

LECTURE-7

Advantages of integrated circuits

- Reliable with complex circuits
- Low power consumption
- Small size and weight
- Economical to produce
- New and better solutions to system problems

Disadvantages of integrated circuits

- Cannot handle large amounts of current or voltage
- If one component in an integrated fails, that means the whole circuit has to be replaced.
- Integrated circuits have limited capacitances. This calls for external components if the capacitance needs an extension.
- It is impossible to fabricate transformers or any other kind of inductor onto the integrated circuits and again calling for a discrete circuit.
- Power that integrated circuits can produce is limited and calls for extension.
- Integrated circuits are not flexible. Their components cannot be modified and neither can the parameters of operation.

Applications of an Integrated Circuit

➤ Communication

➤ Control

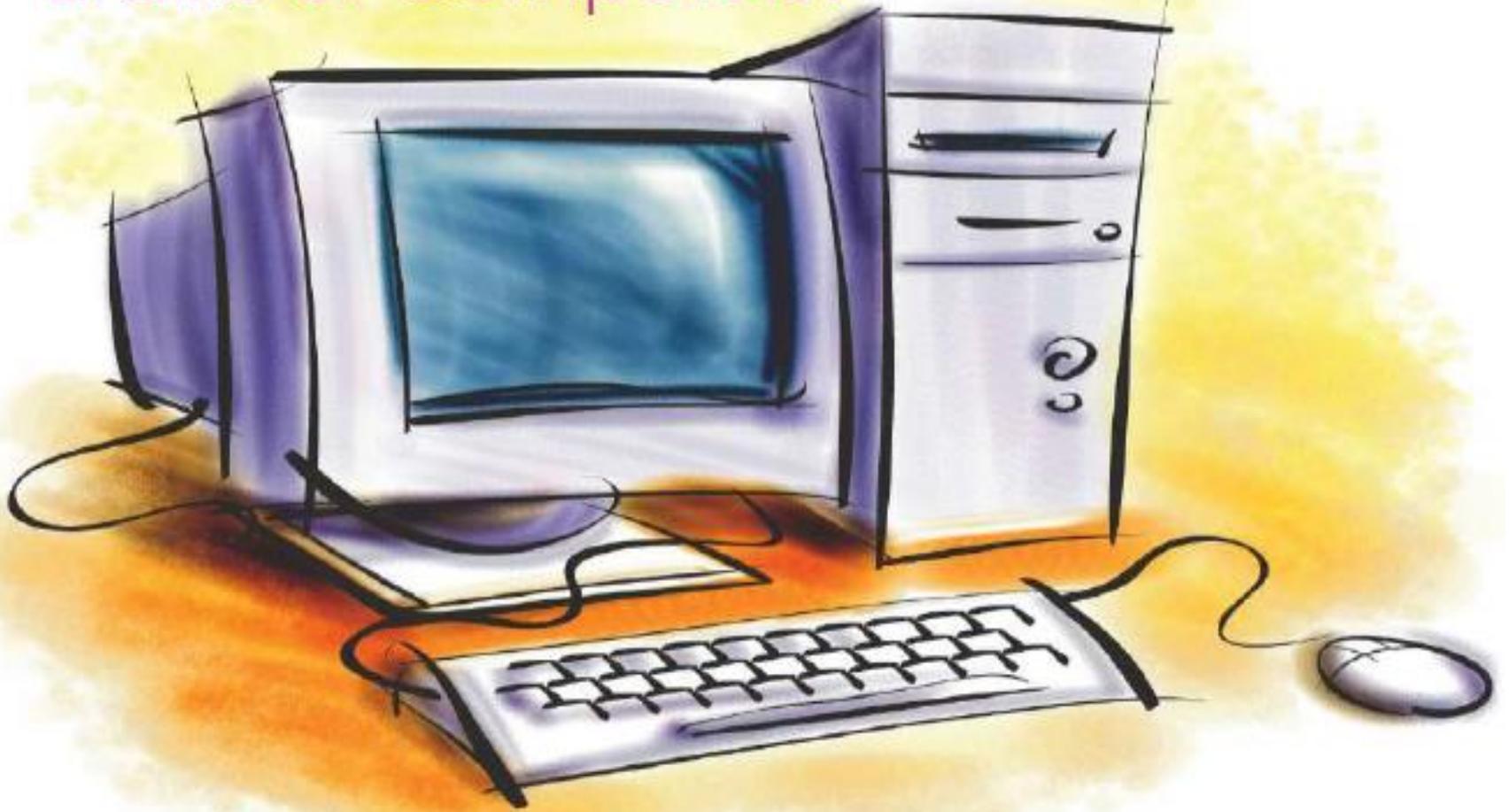
➤ Instrumentation

➤ Computer

➤ Electronics

Where ICs are
present....???

Microprocessors (MPUs) - act as the Brains of Computers.



Digital Signal Processors (DSPs) -
process signals, such as image



Application Specific Integrated Circuits (ASICs)

