

**NOTE: No any diagram in this document is to be attempted. All diagrams are just for the reference and understanding.**

**Thermal Printer:** Thermal printers are very special. These printers do not use ink. Instead, there are chemical dots in the paper itself. These dots, when heated, turn in to black. A dedicated logical circuit is there in the printer to tell which dots are to be heated.

Since the print is all due to heated chemical dots in the paper, after some days the paper goes blank again.



**Inkjet Printer:** An inkjet printer is the most common printer used in the market. It uses liquid ink to print on the paper. A set of two ink-banks called 'cartridges' is hung on a steel shaft so that it can run through the entire width of the paper. There are nozzles on the lower panel of these cartridges through which a small drop of ink comes out. Now using a high pressure, that drop is converted in the form of spray. Finally a dedicated logic tells the printer where to impose the spray.



**LASER Printer:** First of all there is a myth that a LASER printer prints using LASER rays. It's factually incorrect. In fact LASER is used just to emboss the mould on a drum. Actual printing is done using black ink powder called 'Toner'.

A LASER printer uses an electromagnetic drum on the surface of which, the mould of letters or images is drawn using LASER rays. That mould is then coated with negatively (-ve) charged toner. Finally a positively (+ve) charged paper is rolled over the drum. The negatively charged toner attracts to the positively charged paper exactly as per the mould. This makes a fine and much faster printing.



The paper is charged positively by simply heating it. That is why sometimes in winters, we see a little fume rising out of the printer.

### Assignments:

1. Does the thermal printer use ink? If not then how does it print?
2. Out of an Inkjet and a LASER printer, which is fast and why?