Sample Questions for CS360A

The expectation will be that you understand the materials provided in the slides and you followed the ideas and concepts discussed in the class. There will be a mix of short descriptive and conceptual type questions. Some sample examples are provide below as reference.

1. What are vector images and raster images? Which one would you prefer for (a) logo designing and (b) drawing a scenery and why?
2. What is HDR and LDR? Why do we need HDR in computer graphics?
3. Discuss how alpha blending is done in computer graphics? Between pre-multiplied alpha and straight alpha strategies, which one would you prefer for practical applications and why?
4. Given a set of vertices, what are the steps a standard GPU pipeline-based rendering algorithm applies to display the vertices on a display device?
5. What are the properties of affine transformation?
6. Suppose you have a camera. You are given information regarding the roll, pitch, and yaw of the camera. Then how would you compose a transformation matrix that can apply those three transformations on a single step to your camera to orient it correctly?
7. Why do we need homogeneous coordinates in computer graphics?
8. What is the difference between Gouraud and Phong shading?
9. If you have a point location given in eye/camera space, then which transformation matrix will you use to bring the point back to object/model space? Write an equation to show how the transformation will be applied.
10. Why do we use Mipmapping in computer graphics?

Other than these, there will be questions where a segment of code will be given, and you will be asked to decide whether the code is correct or what will be the output of the code. You are not expected to write code in the examination.

Note that the above are sample questions. A single question in your examination will be consisting of multiple such short sub-questions.

The expectation is that you will write to the point answer for each question. In your question paper, space will be provided to write the answer.