Microprocessors & Microcontrollers

ECE313

L:3 T:1 P:0 CREDITS:4

Course Assessment Model

- ***Marks break up****
- ***Attendance*** ***5***
- ***CA (Two best out of three tasks)*** ***20***
- ***MTE*** ***25***
- ***ETE*** ***50***
- ***Total*** ***100***
  - Mini project – **Take home** - After MTE
  - Two class test – One before MTE and one after MTE
  - MTE and ETE- subjective questions

About BOOKS…

Text :

1. ***MICROPROCESSORS AND MICROCONTROLLERS by SOUMITRA KUMAR MANDAL, MCGRAW-HILL HIGHER EDUCATION, 1st Edition, (2011)***

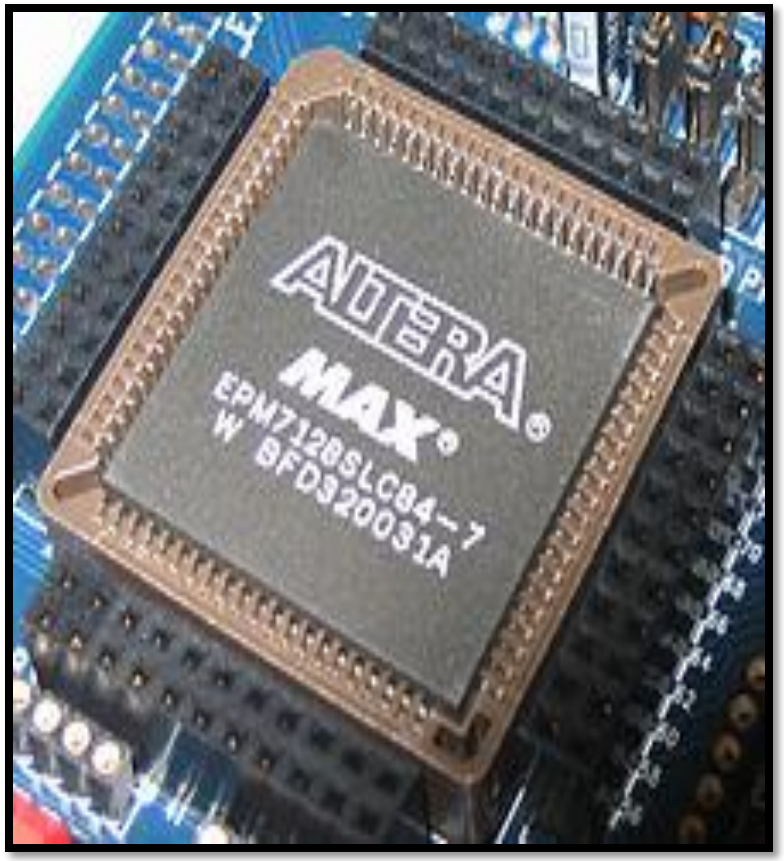
References:

1. MICROPROCESSOR ARCHITECTURE, PROGRAMMING AND APPLICATIONS WITH 8085 by RAMESH GAONKER,PENRAM INTERNATIONAL PUBLISHING PRIVATE LIMITED, 5th Edition, (2011)
2. MICROPROCESSORS AND MICROCONTROLLERS by N. SENTHIL KUMAR, M. SARAVANAN, S. JEEVANANTHAN, OXFORD HIGHER EDUCATION, 1st Edition, (2011)
3. THE 8051 MICROCONTROLLER ARCHITECTURE, PROGRAMMING AND APPLICATIONS by KENNATH J. AYALA, PENRAM INTERNATIONAL PUBLISHING PRIVATE LIMITED, 3rd Edition, (1996)
4. THE 8051 MICROCONTROLLERS AND EMBEDDED SYSTEMS by MUHAMMAD ALI MAZIDI AND JANICE GILLISPIE MAZIDI, PEARSON EDUCATION, 2nd Edition, (2007)

WHY MICROPROCESSOR?

LET US THINK.....

THINK ABOUT IT AND ANSWER ME.....



LET ME GIVE YOU THE HINT .....

WHAT ARE THE THINGS THAT YOU TAKE CARE OF WHILE PURCHASING A NEW LAPTOP?????

