Printers

Laser Printers

EP Printing Process

1. Processing
   1. OS uses a print driver to translate what’s on the screen to print using PDLanguage
      1. ! Troubleshoot alert: Whenever your printer prints only half a page, it may be a sign that you’re running out of printer memory. Most laser printers will support memory upgrading using a SODIMM module.
2. Charging (Corona Wire)
   1. The imaging drum is conditioned with the primary charge roller. This is a metal roller with a rubber coating that is going to be powered by a high voltage power supply assembly. Applies -600 volts DC.
3. Exposing
   1. The surface coding of the photosensitive imaging drum loses its charge when exposed to light. Expose certain parts of the drum to light using a laser. Then the drum ends up with the image we want. Kind of works like a stamp.
4. Developing
   1. Toner is applied to the developer roller. The negative charge that’s left will attract toner.
5. Transferring
   1. Moving the toner from the imaging drum onto the print media (paper). Remember, the toner is not permanently attached to the paper yet.
6. Fusing
   1. The fusing assembly melts the toner permanently into the paper/media. This creates the final print out.
7. Cleaning
   1. Photosensitive drum needed to be cleared and get all the remaining toner particles cleaned off. Toner blade is used to scrape off excessive toner.

Laser Printer Components:

Inkjet Lasers

Bubble Jet is more destructive/harsh on the printhead vs piezoelectric printers, so usually companies will provide you an additional printer head so you can inevitably replace it.

**Practice Questions**

*John connected his MacBook to the corporate network and is trying to print to the office's large network printer. John notices that the print job is failing to print. The other employees in the office are having no issues printing from their Windows workstations. Which of the following should be done to resolve John's issue?*

* You should install the print drivers for OS X (macOS) on the print server to ensure compatibility with MacBooks and iMac devices. Since the Windows users can print to the network printer without any issues, the printer and the network are working properly. Instead, the most likely explanation is that the print server does not have the print drivers for OS X (macOS) installed on it.

*What is the name of the networking protocol used by macOS to find available printers on the network to use?*

* Bonjour, Apple's zero-configuration networking protocol, automates certain aspects of network configuration; the protocol enables devices connected to the local area network to discover and connect automatically. Businesses can use Bonjour to make the sharing of files and devices easier; the technology works with wired and wireless LANs. After enabling Bonjour on a workstation, other computers on the network can detect and install printers or scanners attached to the workstation or access files from shared folders.

*An inkjet printer is printing images and text at an angle, and sometimes they don't print at all. Which of the following would a technician perform to align a printer?*

* The technician should first calibrate the printer and perform a print test. Usually, it aligns the print heads during calibration and prints out a test page with a code for the user to enter and print another test page to ensure it is properly aligned. A printer that has alignment problems will not print documents accurately. Images and text can print at an angle, or they may not print at all. Your printer can become misaligned if there is any paper stuck in the machine, print cartridges are clogged or dirty, improper installation of cartridges, and using low-quality cartridges.