

## Differences between Vector and Raster Graphics

Both Vector and raster graphics are widely used nowadays in production of the digital photos, logos, and other digital images. Differences between Vector and Raster graphics are essential to know for the [GATE 2023 exam](#) as well. The complete list of the differences is shown below:

### Key Differences between Vector and Raster Graphics

Raster Graphics	Vector
The Raster image is produced with pixels.	The vector image is produced with curves and lines.
The raster graphics are cheaper than the vector graphic.	The vector graphics are costlier than the raster graphics.
The size of the raster graphic is bigger than then vector graphic.	The size is small hence occupies the lesser space.
The scan conversion of the end points into pixels is done.	For vector graphics, scan conversion is not done.
Pixel approximation is done for formation of the curves and complex shapes.	Smooth lines and curves are produces without use of approximation.
.GIF, .JPG, .BMP, .TIF extensions are produced.	.SVG, .EPS, .AI, .DXF, .PDF extensions are produces

### What is Raster Graphic?

Raster graphics are built from pixels. They are used to store the information. The number of pixels present in the image defines the quality of the image. It is directly proportional to the quality of the image. Bitmap will store the information. For example 3072 x 2048 image will carry the 6.29 megapixels.

The raster graphics are essential for the [GATE CSE syllabus](#). The raster graphics are used to define 2D pictures. The raster images are ideally used in creating digital images as they are easily compressed and edited.

### What is a Vector Graphics?

Unlike raster graphics, the vector graphics carry the mathematically defined lines. These lines and their shape are defined by mathematical formulae. The important quality of the vector images is that they retain their quality irrespective of the size of the image.

The vector graphics are best suitable graphic choice when solid colors are used. The color gradient is not achieved in these as the raster graphics. The images formed in vector graphics are formed by mathematical lines which sometimes are known as the wireframes.