The Answer is……

- *RAM SIZE(hardware specification)*
- *OS(to develop algorithm)*
- *Co-Processor(multi core)*

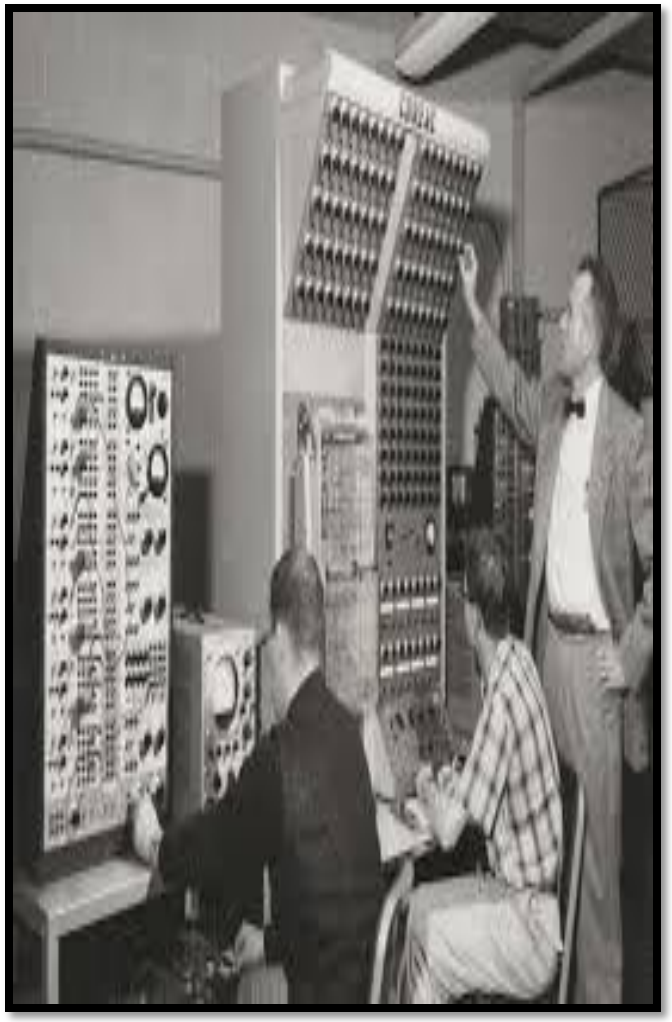
Microprocessors and Microcontrollers plays a Vital role in our lives

Look Around You !!!!!

Importance of this course…….

History Vs Today's era

Early Computers Vs Today's



The course contents

- UNIT 1 Introduction of processors
- UNIT 2 Programming of 8085 processor
- UNIT 3 Peripheral interfacing

  Advance processors
- UNIT 5 8051 Microcontroller
- UNIT 6 Microcontroller Interfacing
- UNIT 7 Interfacing with peripherals

