

# Madras University

## M.C.A Microprocessor and Its Application Question paper

Time: Three hours

Maximum: 75 marks

### PART A - [5 x 5 = Marks 25]

Answer ALL questions.

All questions carry equal marks.

1. (a) What is a CPU? What does it contain? Briefly explain each component.

Or

(b) Explain the function of the accumulator, memory address register and the stack pointer.

2. (a) Explain the function of the following pins in 8085 : M/IO, WR READY.

Or

(b) What happens when a XCHG instruction is executed in 8085.

3. (a) Explain the various interrupts in 8051.

Or

(b) Explain the various flags in 8086.

4. (a) What is a UART? How is it used?

Or

(b) What is a modem? Where and how is it used?

5. (a) Distinguish between top-down design and bottom-up design.

Or

(b) How are designs tested for microprocessor based products?

**PART B - [5 x 10 = Marks 50]**

Answer any FIVE questions.

All questions carry equal marks.

6. Trace the development of the microprocessor and its support circuits.
7. How is the instruction set of 8085 classified? Explain with examples.
8. Write an assembly language program to find the average of sixteen numbers stored in successive memory locations.
9. Describe the various registers found in the 8051 microcontroller.
10. With a neat diagram explain the architecture of the 8086 microprocessor.
11. What is a USART? With a block diagram explain the architecture of any one USART.
12. Describe the construction and working of any one input device used with a microprocessor.
13. Explain in detail the design of any one microprocessor based traffic controller.