Microcontroller and Embedded Systems

CRITERIA OF CHOOSING MICROCONTROLLER

- MEETING THE COMPUTING NEEDS OF THE TASK AT HAND EFFICIENTLY & COST EFFECTIVELY. (SPEED, PACKAGING, POWER CONSUMPTION ETC.)
- AVAILABILITY OF SOFTWARE DEVELOPMENT TOOLS SUCH AS COMPILERS, ASSEMBLERS & DEBUGGERS
- WIDE AVAILABILITY & RELIABLE SOURCES OF THE MICROCONTROLLER.

DIFFERENT TYPE OF MICROCONTROLLERS

- **EMBEDDED MICROCONTROLLERS**: When all the hardware required to run the application is provided on the chip, it is referred as an **embedded** Microcontrollers.

  – They are replacing devices like 555 timers because they are actually cheaper to use in applications
  – They are more precise
  – They are easier to control.

DIFFERENT TYPE OF MICROCONTROLLERS

- **EXTERNAL MEMORY** MICROCONTROLLERS: The microcontrollers which **allows the connection of external memory**.

- Higher-end microcontrollers (16 and 32 bit processor) have only external memory .
- These are different from microprocessor in the area of built-in peripheral features.

VARIOUS MICROCONTROLLER

- 8051
- 8052
- PIC
- ARM
- AVR
- HSM
- Various manufacturers are **Intel, Microchip, atmel, Dallas, Phillips, motorolla** etc.