



Code No. : 3045

**FACULTY OF ENGINEERING**  
**B.E. 3/4 (ECE) I Semester (Main) Examination, December 2010**  
**MICROPROCESSORS AND INTERFACING**

Time : 3 Hours]

[Max. Marks : 75

*Note : 1) Answer all questions from Part A.  
2) Answer five questions from Part B.*



PART – A

(25 Marks)

1. What is the purpose of Instruction Queue of 8086 ? 2
2. What is the advantage of LEA over MOV instruction ? 2
3. List out the salient features of 8086 in Maximum mode. 3
4. What do you understand by hand shake mode in 8255 PPI ? 3
5. What is read back facility of 8254 ? 3
6. What is the purpose of IC 8279 ? 2
7. Find the errors in the following instruction : 2
  - i) MOV DS, # 1000 H
  - ii) MOV cx, # 1000 H
- OUT CX, AL
8. What is the size of physical memory of 80286 ? 2
9. What is 'branch prediction' ? 3
10. Explain the following pins of 8086. 3
  - i) BHE'
  - ii) MX|MN'
  - iii) DEN





## PART – B

(50 Marks)

11. a) Explain the programming model of 8086. 5  
b) Explain the series of operations 8086 performs, when an interrupt is requested. 5
12. Write an ALP of 8086 to find whether the given string is a palindrome or not. 10
13. a) Interface the following memory ICs with 8086.  
i) Two 4KB EPROMs, ending at FFFFFH.  
ii) Two 4 KB SRAMs, starting at 00000H. 5
- b) Explain a matrix keyboard can be connected to 8086. 5
14. a) Design an 8086 and 8279 system to interface sixteen 7-segment display units. Write a program to display hex numbers 0 to F H on the display using right entry mode. 6  
b) Explain the control word format of 8251. 4
15. a) What are salient features of protected virtual address mode of 80286 ? 5  
b) Write short note on FPU of Pentium. 5
16. a) Write an ALP of 8086 to find out decimal addition of sixteen four digit decimal numbers. 6  
b) What is an assembler ? 4
17. Write **any two** of the following : (2×5=10 Marks)
- a) Interface a 12 bit ADC with 8086. Write an ALP of 8086 to accept the data from ADC.
- b) Addressing modes of 8086
- c) Debugging tools
- d) Memory Read Timing Diagram of 8086
- e) Numeric Data Coprocessor.