CS 450 Quizzes Before the Final

Quiz #6:

1) Per-fragment lighting does all of these *except*:

Performs the lighting computations in the vertex shader

2) To add a pattern to an object (e.g., your Shaders project), you could do all of these *except*:

Key off of a set of uniform scalar or vector variables

3) To produce shaders for your Shaders project, you need to do all of these *except*:

Compile the shaders yourself

4) To turn on a shader program so that the next draw calls will use it, you say:

Pattern->Use( );

5) To turn off a shader program and return to using the fixed-function pipeline, you say:

Pattern->Use(0);

6) A Vertex Buffer Object is:

A collection of vertices, colors, normals, and texture coordinates kept in a table in GPU memory

7) All of these are true about Vertex Buffer Objects except:

They are optional in OpenGL-Desktop

8) We are looking at GLM because:

All of the OpenGL transformation functions are "deprecated"

9) GLM creates some datatypes that are:

The same as GLSL uses (e.g., vec3)

10) The OpenGL glMultMatrixf( ) function:

Multiplies a given matrix into the current matrix

Quiz #7

1) A 3D Printer accepts geometry in the form of a:

Triangle mesh

2) Using 3D Venn diagrams to create and edit geometry is called:

Constructive Solid Geometry (CSG)

3) A cubic Bezier curve requires, as input:

4 points

4) The number of output vertices from a Bezier curve is:

An arbitrary number

5) The full Rendering Equation describes:

How light is emitted from a surface

6) Normal OpenGL drawing (like you have been doing all along) is:

Local illumination

7) Each of the following is true about *Radiosity* except:

It produces a large simultaneous equation system that must be solved

8) The value of the Radiosity Shape Factor is obtained by:

Integrating multiple light paths between surfaces

9) In Ray-tracing, the image is produced by:

Tracing light rays through each pixel

10) All of the following are true about Ray-tracing except:

It can easily represent color bleeding between surfaces

Quiz #8

1) The process of having a human create the major frames in an animation and having someone else (e.g., a computer, an underling) create the intermediate frames is called

   Key Framing

2) The process of having someone else (e.g., a computer, an underling) create the intermediate frames is called:

   In-betweening

3) In Forward Kinematics, the inputs are

   The animation parameters

4) In Inverse Kinematics (IK), the inputs are:

   A desired position

5) The 3 major steps in running a *particle system* are:

   Emit, Display, Update

6) In the class notes, the falling dominoes animation is an example of:

   Animating using Physics

7) A *mesh of springs* can be used to model and animate all of these *except for*:

   The arms on a robot driven by angle parameters

8) Functional Animation involves:

   Creating a "fake physics" system to get the actors to do what you want them to do

9) The technique called *Motion Capture* is usually called

   MoCap

10) *3D Printing* is part of a fabrication category called

   Additive Manufacturing

Quiz #9

1) The defacto standard file format for use in 3D Printing is:

.stl

2) The defacto standard file format for use in 3D Printing contains:

A list of triangles in a specific order

3) Which of these is true?

Overlapping two 3D solids is not legal for 3D printing

4) The 3D Printing *vertex-to-vertex rule* says that:

Each edge in the mesh must bound 2 and only 2 triangles

5) The Simplified Euler's formula for legal solids is:

F – E + V = 2

Quiz #10

1) Stereographics using the "cyclops model" and two rotations doesn't work well because of

Vertical Parallax

2) Side-by-side viewing to achieve stereographics might not be good because of

Too much Horizontal Parallax

3) Correct stereographics viewing is achieved with

Non-symmetric viewing volumes

4) A "stereomirror" system (developed by Oregon's-own Planar Systems)

Uses 2 LCD monitors and a half-silvered mirror

5) The Carmike Theater's stereographics projectors have all of these characteristics *except*:

There are 2 projectors, one for each eye-view

6) The purpose of Vulkan is:

To create a more-efficient interface to the graphics than OpenGL has

7) Oregon State University is a member of the Khronos Group

True

8) One significant difference between Vulkan and OpenGL is that

Vulkan can do order-independent transparency

9) A significant difference in Vulkan's use of shaders and your use of shaders is:

Vulkan shaders are pre-compiled outside the driver

10) Professor Bailey's big View-Master surprise was when he accidentally received a box of reels that contained:

A 3D dessert menu