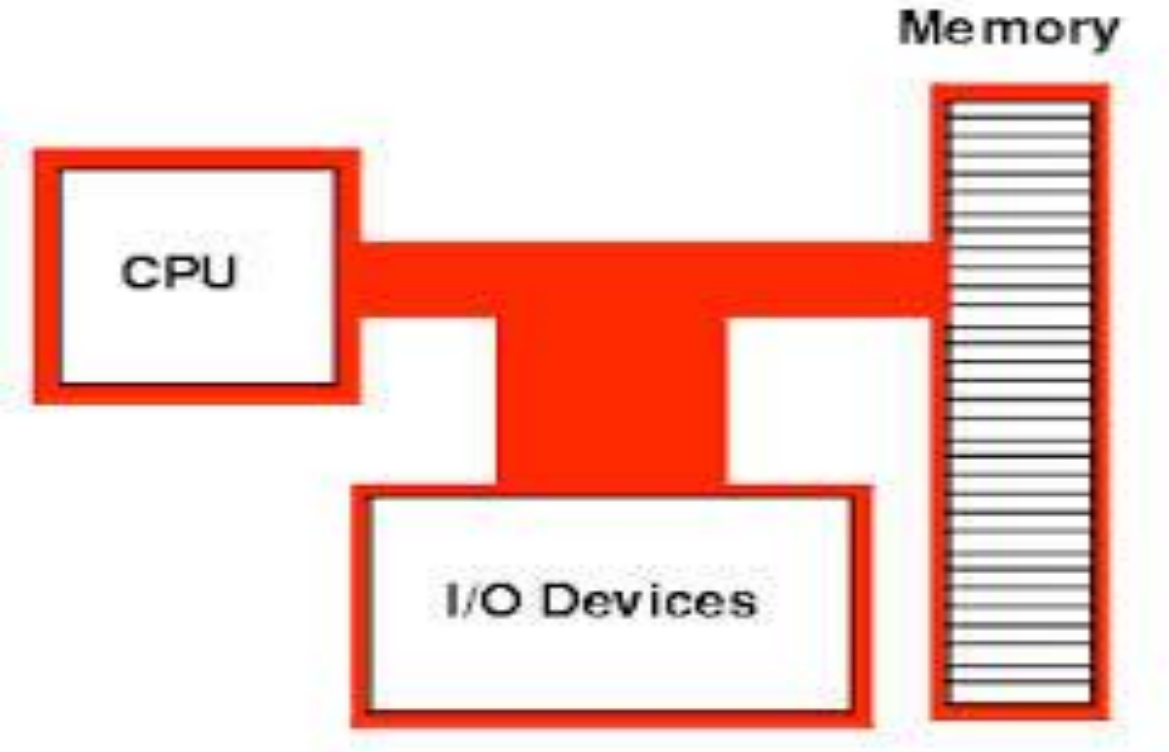
  Advance controllers

Why Microprocessor 8085

MICROPROCESSOR

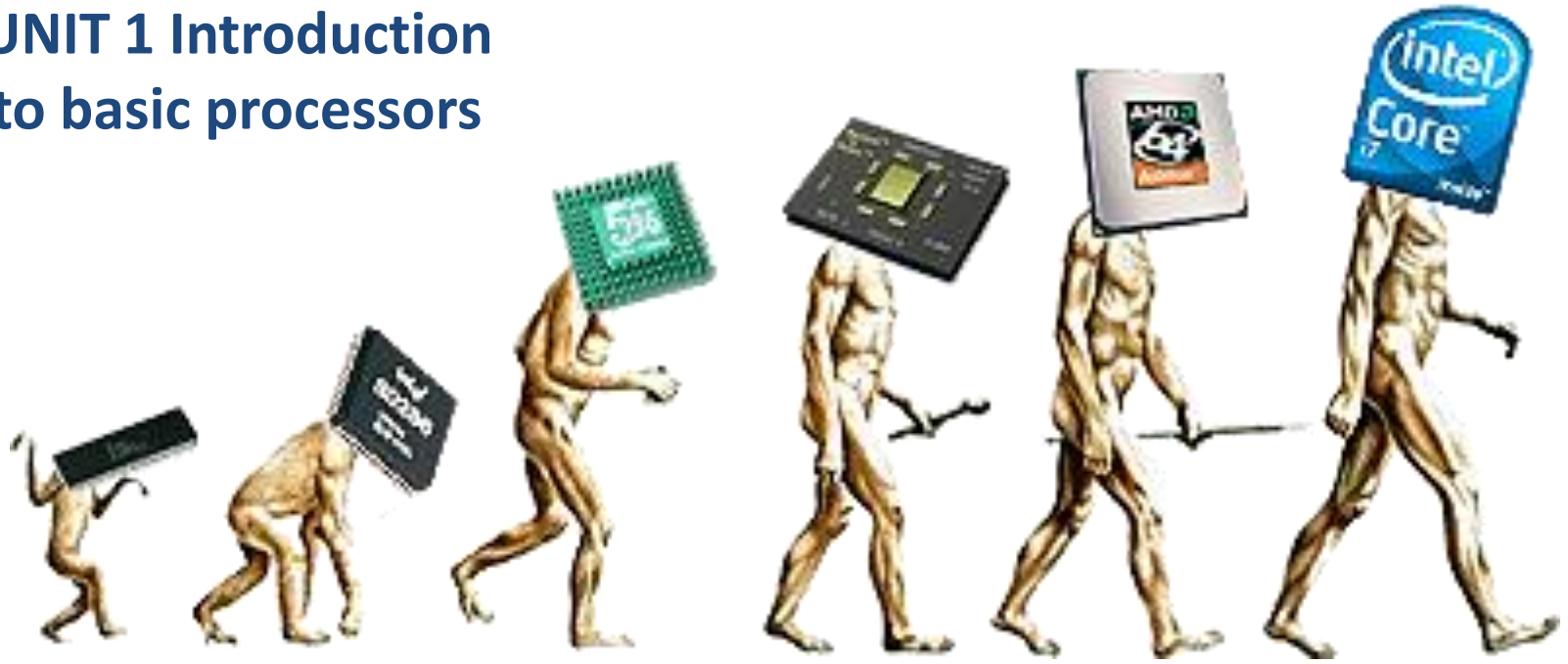
Sentence formation is not possible without the basic knowledge of Alphabets……

