROM using 32KB x 8 memory device  
(ii) 512 KB ROM using 64KB x 8 memory device  
(b) Interface following I/O devices to system designed in (a) 10  
(i) Three 16-bit ports using 8255  
(ii) 15 interrupt support using 8259
5. (a) Draw and explain block diagram of PIT 8253. 10  
(b) Explain ICW's of interrupt controller 8259. 10
6. (a) Explain, in brief, closely coupled systems. Also, explain coprocessor interfacing with 8086. 10  
(b) Discuss various bus arbitration schemes used in loosely coupled systems. 10
7. Write short note on :-  
(a) IEEE 488 5  
(b) DRAM controller 5  
(a) Mixed mode programming 5  
(c) Basic functions of microprocessor 5