

ANNA UNIVERSITY-2007
B.E/B.TECH DEGREE EXAMINATION
MICROPROCESSORS
(COMPUTER SCIENCE ENGINEERING)

TIME-3HOUR
MARK-100

ANSWER ALL THE QUESTIONS

PART A — (10 × 2 = 20 MARKS)

1. Write an 8086 program sequence that reads in a string and writes it out as a palindrome.
2. What do the following assembler directives do: ASSUME, SEGMENT
3. How does interprocessor communication take place between the 8086/8088 and 8089.
4. Discuss the functions of the following prefixes:
LOCK, ESCAPE
5. Give the two basic types of serial communications bringing out their differences.
6. What do you mean by 'reading on the fly' with respect to 8254 programmable counter.
7. Show how the virtual to physical address translation takes place in 80286.
8. What is a call gate? Discuss.
9. How is the EISA bus different from the ISA bus.
10. Discuss the role of a bus arbiter in a multiprocessor configuration.

PART B — (5 × 16 = 80 MARKS)

11. i) Write a program sequence for performing an unsigned binary division on an n-word number by a one word number.

ii) Assume that a loosely coupled multiprocessor system consists of the following three module:

Module A: An 8086 with a local memory.

Module B: Two 8089s with a local I/O bus.

Module C: An 8086 with an 8087 and an 8089.

Determine and discuss the major bus interface devices required for each module.

12. a) i) Discuss the architectural features of 8086 that support multiprocessor design.

ii) Define a macro that produces code for adding two binary N-byte operands and storing the N-byte result beginning at an arbitrary location. N is to be the name of a constant and is to appear as the fourth dummy parameter.

(or)

12. b) How does an 8086/8088 cooperate and communicate with

i) A coprocessor and ii) an IOP.

13. a) Discuss the salient features of a parallel programmable interface. Show how this can be interfaced to an 8086 based system.

(or)

13. b) Show how a typical DMA controller can be interfaced to an 8086 based maximum mode system.

14. a) i) Discuss in detail how paging is implemented in 80386.

ii) What are the advanced features available in 80486 compared to 80386.

(or)

14. b) i) 80286 when operated in the protected mode supports multi tasking. Explain this statement indicating how this is accomplished.

ii) How is segmentation implemented in 80286.

15. a) i) Discuss the interrupt structure of 8086.

ii) Discuss any four operating modes of the programmable interrupt controller.

(or)

15. b) i) What is a PCI bus? Discuss its features and usage.

ii) Discuss the salient features of a USB port.

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