

Requirements:

1. Draw a 3D Scene that contains the following objects:

- a. 3D building at least 2 floors, a roof, one door and four windows.
- b. 3D Bicycle.

2. Apply the following color models

- a. Apply suitable colors to each object in building
- b. Change background to green.
- c. Apply black color to 3D Bicycle

3. Apply the following transformations on the building:

- a. Use key 'o' to open the door with suitable angle.
- b. Use key 'c' to close the door with suitable angle.
- c. Use key 'O' to open the windows with suitable angle.
- d. Use key 'C' to close the windows with suitable angle.

4. Apply the following transformations on the bicycle:

- a. Use key 'f' to move the bicycle forward in X-axis direction.
- b. Use key 'b' to move the bicycle backward in X-axis direction.
- c. Use key 'r' to rotate right wheel with suitable angle.
- d. Use key 'l' to rotate left wheel with suitable angle.

5. Move the bicycle in a circular street that surrounds the building in automatic manner.

- a. Use the mouse left button to enable animation so that the bicycle starts rotating around the building.
- b. Use the mouse right button to disable animation.

6. [Bounce]

- a. Control camera coordinates to see 3D scene from different directions

Rules:

- 1- Submission will be in your lab (starting from 11/5/2015)
- 2- No late submission.
- 3- -10 for copies
- 4- Groups: 3 students max from the same group.
- 5- Be ready to be asked about each function.