Begin with Basics



What do we need to know?

UNIT 1 Introduction to basic processors



Evolution: How we have grown from origin?

What do we need to know?

UNIT 1 8085 processor

INSIGHT OF 8085

What do we need to know?

UNIT 2
Peripheral interfacing

What do we need to know?

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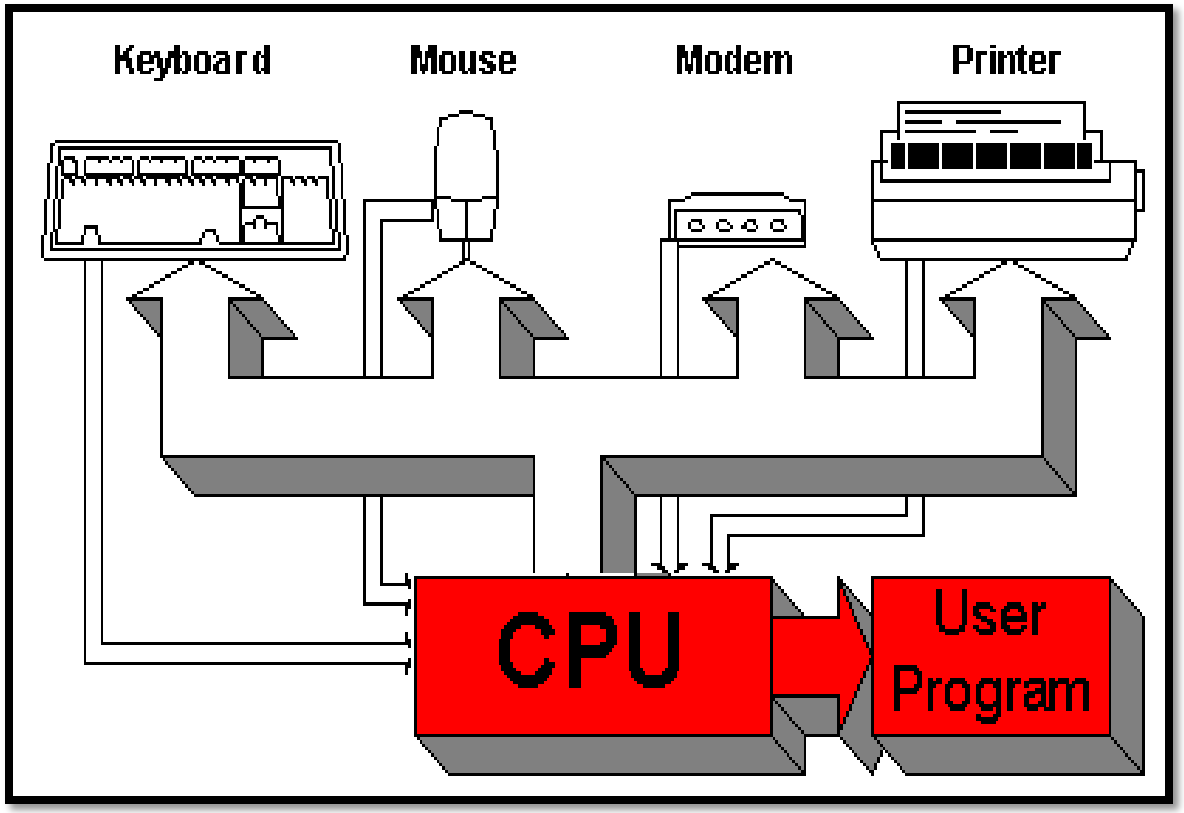
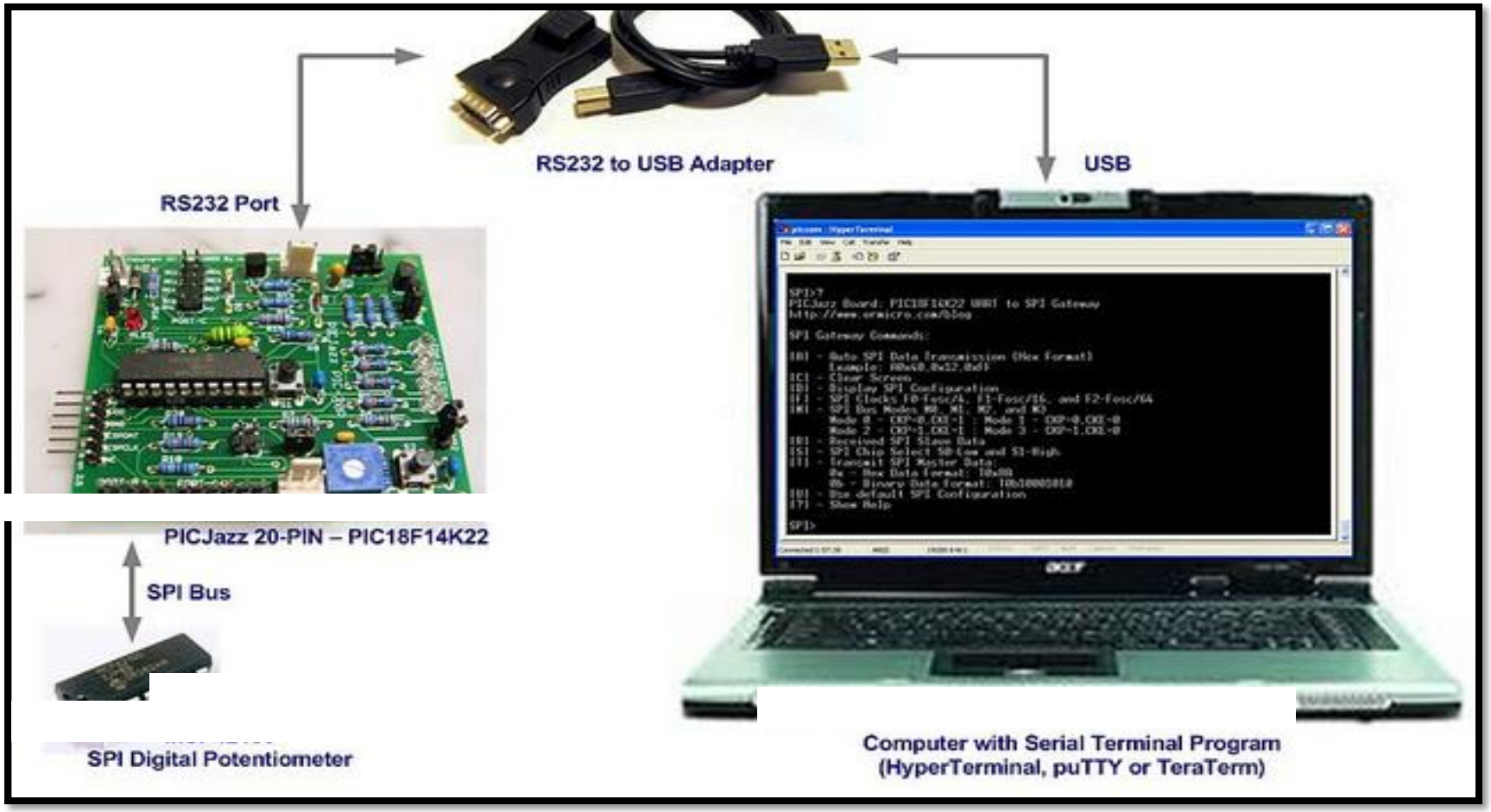
Handling Interrupts



What do we need to know?



