1. Explain the ﬁve basic types of image data structures.

Ans. The five basic types of image data structures are Matrices , Resolution, chains, lists of object properties and relational databases,

1. Also calculate; If a photograph that is 30 inches wide and is 20 inches in height, and If it’s to be displayed at 72 dpi resolution, What is its Width and Height supposed to be in PIXELS?

Ans. (30 inches×72 dpi)×(20 inches×72 dpi)

= 2160×1440 pixels

1. List out and explain the features of the four major types of raster image ﬁle extensions. Point out the image ﬁle extension that supports both transparency as well as animation.

Ans. The four major types of raster image ﬁle extensions are:

1. JPEG: JPEG is the most common image format on the World Wide Web and most digital cameras produce built-in JPEG images.
2. GIF: GIF is has been quite popular in web for lightweight animations.
3. PNG: It is a raster image format that supports lossless data compression and also background transparency
4. Bitmap: It is used to store bitmap digital images free from display device barriers. This file format is capable to store two-dimensional digital images.

Gif is the ﬁle extension that supports both transparency as well animation.

1. What is the ﬁle size of a 24 bit color image of the dimension 1200px X 2800px in MB ?

Ans. File size=( 1200× 2800× 24 )/8

= 8640000/1024

= 8437.5/1024

= 8.23 MB

The ﬁle size of a 24 bit color image of the dimension 1200px X 2800px is 8023 MB