

UNIT III (GRAPHICS PROGRAMMING)

2 Marks

1. State the difference between CMY and HSV color models(nov/dec 2012)

The HSV (Hue,Saturation,Value) model is a color model which uses color descriptions that have a more intuitive appeal to a user. To give a color specification, a user selects a spectral color and the amounts of white and black that is to be added to obtain different shades, tint, and tones.

A color model defined with the primary colors cyan, magenta, and yellow is useful for describing color output to hard-copy devices.

2. What are keyframe systems? (nov/dec 2012)

Generating each set of in-betweens from the specification of two (of more) key frames. Motion paths can be given with a kinematic description as a set of pline curves, or motions can be physically based by specifying the forces acting on tha pbjects to be animated.

*Morphing

*Simulating Accelerations

3. What are subtractive colors?(may/june 2012)

RGB model is an additive system, the Cyan-Magenta-Yellow (CMY) model is a subtractive color model. In a subtractive model, the more that an element is added, the more that it subtracts from white. So, if none of these are present the result is white, and when all are fully present the result is black.

4. What do you mean by temporal aliasing?(may/june 2012)

Temporal aliasing is an aliasing problem in 2D and 3D graphics. It can be partially solved by increasing the screen resolution. So we do temporal anti-aliasing by taking multiple samples of a signal and computing their weighted average. Here multiple sample must be in the time direction and not in the spatial direction.

5. What is animation?(nov/dec 2011)

Computer animation refers to any time sequence of visual changes in a scene. In addition to changing object position with translations or rotations, a computer generated animation could display time variations in object size, color, transparency, or surface texture.

6. Define key frames. (nov/dec 2011)

One of the shape photographs that a film or video is made of the shape of an object is known initially and for a small no of other frames called keyframe.

7. List any four real-time animation techniques. (nov/dec 2013)

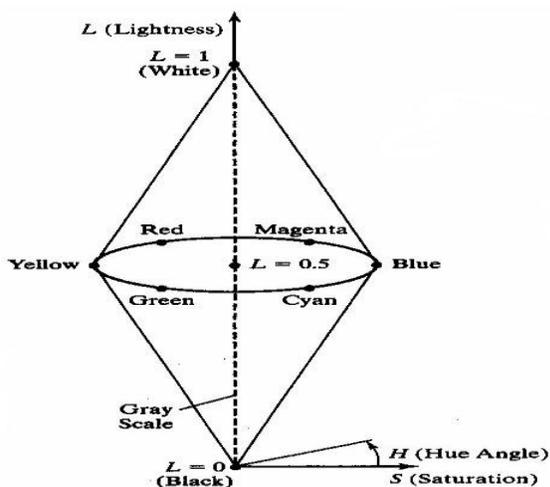
- Story board layout
- Object definitions
- Keyframe specifications
- Generation of in-between frames.

8. How are mouse data sent to an OpenGL application? (nov/dec 2013)

`glutMouseFunc(mymouse)`

GLUT supports interaction with the computer mouse that is triggered when one of the three typical buttons is pressed. A mouse callback function can be initiated when a given mouse button is pressed or released. The command `glutMouseFunc()` is used to specify the callback function to use when a specified button is a given state at a certain location. These buttons are defined as `GL_LEFT_BUTTON`, `GL_RIGHT_BUTTON`, or `GL_MIDDLE_BUTTON` and the states for that button are either `GLUT_DOWN` (when pressed) or `GLUT_UP` (when released). Finally, `x` and `y` callback parameters indicate the location (in window-relative coordinates) of the mouse at the time of the event.

9. Draw the color Model HLS double cone (may/june 2013)



10. What are the types of object motion specification?

Direct Motion Specification

Goal Directed Systems

Kinematics and Dynamics

11. Define YIQ color model

In the YIQ color model, luminance (brightness) information is contained in the Y parameter, chromaticity information (hue and purity) is contained into the I and Q parameters. A combination of red, green and blue intensities are chosen for the Y parameter to yield the standard luminosity curve. Since Y contains the luminance information, black and white TV monitors use only the Y signal. Parameter I contains orange-cyan hue information that provides the flash-tone shading and occupies a bandwidth of 1.5 MHz. Parameter Q carries green, magenta hue information in a bandwidth of about 0.6 MHz.

12. Write about OPENGL.

OpenGL is a software interface that allows you to access the graphics hardware without taking care of the hardware details or which graphics adapter is in the system. OpenGL is a low-level graphics library specification. It makes available to the programmer a small set of geometric primitives - points, lines, polygons, images, and bitmaps. OpenGL provides a set of commands that allow the specification of geometric objects in two or three dimensions, using the provided primitives, together with commands that control how these objects are rendered (drawn).