UNIT 3

PERIPHERAL INTERFACING

What do we need to know?

UNIT 3

Advanced Processor

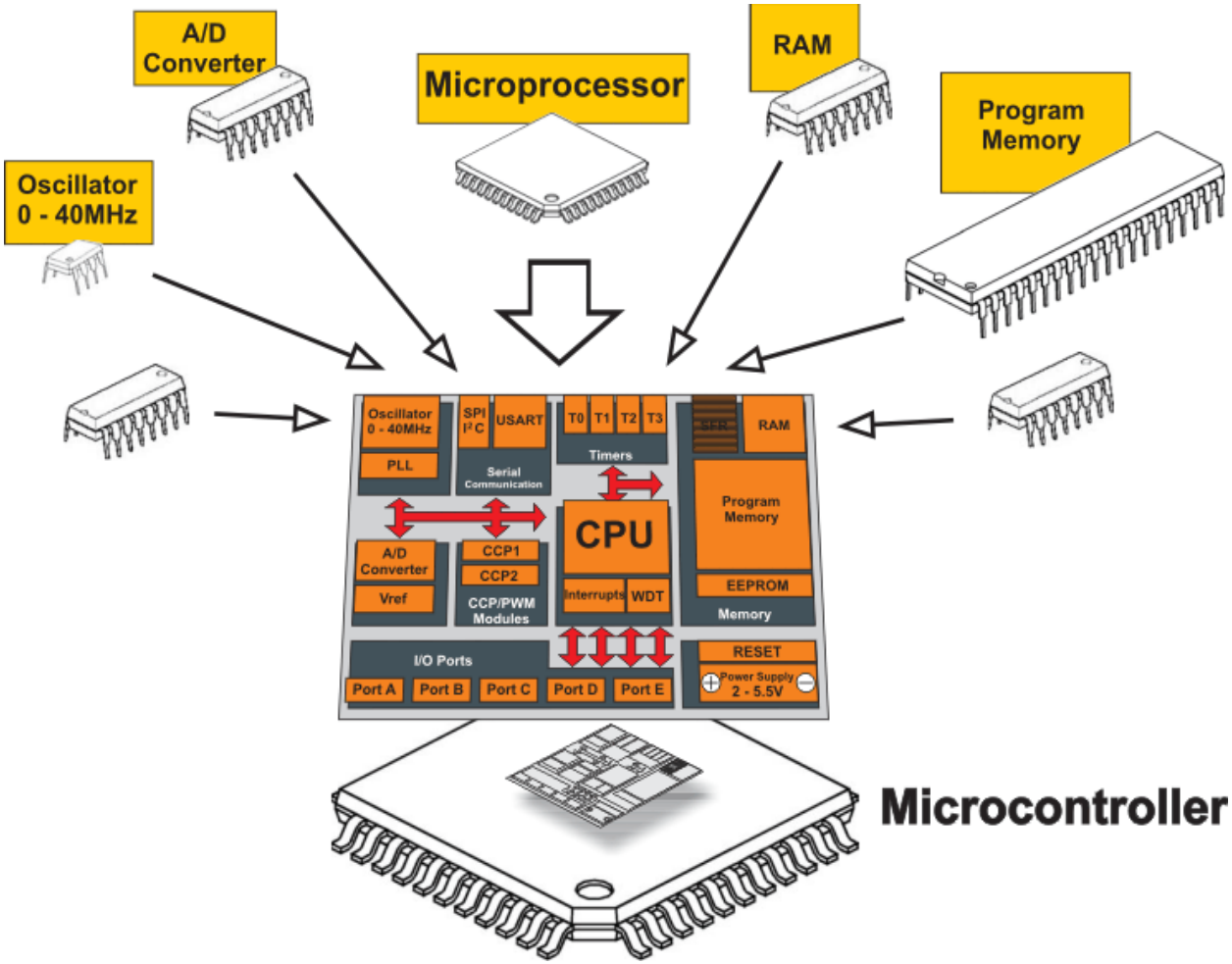
Now Why Microcontroller???

