

## **Lab Sheet 13**

Mimicking natural elements that are difficult to design with CAD software. A 3D laser scanner is cutting-edge technology that can capture the irregular geometry and texture of any physical object.

**Task 1: Apple/Guava (irregular geometry) shown in Fig. 1: Find the scanned file attached in Moodle**

- Cut into four equal pieces and put these pieces into each quadrant (XY plane)



Fig.1

**Task 2: Pineapple (Irregular texture) shown in Fig. 2 (a): Find the scanned file attached in Moodle**

- Make a flowerpot for the upper plant region (dimensions of the flowerpot are shown in Fig. 2 (b)) and put (Join) the upper plant region upon the flowerpot
- Use the lower outer texture of the pineapple to create a textured chandelier (2 mm thickness) with a bulb (dimensions of the bulb are shown in Fig. 2 (c)).

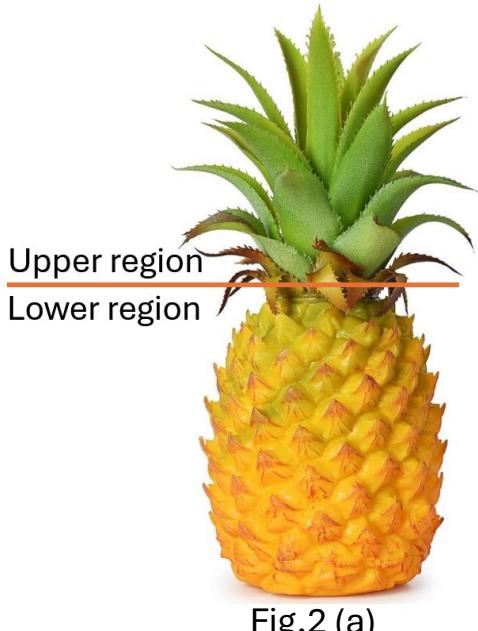


Fig.2 (a)

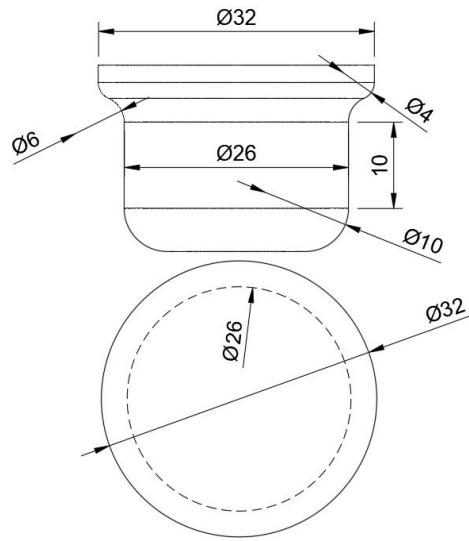


Fig.2 (b)

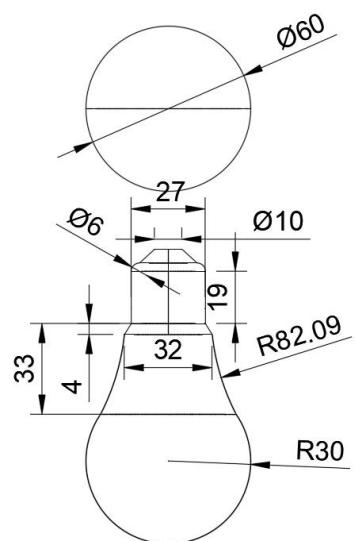


Fig.2 (c)

**Task 3 (optional): Plant cactus (Irregular geometry with texture) shown in Fig. 3 (a): Find the scanned file attached in Moodle**

- Make a flowerpot of cactus plant. Design and dimensions of flowerpot case are shown in fig. 3(b). Fig.3(a) shows cactus plant with multiple sets of branches. Cut one of the set of cactus (2-4 sub-branches) and merge it with the flowerpot.

