**1. What is Pixel?**

In [digital imaging](http://en.wikipedia.org/wiki/Digital_imaging), a **pixel** or **pel** (**picture element**) is a physical point in a [raster image](http://en.wikipedia.org/wiki/Raster_graphics), or the smallest addressable element in a [display device](http://en.wikipedia.org/wiki/Display_device); so it is the smallest controllable element of a picture represented on the screen. The address of a pixel corresponds to its physical coordinates. [LCD](http://en.wikipedia.org/wiki/LCD) pixels are manufactured in a two-dimensional grid, and are often represented using dots or squares, but [CRT](http://en.wikipedia.org/wiki/Cathode_ray_tube) pixels correspond to their timing mechanisms and sweep rates.

**2. What is resolution?**

**Resolution**is defined by how many software picture elements (pixels) are used to draw the screen. The resolution is described in terms of the visible image’s dimensions, which indicate how many rows and columns of pixels are used to draw the screen. For example, a resolution of 1,024×768 means 1,024 pixels across (columns) and 768 pixels down (rows) were used to draw the pixel matrix. The video technology in this example would use 1,024 × 768 = 786,432 pixels to draw the screen.

**3. Describe two major types of LCD Display.**

Two major types of LCD displays have been implemented over the years: **active-matrix** screens and **passive-matrix** screens. Another type, dual scan, is a passive-matrix variant.

**4. Describe Active and passive matrix.**

**Active matrix:** An active-matrix screen works in a similar manner to the LCD watch. The screen is made up of several individual LCD pixels. A transistor behind each pixel, when switched on, activates two electrodes that align the crystals and alter the passage of light at that location. This type of display is very crisp and easy to look at and does not require constant refreshing to maintain an image.

**Passive matrix:** Within the passive-matrix screen are two rows of transistors: one at the top, another at the side. In simplified terms for a single pixel, when the display is instructed to change the crystalline alignment of a particular pixel, it sends a signal to the x- and y-coordinate transistors for that pixel, thus turning them on. This then causes voltage lines from each axis to intersect at the desired coordinates, turning the desired pixel black.

**5. Describe contrast ratio.**

The **contrast ratio**is the measure of the ratio of the luminance of the brightest color to that of the darkest color the screen is capable of producing. Ratios for smaller LCD monitors and televisions typically start out around 500:1. Common ratios for larger units range from 20,000:1 to 100,000:1.

**6. Describe native resolution.**

**Native resolution:** One of the peculiarities of desktop LCD displays is that they have a single fixed resolution, known as the **native resolution**. The native resolution comes from the placement of the transistors in the hardware display matrix of the monitor. For a native resolution of 1680×1050, for example, there are 1,764,000 transistors arranged in a grid of 1680 columns and 1050 rows.

**7. What is Degauss?**

**Degaussing**is the reduction of the magnetic field of an object. It is generally impossible to completely neutralize an object’s magnetic field, so reducing it is the objective. One application of degaussing is to randomize the magnetic domains on the surface of a magnetic storage medium, such as a hard disk drive. Degaussing the drive makes previously saved information all but unrecoverable.