Microprocessor vs. Microcontroller

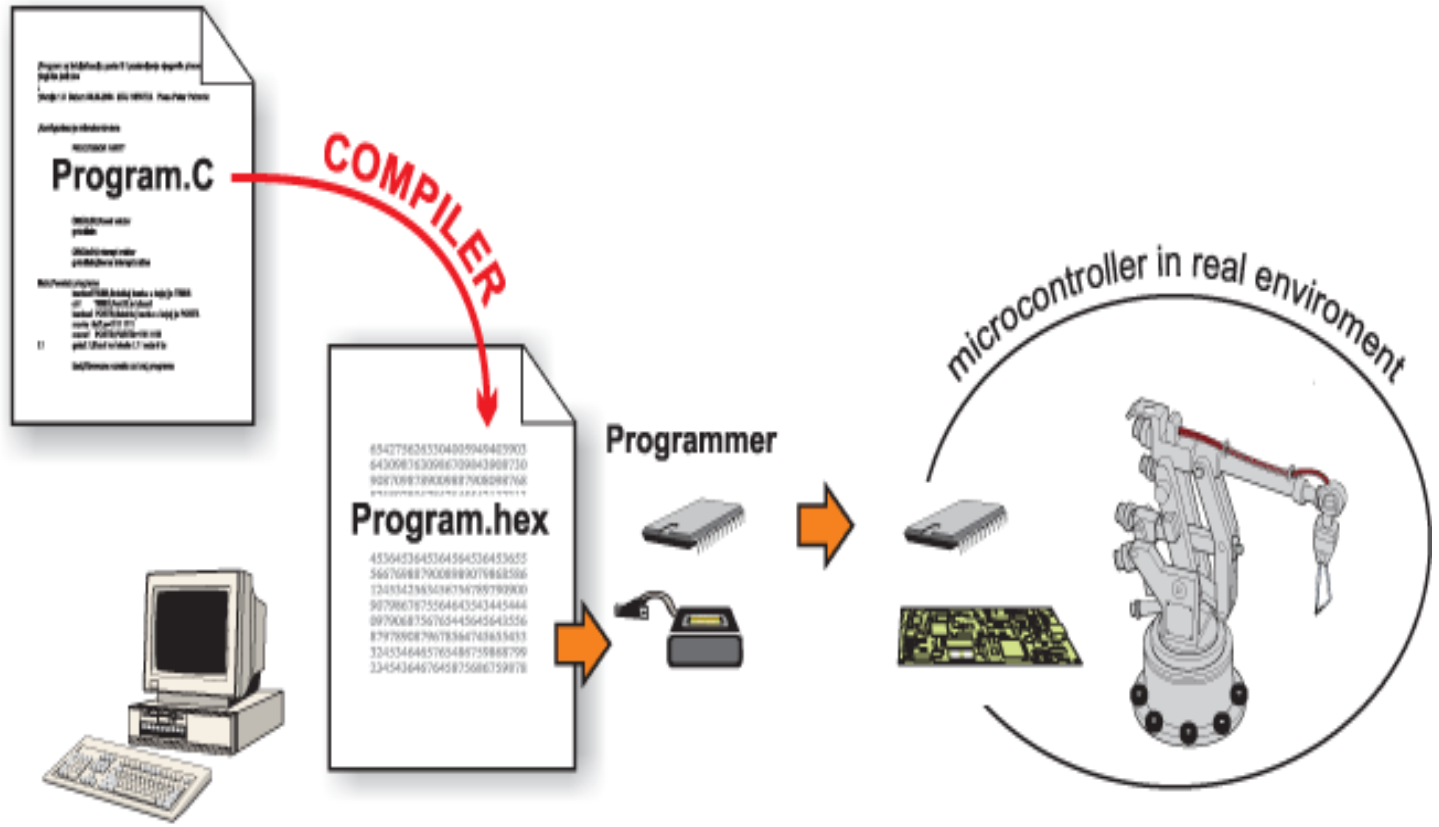
Microprocessor	**Microcontroller**
• ***CPU is stand-alone, RAM, ROM, I/O, timer are separate***	• CPU, RAM, ROM, I/O and timer are all on a single chip
• ***designer can decide on the amount of ROM, RAM and I/O ports.***	• fix amount of on-chip ROM, RAM, I/O ports
• ***expansive***	• for applications in which cost, power and space are critical
• ***versatility***	• single-purpose
• ***general-purpose***	