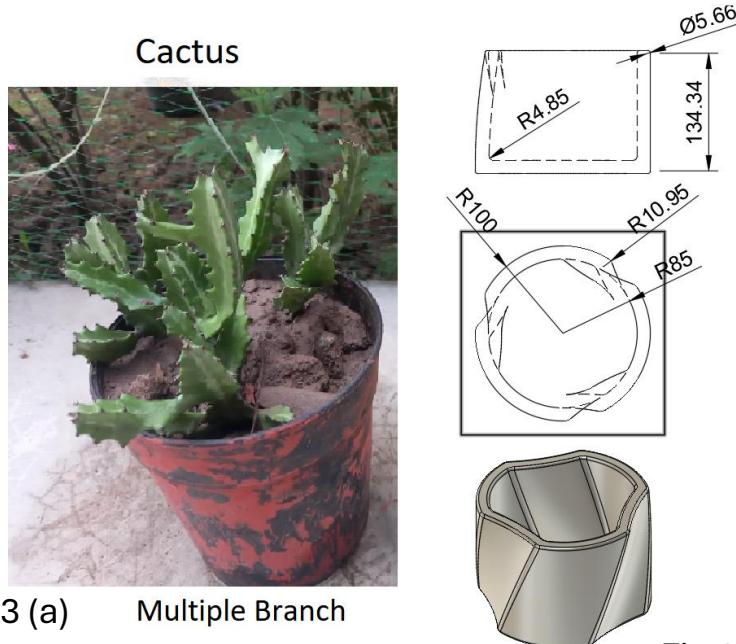


Fig.3 (a)      Multiple Branch

Fig.3 (b)

**Task 4 (Mandatory): Your Head: To be scanned during the Lab session**

- Make your face mask of thickness 2 mm (Example Fig. 4a)
- Make your bust head statue (Example Fig. 4b) (Base: Fig. 4c)

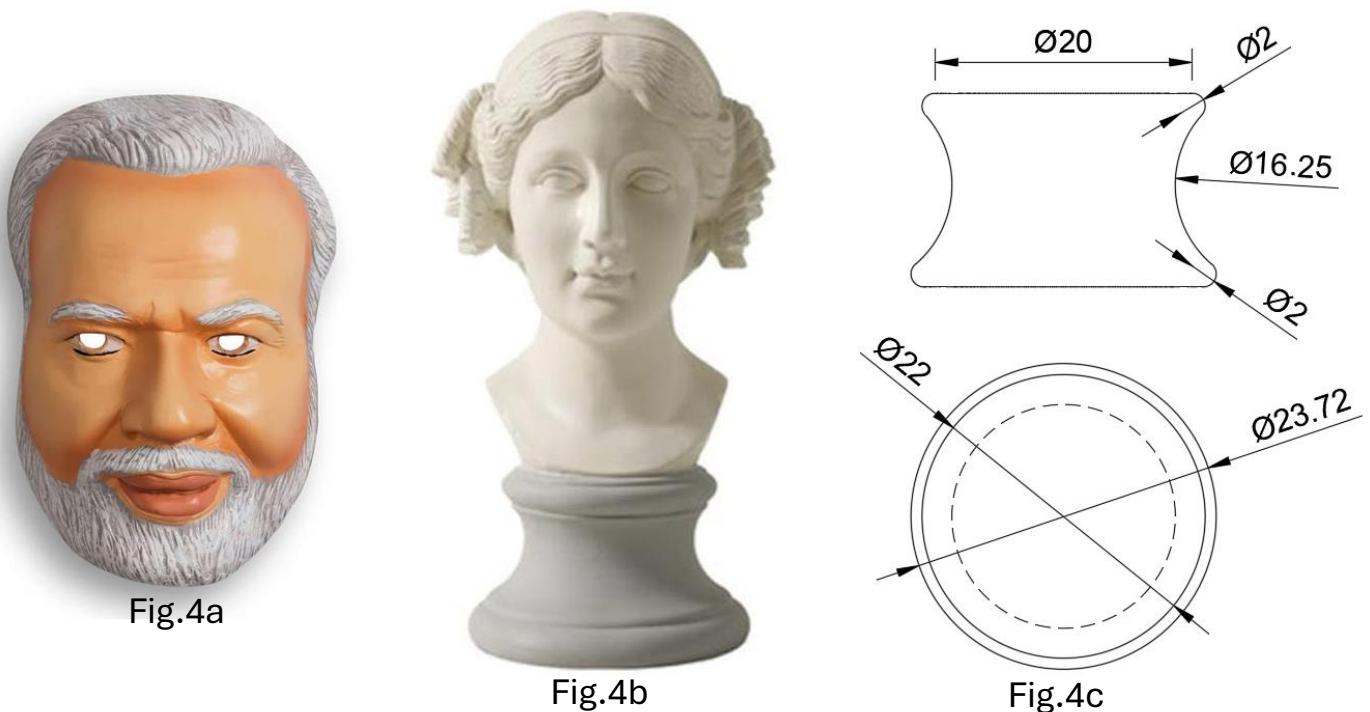


Fig.4a

Fig.4b

Fig.4c