Interrupt and Serial Communication for Data Transfer

There are two ways of communication in which the microprocessor can connect with the outside world.

- Serial Communication Interface

- Parallel Communication interface

Serial Communication Interface − In this type of communication, the interface gets a single byte of data from the microprocessor and sends it bit by bit to the other system serially and vice-a-versa.

Parallel Communication Interface − In this type of communication, the interface gets a byte of data from the microprocessor and sends it bit by bit to the other systems in simultaneous (or) parallel fashion and vice-a-versa.

Applications of Microprocessors

Microprocessors are a mass storage device. They are the advanced form of computers. They are also called as microcomputers. The impact of microprocessor in different lures of fields is significant. The availability of low cost, low power and small weight, computing capability makes it useful in different applications. Now a days, a microprocessor based systems are used in instructions, automatic testing product, speed control of motors, traffic light control , light control of furnaces etc. Some of the important areas are mentioned below:

Instrumentation:

It is very useful in the field of instrumentation. Frequency counters, function generators, frequency synthesizers, spectrum analyses and many other instruments are available, when microprocessors are used as controller. It is also used in medical instrumentation.

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Control:

Microprocessor based controllers are available in home appliances, such as microwave oven, washing machine etc., microprocessors are being used in controlling various parameters like speed, pressure, temperature etc. These are used with the help of suitable transduction.

Communication:

Microprocessors are being used in a wide range of communication equipments. In telephone industry, these are used in digital telephone sets. Telephone exchanges and modem etc. The use of microprocessor in television, satellite communication have made teleconferencing possible. Railway reservation and air reservation system also uses this technology. LAN and WAN for communication of vertical information through computer network.

Office Automation and Publication:

Microprocessor based micro computer with software packages has changed the office environment. Microprocessors based systems are being used for word processing, spread sheet operations, storage etc. The microprocessor has revolutionize the publication technology.

Consumer:

The use of microprocessor in toys, entertainment equipment and home applications is making them more entertaining and full of features. The use of microprocessors is more widespread and popular.Now the Microprocessors are used in :

1. Calculators
2. Accounting system
3. Games machine
4. Complex Industrial Controllers
5. Traffic light Control
6. Data acquisition systems
7. Multi user, multi-function environments

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8. Military applications
9. Communication systems