Unit -4

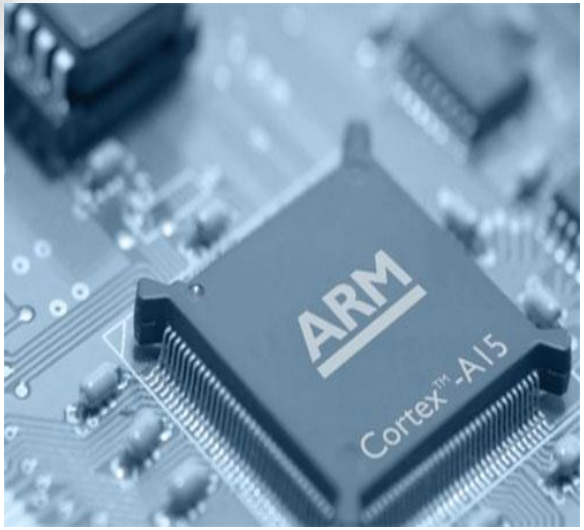
8051 Microcontroller



Unit -5 Interfacing with peripheral



Unit-6
Advance controllers



The course outcomes .....

As a result of this course student will learn :

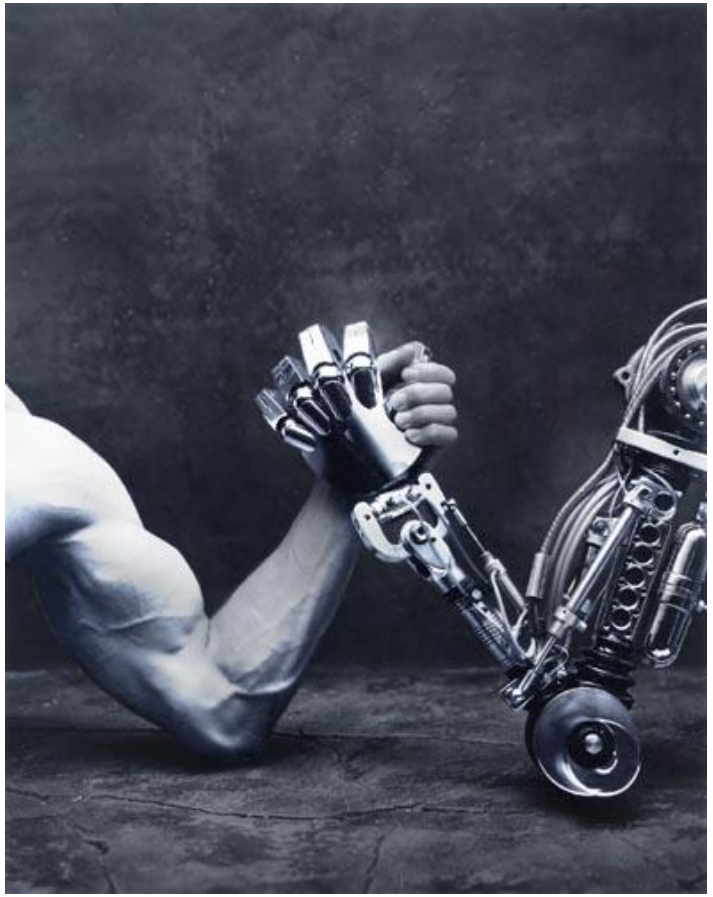
- **To understand the various components of a typical microprocessor/ microcontroller.**
- **To develop hardware skills required for programming of microprocessors and microcontrollers used in computing world**
- **To understand various aspects of hardware design such as interfacing of memory and different types of I/O devices with 8085 and 8051**

Any Query ???

Get Set Go!!!

Gear up
Fasten your seat belts

Next class: Introduction Of processors




Thank You